

# SpaceLogic C-Bus Commission

## Help Center

Instructions to use C-Bus devices with SpaceLogic C-Bus Commission software

05/2025

# Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this document are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owner.

This document and its content are protected under applicable copyright laws and provided for informative use only. No part of this document may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the document or its content, except for a non-exclusive and personal license to consult it on an "as is" basis.

Schneider Electric reserves the right to make changes or updates with respect to or in the content of this document or the format thereof, at any time without notice.

**To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this document, as well as any non-intended use or misuse of the content thereof.**

---

# Table of Contents

Safety Information.....	6
Note .....	6
Safety Precautions .....	7
Disclosure.....	7
Cyber Security.....	8
About the Book.....	22
Overview .....	22
Introduction to SpaceLogic C-Bus Commission.....	24
Knowing the User Interface .....	26
Software Update .....	28
Workflow of the software.....	31
Menu .....	32
Projects .....	32
Firmware .....	32
Unit Firmware Upgrade .....	35
Settings .....	44
General Settings.....	45
C-Gate Options.....	47
C-Bus Settings .....	48
DALI Settings .....	48
About.....	48
Exit.....	49
Projects Management .....	50
Overview of Project Space .....	58
Network Management.....	59
Library Window.....	64
C-Bus Devices .....	65
Workspace Window.....	72
Devices in Project.....	73
Network Devices .....	76
Devices in Project (DALI) .....	93
Line Devices .....	103
Properties Window.....	117
Deployment Queue.....	119
C-Bus Applications .....	120
Application Log.....	127
Lighting Application .....	128
Groups .....	128
Add Groups .....	129
Copy Groups .....	130
Paste Group.....	130
Edit Groups .....	132
Sort Groups.....	132
Delete Groups .....	133
Levels.....	133

---

Add Levels .....	133
Copy Levels .....	135
Paste Levels.....	135
Edit Levels .....	137
Sort Levels .....	137
Delete Levels .....	138
Trigger Application.....	139
Trigger groups.....	139
Add Trigger Groups.....	139
Copy Trigger Groups.....	140
Paste Trigger Groups .....	141
Edit Trigger Group .....	141
Sort Trigger Groups .....	141
Delete Trigger Groups.....	142
Action Selectors .....	142
Add Action Selectors.....	142
Copy Action Selectors .....	143
Paste Action Selectors .....	143
Edit Action Selector.....	144
Sort Action Selectors.....	145
Delete Action Selectors .....	145
Enable Application .....	147
Enable Group.....	147
Add Enable Group .....	147
Copy Enable Groups.....	148
Paste Enable Groups .....	148
Edit Enable Group.....	148
Sort Enable Group .....	149
Delete Enable Group.....	150
Values .....	150
Add values .....	150
Copy Values .....	151
Paste Values .....	151
Edit Values .....	151
Sort values .....	152
Delete Values .....	152
Error Application.....	154
Add Error Object.....	156
Sort Error Objects.....	160
Delete Error Object.....	160
Measurement Application .....	161
Add Measurement Data .....	162
Sort Measurement Data .....	164
Delete Measurement Data.....	164
Emergency Exit Light Application .....	165
Test Groups .....	165
Add Test Groups .....	165
Copy Test Groups .....	166
Paste Test Groups .....	167
Edit Test Groups .....	167

---

---

Sort Test Groups .....	168
Delete Test Groups .....	168
Devices .....	168
Add Test Devices .....	169
Edit Test Devices .....	170
Sort Test Devices .....	171
Delete Test Devices .....	171
Audio Application .....	173
Add Zones .....	173
Sort Audio Zones .....	176
Delete Audio Zone .....	176
Media Transport Application .....	177
Add Media Link Groups .....	177
Sort Media Link Groups .....	180
Delete Media Link Groups .....	180
Input Unit .....	181
Wall Plates/Key Input Unit .....	181
Output Units .....	199
Dimmers .....	199
Digital Dimmers .....	199
Relays .....	224
Voltage Free Relays .....	225
Relay Conversion .....	233
Shutter Relay .....	235
Support Units .....	239
Bridges .....	239
Gateways .....	240
DALI-2 Gateway .....	242
PC Interfaces .....	268
C-Bus Automation Controllers .....	269
C-Bus Network Interface .....	280
Open Source License Information .....	282
Apache-2.0 License .....	282
BSD-3-Clause License .....	285
Custom License .....	285
Microsoft Public License .....	288
MIT License .....	289
Oracle Binary Code License Agreement for the Java SE Platform Products and JavaFX .....	289
Eclipse Public License - v 1.0 .....	292
Eclipse Public License - v 2.0 .....	295
GNU Lesser General Public License v 2.1 .....	300
GNU Lesser General Public License Version 3 .....	302

# Safety Information

## Important Information

Read these instructions carefully and observe the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of a symbol to either a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

### **DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

**Failure to follow these instructions will result in death or serious injury.**

### **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

### **CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

### **NOTICE**

**NOTICE** is used to address practices not related to physical injury.

## Note

Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

## Safety Precautions

<b>⚠ CAUTION</b>
<b>HAZARD OF INCORRECT INFORMATION</b> <ul style="list-style-type: none"><li>• Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.</li><li>• Do not rely solely on software messages and reports to determine if the system is functioning correctly or meeting all applicable standards and requirements.</li><li>• Do not rely solely on the software's messages and information for maintenance or service decisions.</li><li>• Consider the implications of unanticipated transmission delays or failures of communications links.</li></ul> <b>Failure to follow these instructions can result in injury or equipment damage.</b>

## Disclosure

This documentation contains general descriptions and/or technical characteristics of the products contained herein. It is not intended to determine whether these products are suitable for specific applications or to determine their reliability. In order to determine whether the products are fit for any particular application or use, users or integrators must conduct the appropriate risk analysis, evaluation, and testing. Any misuse of the information contained herein will not be the responsibility or liability of Schneider Electric or any of its affiliates. If you have suggestions for improvements or amendments or have found errors in this publication, please notify us.

Schneider Electric expressly prohibits the reproduction of any part of this document, electronic or mechanical, including photocopying, without its prior written permission.

The product must be installed and used in accordance with all applicable state, regional, and local safety regulations. In order to ensure safety and compliance with documented system data, only the manufacturer should perform component repairs.

Devices with technical safety requirements must follow the relevant instructions.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.  
©20252025 Schneider Electric. All rights reserved.

# Cyber Security

## Windows Updates

### **NOTICE**

#### **POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY**

Apply the latest updates and hotfixes to your Operating System and software.

**Failure to follow these instructions can result in cyber security breach and data breach.**

Be sure that all Windows updates and hotfixes, especially Windows security updates are regularly applied to machines running SpaceLogic C-Bus Commission Software.

If compatibility issues arise from Windows updates, they are considered as high priority by the SpaceLogic C-Bus Commission Software team. They will be evaluated and resolved to deliver patches to enable the continued use of Windows security updates.

## Hardening

Observe the following recommendations to optimize cyber security in a protected environment:

- Harden devices according to your company's policies and standards.
- Apply and maintain the SpaceLogic C-Bus Commission Software security capabilities.
- Use an antivirus software and implement updates for the operating system and Microsoft .NET Framework on the machine dedicated to SpaceLogic C-Bus Commission Software tool.
- Follow user account management tasks as described by your organization or contact your network administrator.

### **NOTICE**

#### **POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY**

- Change default passwords to help prevent unauthorized access to settings and information.
- Use Windows Active Directory for user account management and access to network resources.
- Disable unused ports/services and default accounts, where possible, to minimize pathways for malicious attacks.
- Place networked devices behind multiple layers of cyber defenses (such as firewalls, network segmentation, and network intrusion detection and protection).
- Use cyber security best practices (for example: least privilege, separation of duties) to help prevent unauthorized exposure, loss, modification of data and logs, interruption of services, or unintended operation.
- Follow cyber security tasks as described by your organization or contact your network administrator.

**Failure to follow these instructions can result in cyber security breach and data breach.**

# Common Development and Distribution License (CDDL)

## 1.1

### 1. Definitions

1.1 **Contributor** means each individual or entity that creates or contributes to the creation of Modifications.

1.2 **Contributor Version** means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3 **Covered Software** means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4 **Executable** means the Covered Software in any form other than Source Code.

1.5 **Initial Developer** means the individual or entity that first makes Original Software available under this License.

1.6 **Larger Work** means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7 **License** means this document.

1.8 **Licensable** means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9 **Modifications** means the Source Code and Executable form of any of the following:

- A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications.
- B. Any new file that contains any part of the Original Software or previous Modification.
- C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10 **Original Software** means the Source Code and Executable form of computer software code that is originally released under this License.

1.11 **Patent Claims** means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor

1.12 **Source Code** means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code

**You" (or "Your")** means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with you. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

## 2. License Grants

### 2.1 The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 Availability of Source Code below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

- A. under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and
- B. under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).
- C. The licenses granted in Sections 2.1(A) and (B) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.
- D. Notwithstanding Section 2.1(B) above, no patent license is granted: (1) for code that you delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software with other software or devices.

### 2.2 Contributor Grant

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

- A. under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and
- B. under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
- C. The licenses granted in Sections 2.2(A) and 2.2(B) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.
- D. Notwithstanding Section 2.2(B) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

### 3. Distribution Obligations

#### 3.1 Availability of Source Code:

Any Covered Software that you distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

#### 3.2 Modifications:

The Modifications that you create or to which you contribute are governed by the terms of this License. You represent that you believe your Modifications are your original creation(s) and/or you have sufficient rights to grant the rights conveyed by this License.

#### 3.3 Required Notices:

You must include a notice in each of your Modifications that identifies you as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

#### 3.4 Application of Additional Terms:

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by you alone, and you hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms you offer.

#### 3.5 Distribution of Executable Versions:

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of your choice, which may contain terms different from this License, provided that you are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If you distribute the Covered Software in Executable form under a different license, you must make it absolutely clear that any terms which differ from this License are offered by you alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms you offer.

#### 3.6 Larger Works:

You may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, you must make sure the requirements of this License are fulfilled for the Covered Software.

#### 4. Versions of the License

##### 4.1 New Versions:

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

##### 4.2 Effect of New Versions:

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which you originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, you must distribute and make the Covered Software available under the terms of the version of the License under which you originally received the Covered Software. Otherwise, you may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

##### 4.3 Modified Versions:

When you are an Initial Developer and you want to create a new license for your Original Software, you may create and use a modified version of this License if you: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

#### 5. DISCLAIMER OF WARRANTY

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

## 6. TERMINATION

6.1 This License and the rights granted hereunder will terminate automatically if you fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2 If you assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom you assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period you withdraw your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3 If you assert a patent infringement claim against Participant alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4 In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by you or any distributor hereunder prior to termination (excluding licenses granted to you by any distributor) shall survive termination.

## 7. LIMITATION OF LIABILITY

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

## 8. U.S. GOVERNMENT END USERS

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. § 252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

**9. MISCELLANEOUS**

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that you alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when you use, distribute or otherwise make available any Covered Software.

**10. RESPONSIBILITY FOR CLAIMS**

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and you agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

**NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)**

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

## LESSER GENERAL PUBLIC LICENSE (LGPL) 2.1

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. <<https://fsf.org/>>  
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

**Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages typically libraries of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software

and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more

people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

#### **GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same

place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit

royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

#### **NO WARRANTY**

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO

MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**END OF TERMS AND CONDITIONS**

## General Cybersecurity Information

In recent years, the growing number of networked machines and production plants has seen a corresponding increase in the potential for cyber threats, such as unauthorized access, data breaches, and operational disruptions. You must, therefore, consider all possible cybersecurity measures to help protect assets and systems against such threats.

To help keep your Schneider Electric products secure and protected, it is in your best interest to implement the cybersecurity best practices as described in the [Cybersecurity Best Practices](#) document.

Schneider Electric provides additional information and assistance:

- [Subscribe to the Schneider Electric security newsletter.](#)
- [Visit the Cybersecurity Support Portal web page to:](#)
  - [Find Security Notifications.](#)
  - [Report vulnerabilities and incidents.](#)
- [Visit the Schneider Electric Cybersecurity and Data Protection Posture web page to:](#)
  - [Access the cybersecurity posture.](#)
  - [Learn more about cybersecurity in the cybersecurity academy.](#)
  - [Explore the cybersecurity services from Schneider Electric.](#)

# About the Book

## Document Scope

This document describes the process of commissioning C-Bus and DALI devices. It is written for users who are familiar with C-Bus and DALI systems.

## Technical Support

For technical support reach out to our Customer Care Team in your location or region. If you have any questions or need more details, see [contact support](#)

## Overview

### Introduction to SpaceLogic C-Bus

SpaceLogic C-Bus is a lighting and building automation system in a commercial or residential building. It allows the user to manage lights, shutters, temperature, security and energy usage.

***In this document, the term 'software' refers to the "SpaceLogic C-Bus Commission" software.***

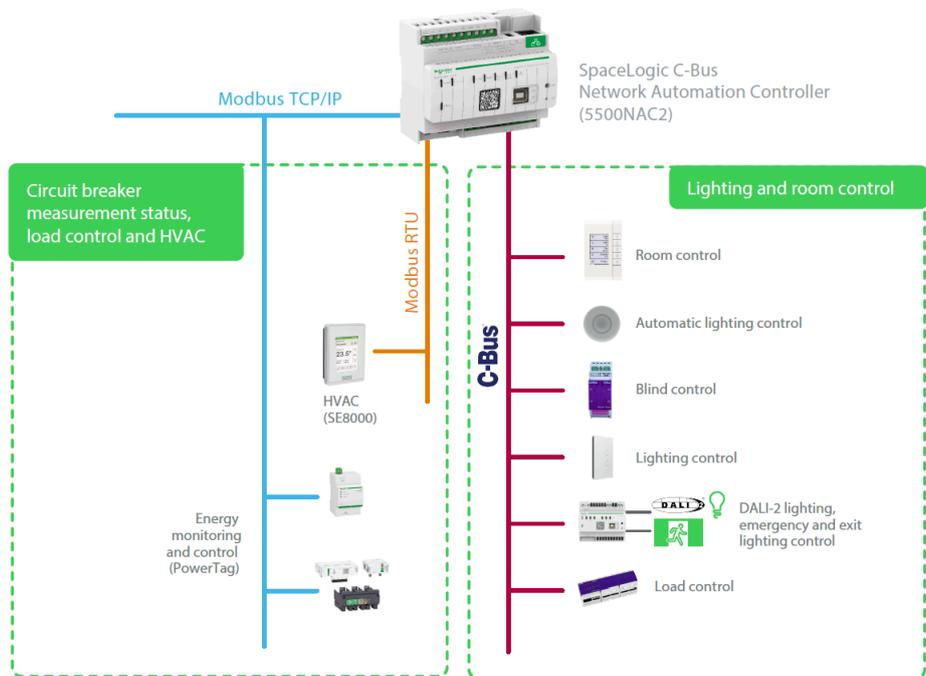
## C-Bus Architecture

The C-Bus architecture includes some important components:

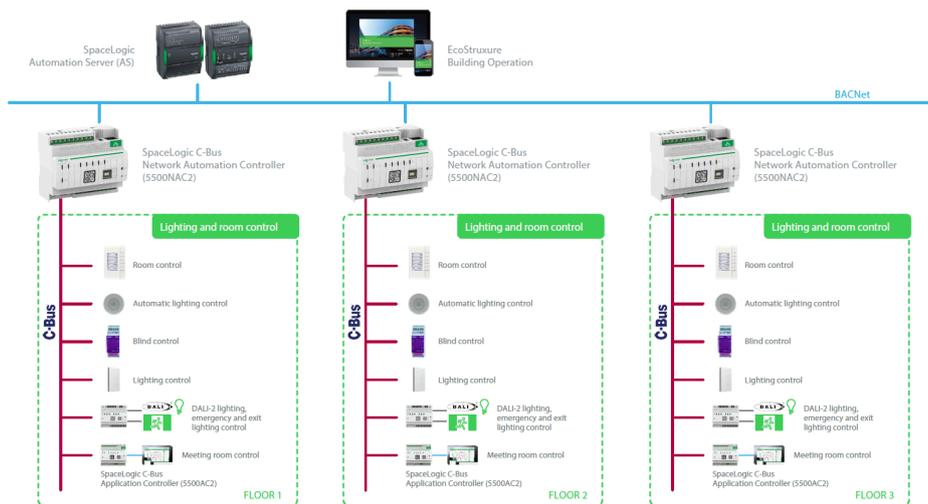
- A messaging protocol that connects building automation applications
- A large set of units which can send and receive one or more building automation applications
- Addressing protocols that identify units, building automation applications, and networks uniquely
- A set of bridges and gateways which allow the transmission of C-Bus messages across C-Bus networks
- A peripheral interface unit (PCI) which transmits configuration information between SpaceLogic C-Bus commission, which is the C-Bus network configuration utility, and C-Bus networks

## C-Bus system Architecture for Commercial Buildings

### Small Commercial Buildings

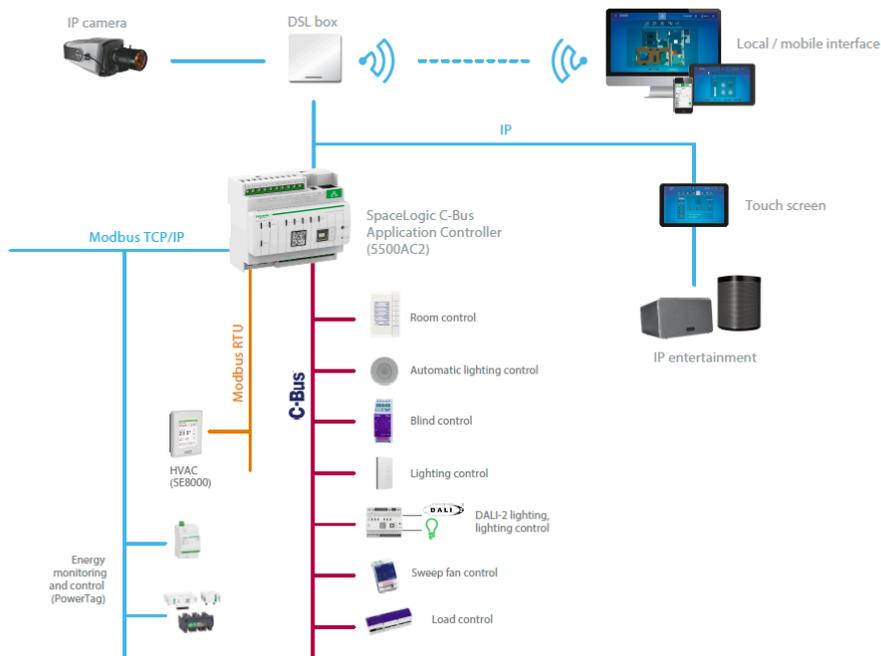


### Large Commercial Buildings

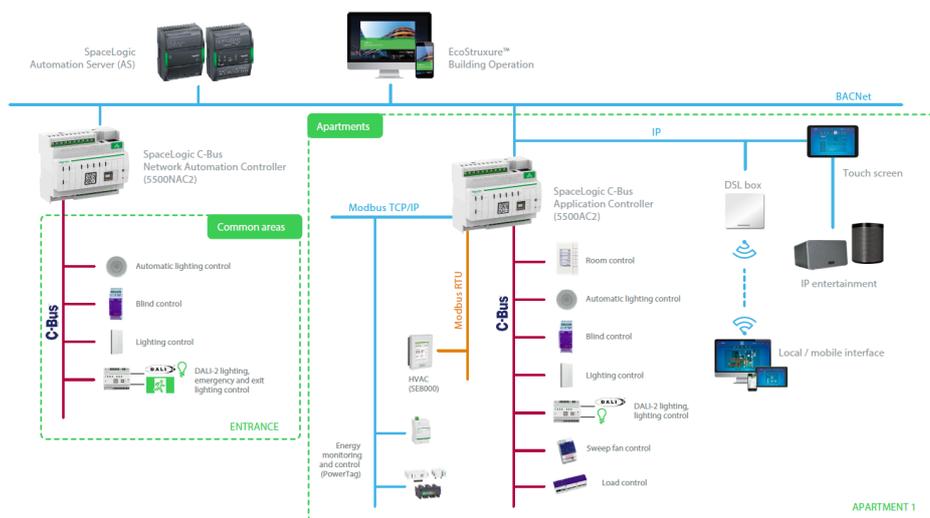


## C-Bus system Architecture for Residential Buildings

### Single Dwelling Residential Buildings



### Multi-Dwelling Residential Buildings



## Introduction to SpaceLogic C-Bus Commission

The SpaceLogic C-Bus Commission is a single software tool for designing and commissioning C-Bus and DALI systems, including lighting and emergency lighting applications.

The SpaceLogic C-Bus consists of:

1. Input Devices – Wall plates, Touch panels, Sensors and General interfaces
2. Output Devices – Dimmers, Relays, and Gateways
3. System Devices – Controllers, Interfaces and Bridges
4. Software – For Commissioning and control of devices

The features of the software are as follows:

- Managing C-Bus and DALI devices over single C-Bus network connection

- Defines relation between C-Bus and DALI from a single point  
Deployment queue enables background deployment while configuration is work in progress.  
Provides different DALI device identification methods suitable for varying deployment situations

## C-Bus Applications

The C-Bus building automation applications are at the core of the C-Bus architecture. Each applications are defined to :

- Suit a specific building automation activity
- Provide direct or indirect control or integration with electrical load control
- Provide a messaging protocol specific to the type of building automation
- Communicate building automation information between units or peripherals

## Lighting Application

The *Lighting* applications are used to control lighting as well as switching and load control. Lighting types are broken down into three groups.

- Lighting Compatible applications such as heating, ventilation, HVAC Actuator, irrigation control, etc. These are applications which are fully compatible with the Lighting application, but have unique application addresses in order to separate differing customer solutions
- Lighting Based applications such as trigger, for supporting the creating of scenes and remote triggering and enable, enabling/disabling various system functions
- Lighting Type applications utilize the same set of C-Bus messages, which are designed to transmit electrical load control information across the C-Bus network

Lighting and Lighting Compatible applications are responsible for controlling electrical loads for a wide range of automation operations. These are the applications which form the basics of most C-Bus building automation.

For more details [Click here](#), page 128

## Trigger Application

The *Trigger* application is used to trigger actions or events such as lighting scenes or to start an irrigation program.

For more details [Click here](#), page 139

## Enable Application

The *Enable* application is used to enable/disable system functions. The application is capable of enabling and disabling functions such as:

- Schedules
- Irrigation controller
- Keys with keysets on C-Bus wireless input/output units
- Customer solutions can be enabled/disabled. Each application has 255 *Enable Group* address which can be used to enable/disable a range of functions and each of these have 255 *Values*

For more details [Click here](#), page 147

## Error Application

The *Error* application is used to report error information detected or generated by C-Bus units over the C-Bus network.

C-Bus units monitor and detect error conditions, and report those conditions using the C-Bus error application.

An error or fault condition report contains information about what caused it, how severe it was, and what its nature was. Events are reported OK, if the monitored events are operating normally. Upon receiving an error message, a device acts on the information accordingly.

For more details [Click here](#), page 154

## Measurement Application

The *Measurement* application is designed to receive data in the form of voltage, current and resistance, which is converted, scaled and, then transmitted across the C-Bus to accurately represent physical measurement units such as temperature, liquid level, light level and so on.

For more details [Click here](#), page 161

## Emergency Exit Light Application

The *Emergency Exit Light* application is used for emergency and exit lighting.

For more details [Click here](#), page 165

## Audio Application

The *Audio Control* application control the audio levels such as volume, bass, and treble as well as the selection of audio sources for zones.

For more details [Click here](#), page 173

## Media Transport Application

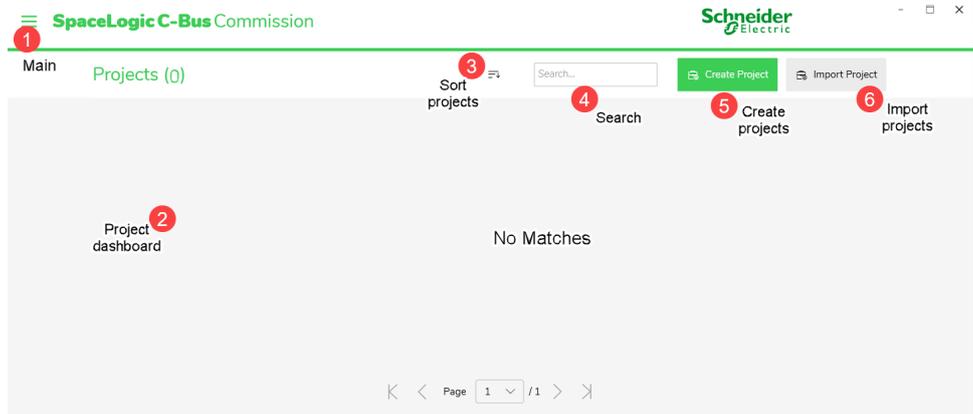
The *Media Transport Control* application is designed to transmit control signals for audio and video equipment used with C-Bus units.

For more details [Click here](#), page 177

## Knowing the User Interface

### Outline

The home screen of SpaceLogic C-Bus Commission Software after the installation is as below:



## Customizing the User Interface Layout

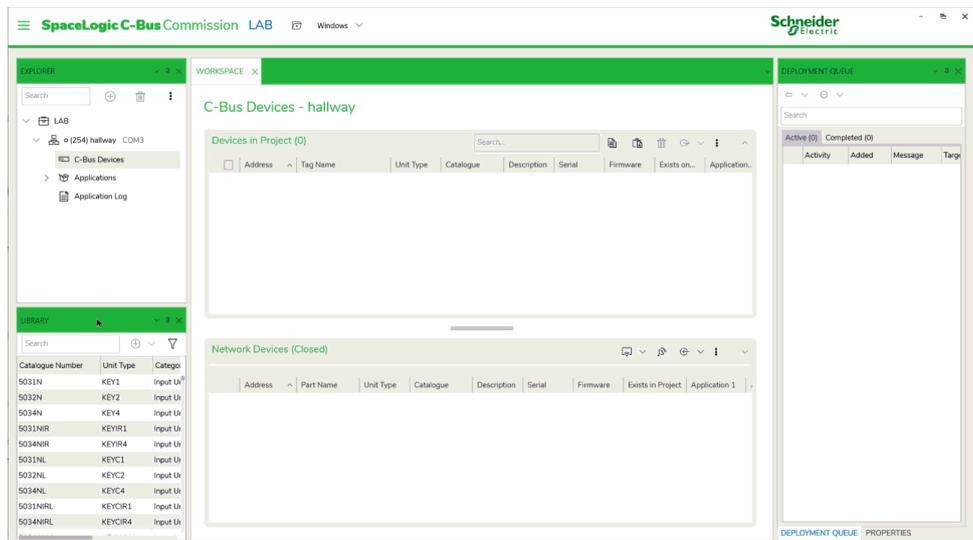
You can customize the appearance of the commission software User Interface by modifying the layout of windows . You can modify their size and also their position.

- Windows can be arranged:
  - Pinned
  - Docked
  - Floating on multiple monitors

The customized layout is saved when you close the commission software.

**TIP:** To get the default setting, see [Reset window layout](#)

The following demonstrates an example of a customized User Interface layout.



Each Window consists of following control buttons:

Button	Description
∨	Drop-down options <ul style="list-style-type: none"> <li>• Float</li> <li>• Dock</li> <li>• Dock as document</li> <li>• Auto hide</li> <li>• Close</li> </ul>
⏏	Auto hide
✕	Close the window

# Software Update

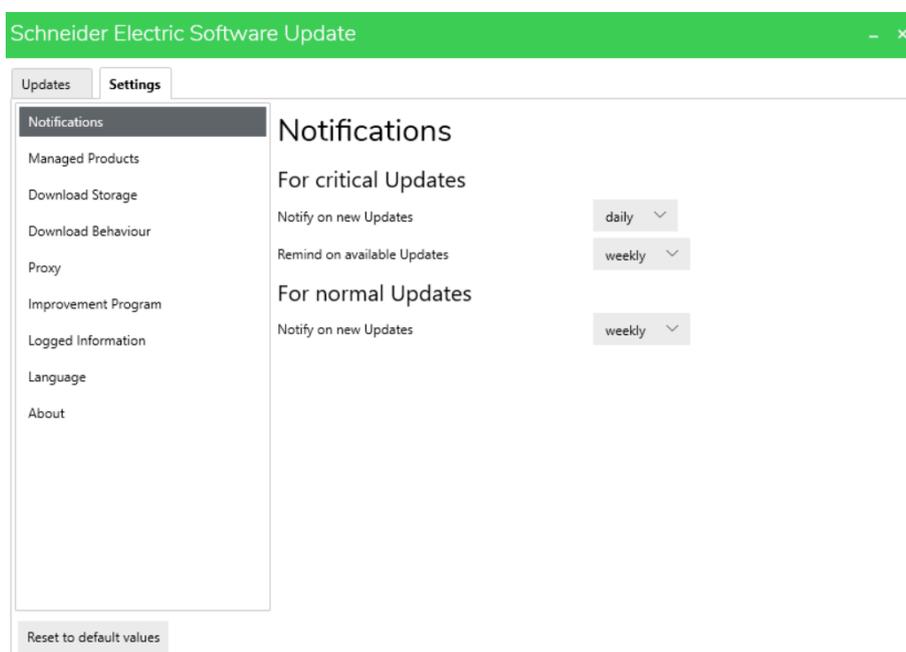
The software update feature enables the use of the most up-to-date software, minimizing downtime/disruptions when commissioning projects. This ensures smooth and efficient operation. Additionally, it also:

- Sends automatic notifications about new software updates/versions.
- Allows you to install the latest updates for the SpaceLogic Commissioning Software (SLCC) application by integrating with the Schneider Electric **Software Update** (SESU) platform.
- Prevents user from clicking the incorrect link on the Schneider Electric website.

To install the software update feature:



1. Double click the **Software Update** icon. The **Schneider Electric Software Update** (SESU) application appears.



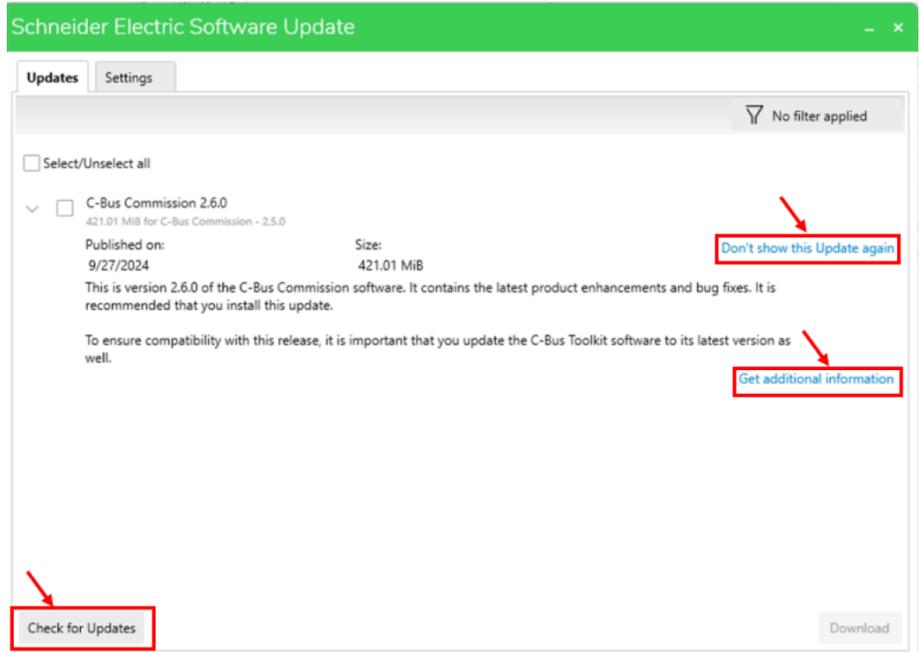
2. Click the **Settings** tab. The **Notifications** section is displayed.

**NOTE:** You can only view the frequency of notifications to be received.

- **For critical Updates:** Weekly reminders on available updates and daily notifications on new updates.
- **For normal Updates:** Weekly notifications on new updates.

3. Click the **Updates** tab. The SESU application displays all the relevant updates. In case, you missed the updates, click **Check for Updates**.

**NOTE:** Click **Don't show this Update again**, to prevent updates from appearing. For more information on the SpaceLogic C-Bus application, click **Get additional information**.

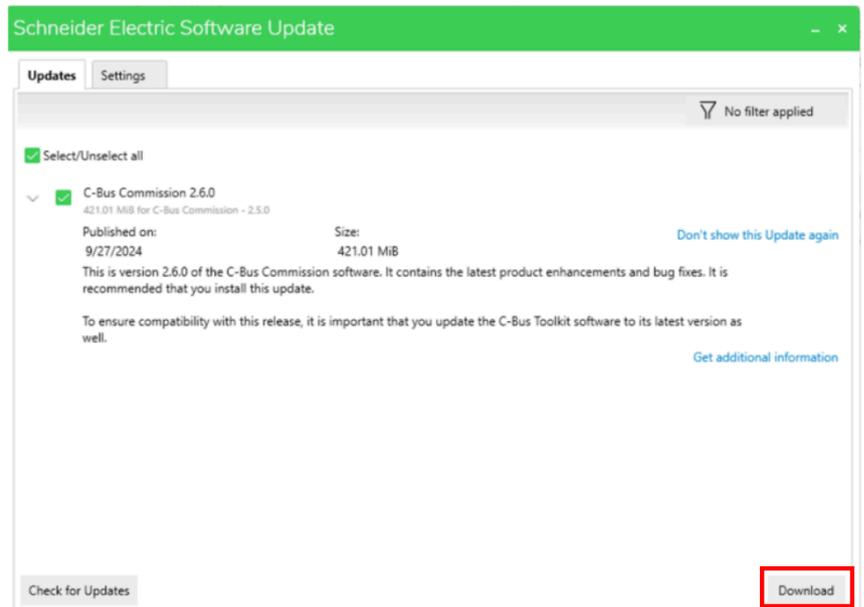


4. To download the new software update, either:

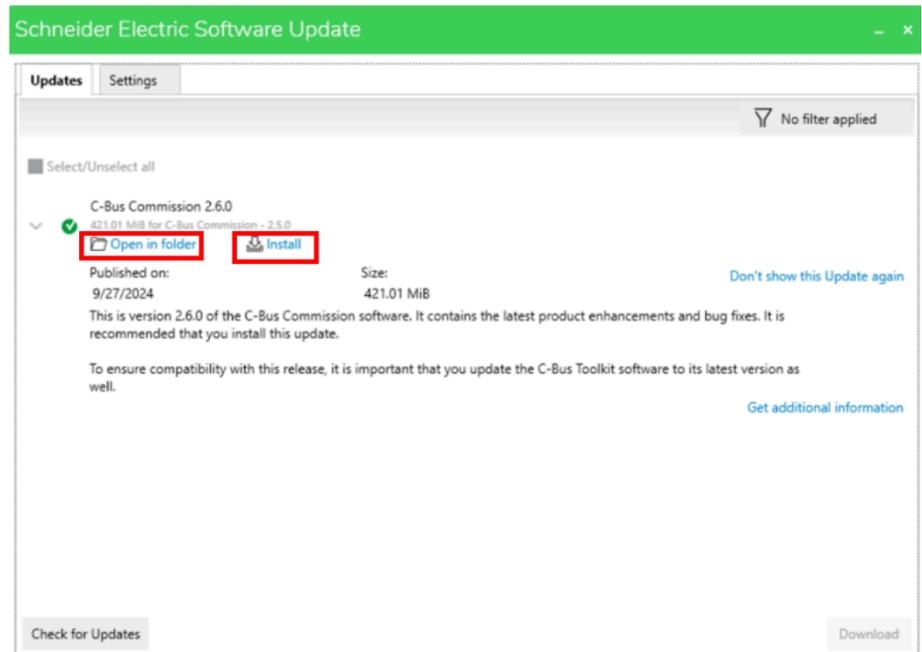
- Select one or more update and then click **Download**.

or,

- Select the **Select/Unselect all** checkbox to select all the updates and then click **Download**. The new update starts to download.



5. Once the download is completed, the below screen is displayed.



6. You can either open the directory containing the downloaded file or directly click **Install** to initiate the installation process. The new updates will be installed.

## Workflow of the software

A C-Bus and DALI installation can be programmed in various methods. The workflow defines a possible procedure.

1. Create a new project and fill in the project information in the required fields, see [Create project](#)
2. Create and add networks as per project requirement, see [Add networks](#)  
**NOTE:** Each project can have a maximum of 255 networks.
3. Add devices to the network from Library window, see [Library Window](#), page 64  
**NOTE:** If C-Bus DALI-2 Gateway has been added to the project, the DALI devices must be added into the DALI lines.
4. Create applications, see [Add applications](#), page 121
5. Add group address information to applications from C-Bus Application section.
6. Set properties for the devices using the Properties window, see [Properties window](#), page 117
7. Open and scan the C-Bus network and the DALI line if required, see [Network Devices](#), page 76  
**Result:** The software searches for the devices in the network.
8. Identify the DALI-2 devices in the network using Auto Identify or Identify functions.  
**NOTE:** If the C-Bus devices are already addressed, then this step is not required. Verify the flashing lights in the physical device.
9. Extract the fully matching devices from *Network Devices* to *Devices in Project* section, see [Extract devices](#), page 82
10. Deploy each configured/reconciled device to the network, see [Deploy device to network](#), page 74  
**Result:** The device information is displayed in the Deployment Queue window.

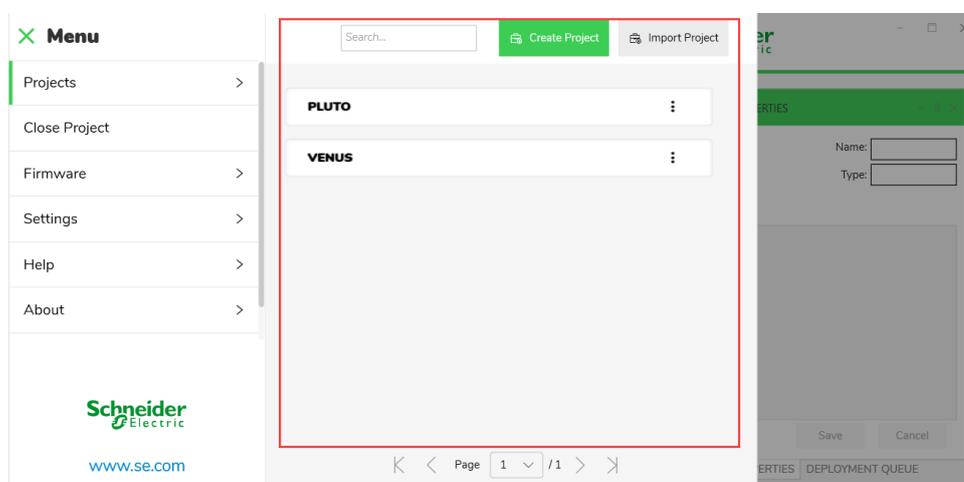
## Menu

The  will display all the options available in the SpaceLogic C-Bus commission software. The menu consists of:

- Projects, page 32
- Firmware, page 32
- Setting, page 44
- About, page 48
- Exit, page 49

## Projects

The **Projects** section in the settings displays the project dashboard as shown below:



You can perform the following:

1. Create new project.
2. Open, rename and delete an existing project using .
3. Search existing project.
4. Switch between projects.
5. Sort projects.
6. Import projects.

For more details, see [Project management](#), page 50.

## Firmware

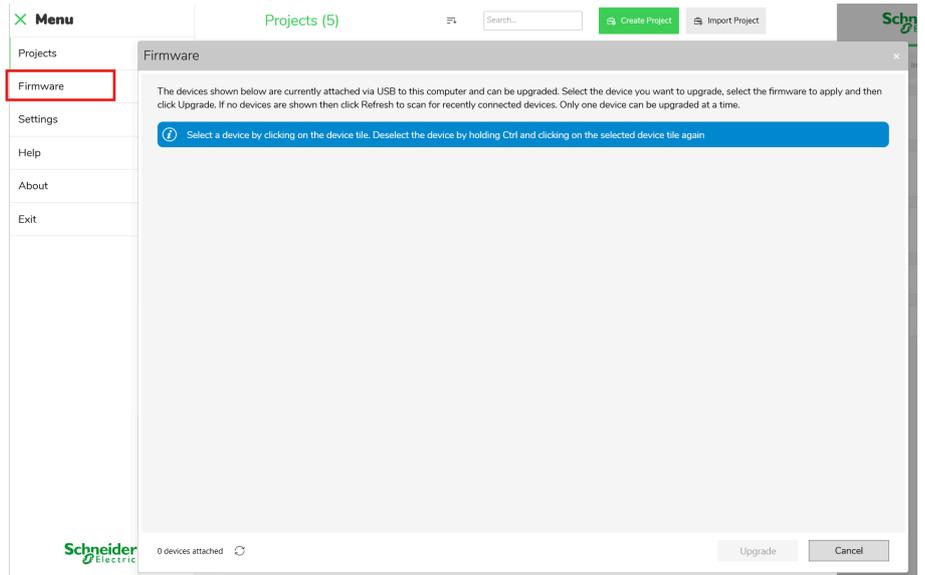
**Prerequisites:** Make sure you have the SpaceLogic C-Bus Commission software open. Connect the C-Bus unit to your PC using the appropriate USB cable.

The **Firmware** section enables you to easily update the firmware of your C-Bus units. The necessary firmware files for the update process are available within the software.

To upgrade the firmware :

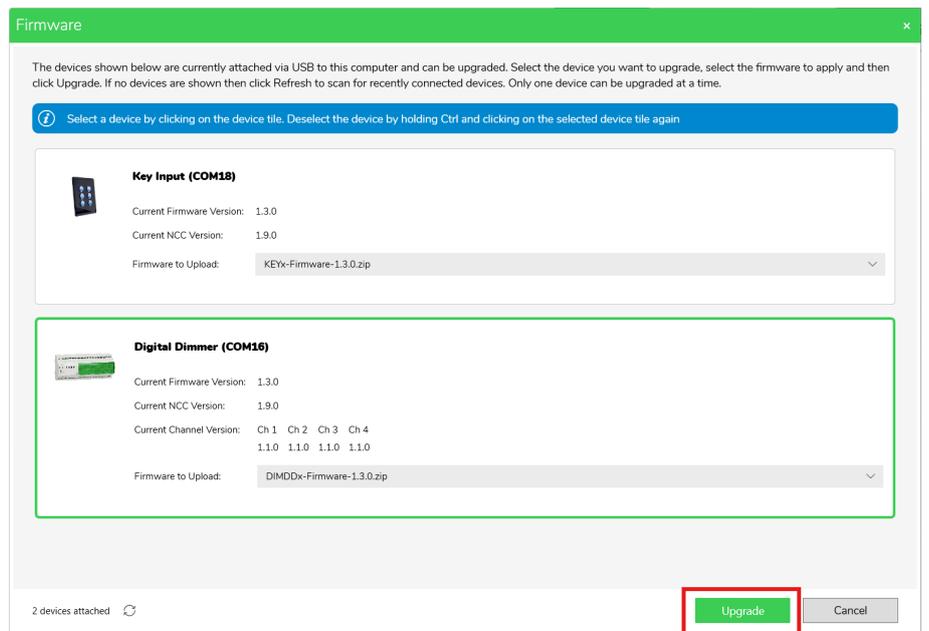
1. Click .

## 2. Click **Firmware**.

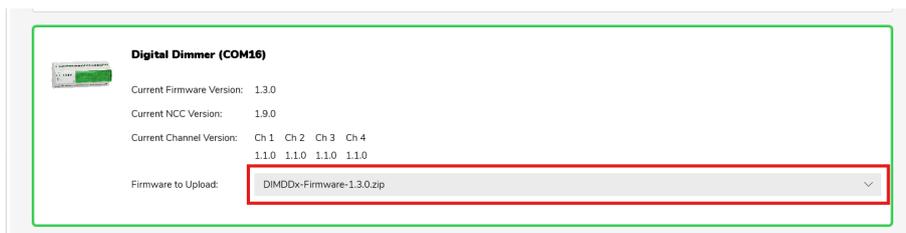


**NOTE:** When no devices are connected, the **Firmware** upgrade page is displayed with **Refresh** icon enabled and **Upgrade** disabled.

## 3. Connect a Unit device and click **Refresh**. Once devices are detected, **Upgrade** is enabled.

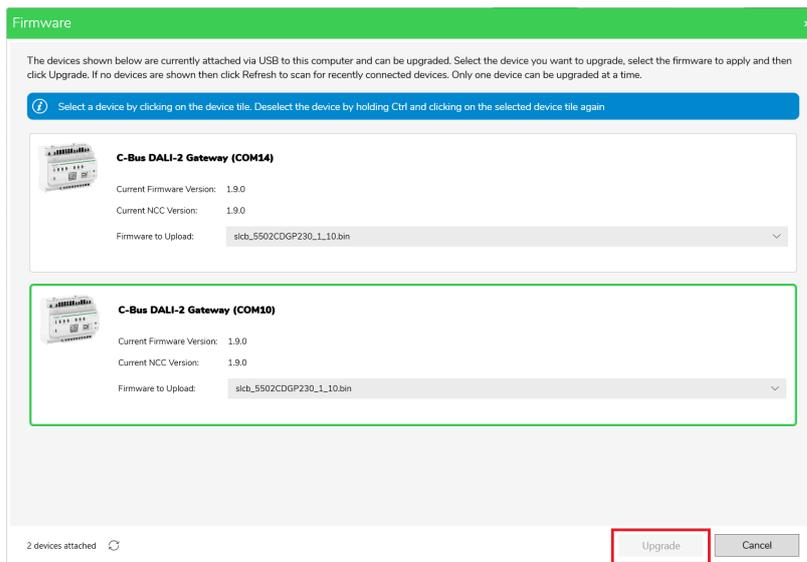


- Click the **Firmware to Upload** drop-down menu to change the firmware version of any connected device.

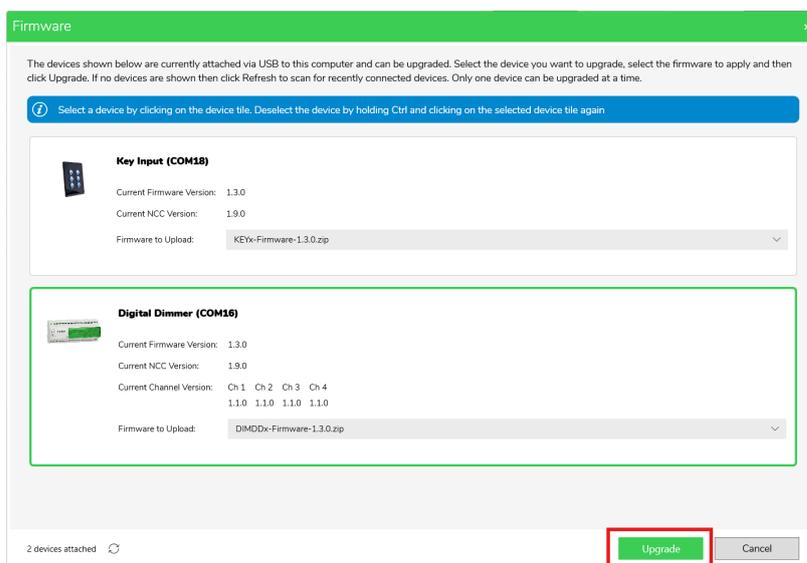


### IMPORTANT:

- User can upgrade only one device of the same type at a time. For example, one DALI 2 Gateway at a time out of two DALI-2 Gateways.



- User can upgrade multiple devices of different type at a time. For example, one Key Input device and one Digital Dimmer.



- Click **Upgrade**.

For product specific firmware upgrade, refer Unit type firmware upgrade, page 35.

## Unit Firmware Upgrade

### SpaceLogic C-Bus Firmware Upgrade

This section describes how to update the firmware for devices using normal and bootloader modes.

#### Firmware Update for Devices Connected in Normal Mode

The following procedure is applicable for the below listed SpaceLogic C-Bus units.

- DALI-2 Gateway
- Digital Dimmers
- High Power Dimmers
- Key Input Unit
- Relays

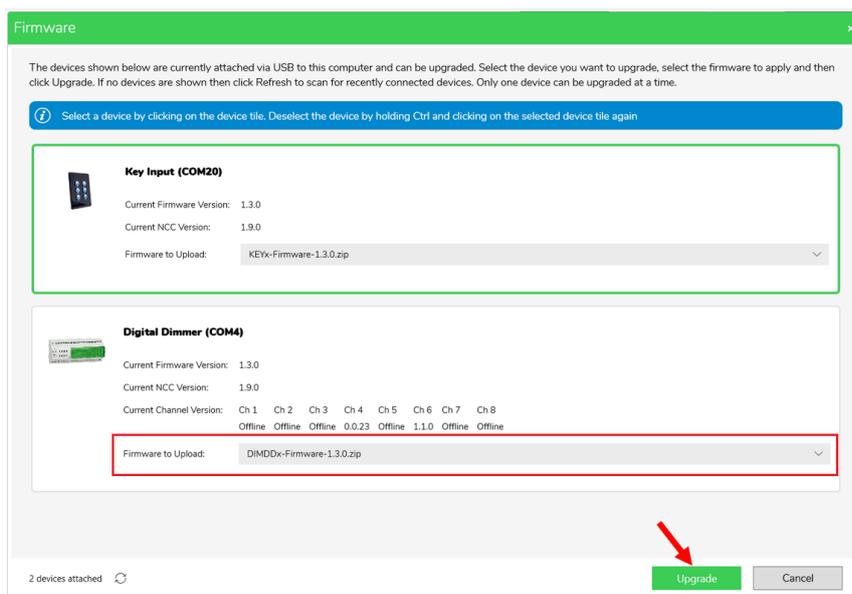
**Prerequisites:** For more details, refer the SpaceLogic C-Bus product instructions.

To update the firmware using normal mode:

1. Connect the unit to the system through an appropriate USB cable.
2. Click .
3. Click **Firmware**.
4. Select the unit (Key Input/Relay/Digital Dimmer/High Power Dimmer/DALI-2 Gateway).

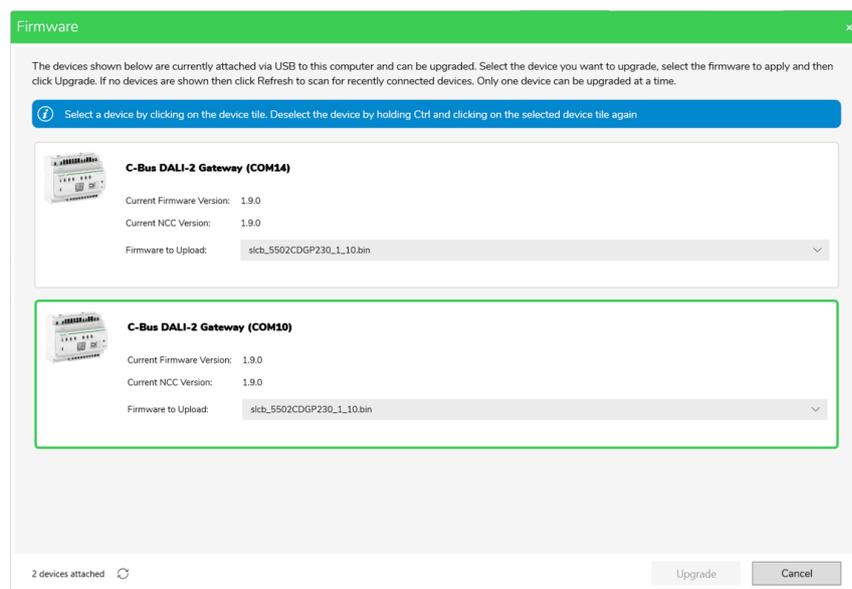
5. Select the firmware version to upgrade, from the **Firmware to Upload** drop-down menu.

- At a time, only one device can be selected for firmware upgrade.

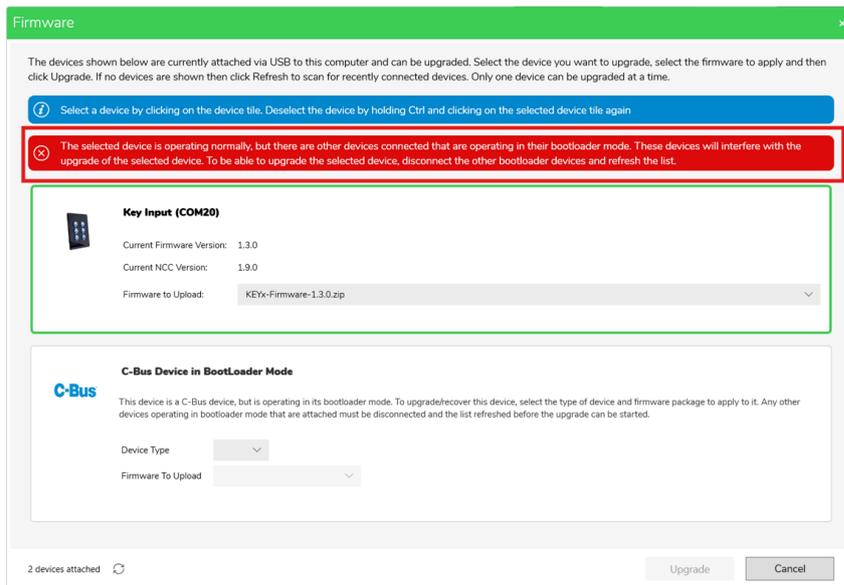


- Only one unit type (Example: If multiple DALI-2 Gateway devices are connected, other devices of the same unit type must be disconnected, except for the unit that requires an upgrade).

Upgrade is disabled when two same unit types (Example: Two DALI-2 Gateways/Dimmers/Key Input) are connected.

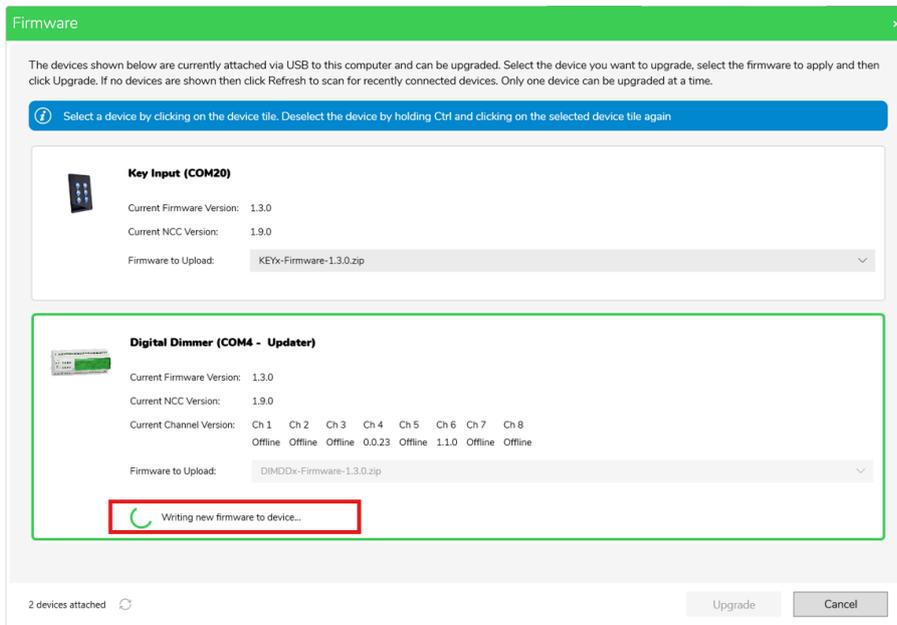


- If any of the devices listed in the above SpaceLogic C-Bus units is in bootloader mode, the below error message is displayed.

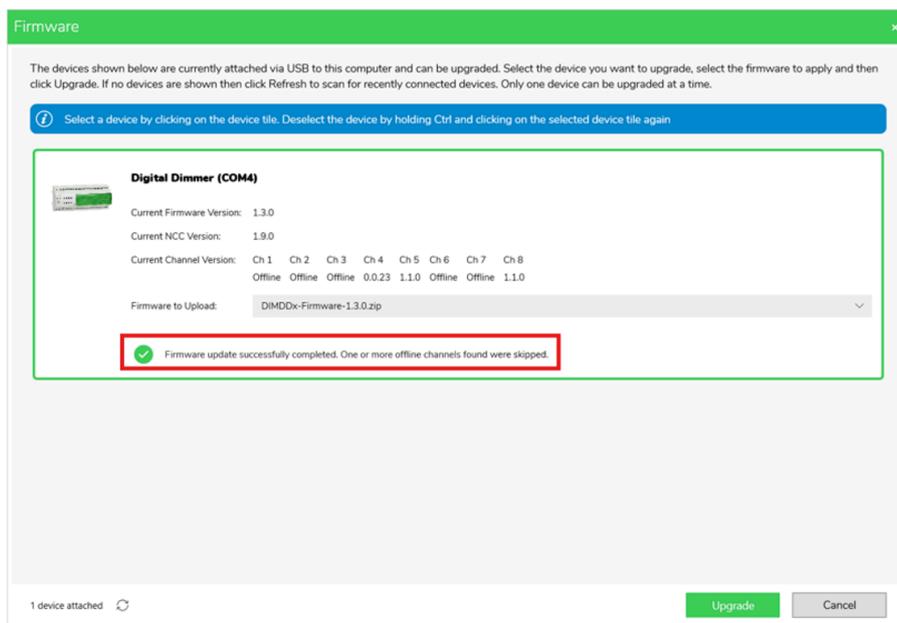


**IMPORTANT:** DO NOT close the application or switch between views while the unit firmware upgrade is in progress, as this may cause the application to stop abruptly.

6. Click **Upgrade**.



7. Once the upgrade is completed, success message is displayed.



### IMPORTANT:

#### For Dimmers

- The firmware upgrade process also updates the dimmer core firmware version for each channel, if required.
- Each channel and unit indicator blinks when respective channel upgrade is in-progress. Once the channel upgrade is completed, the channel indicator turns green.

## eDLT Wall Plates Firmware Upgrade

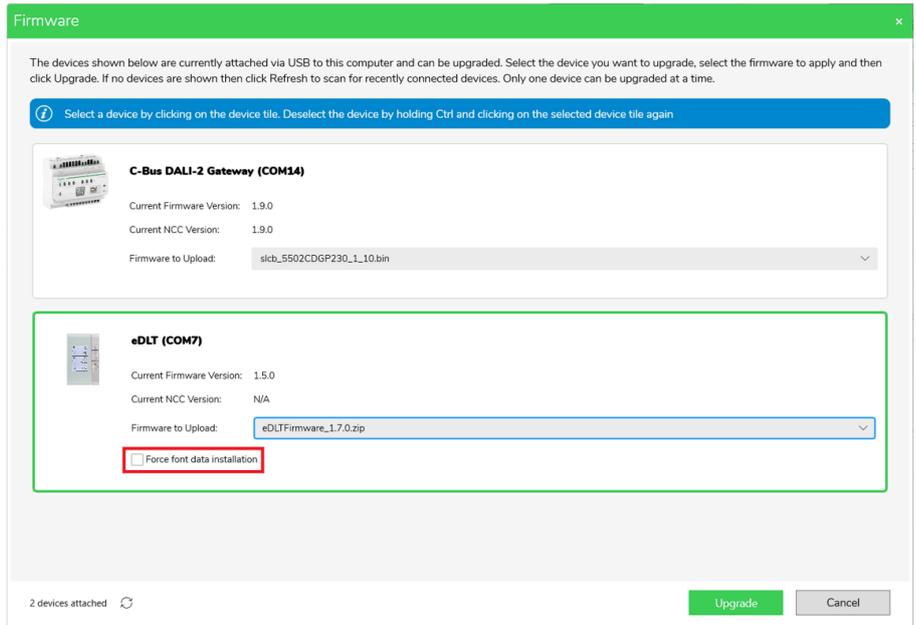
**Prerequisites:** For more details, refer the SpaceLogic C-Bus product instructions.

To update the firmware for eDLT Wall Plates:

1. Connect the eDLT unit to the system through an appropriate USB cable.
2. Click .
3. Click **Firmware**.
4. Select the eDLT unit.
5. Select the firmware to upgrade, from the **Firmware to Upload** drop-down menu.

**NOTE:** An additional option, **Force font data installation** is available only for eDLT units, by default it is unchecked.

- Select the checkbox to install the latest eDLT font file along with the firmware upgrade.



**IMPORTANT:** DO NOT close the application or switch between views while the unit firmware upgrade is in-progress, as this may cause the application to stop abruptly.

- Click **Upgrade**. Once the upgrade is completed, success message is displayed.

**NOTE:** Only one eDLT can be upgraded at a time. **Upgrade** is disabled, when two eDLT units are connected.

## Firmware Update for Devices Connected in Bootloader Mode

Sometimes, during the firmware upgrade process, the files may fail to work, the device cable may be unplugged, or the device may fail to switch to normal mode. In such cases, the device remains in the bootloader mode. The following procedure is applicable only for the below listed NCC SpaceLogic C-Bus units:

- Digital Dimmers
- High Power Dimmers
- Key Input Unit
- Relays

Additionally, the user:

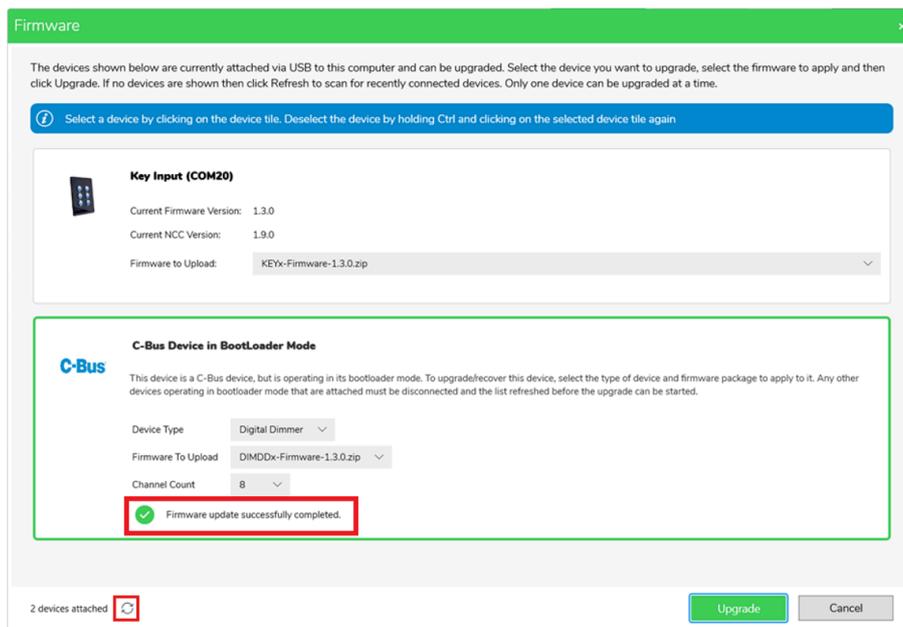
- Does not need to power cycle the device.
- Does not believe that the device is faulty.
- Can easily and quickly restart the upgrade operation.

**Prerequisites:** For more details, check the SpaceLogic C-Bus product instructions.

To update the firmware for devices in bootloader mode:

- Connect the unit to the system through an appropriate USB cable.
- Click .
- Click **Firmware**.
- Select the unit (Key Input/Relay/Digital Dimmer/High Power Dimmer).

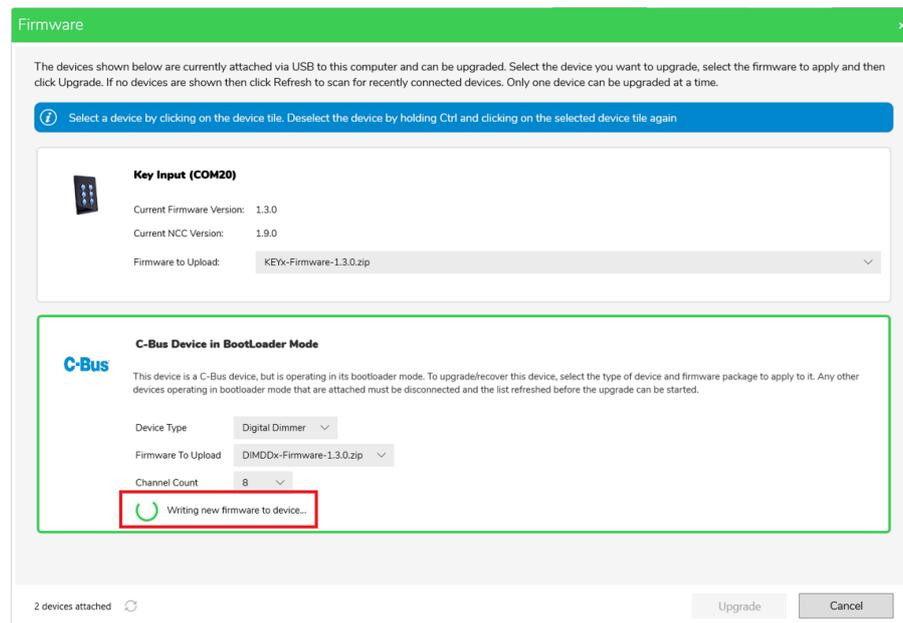
- Select the firmware to upgrade, from the **Firmware to Upload** drop-down menu.



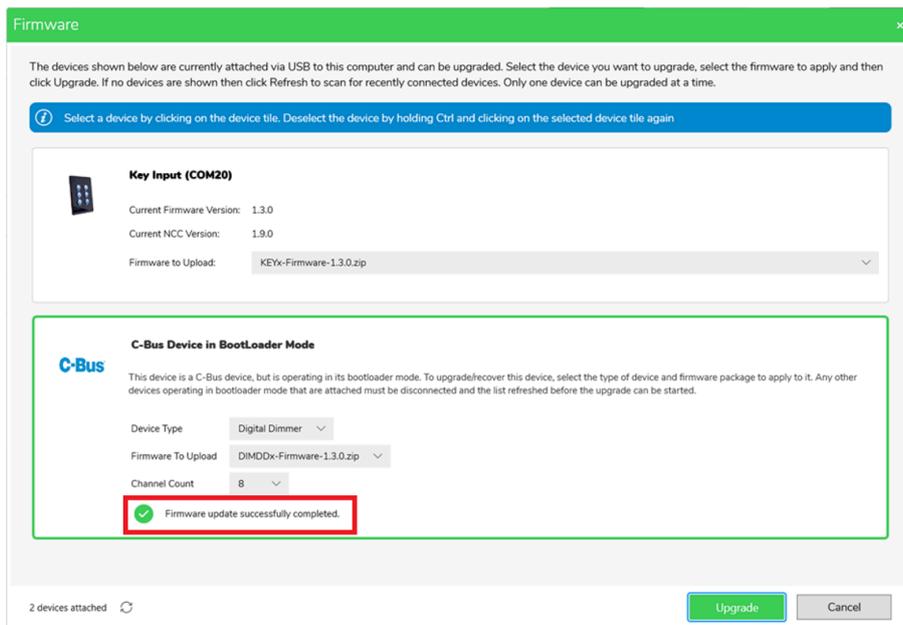
**NOTE:** The **Channel Count** drop-down list is applicable only for Relays and Dimmers.

**IMPORTANT:** DO NOT close the application or switch between views while the unit firmware upgrade is in-progress, as this may cause the application to stop abruptly.

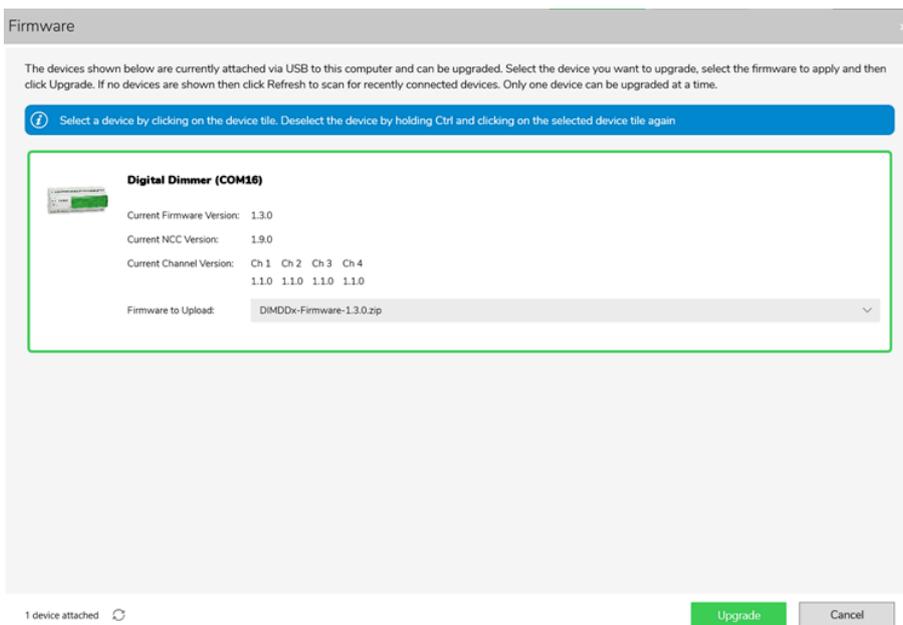
- Click **Upgrade**.



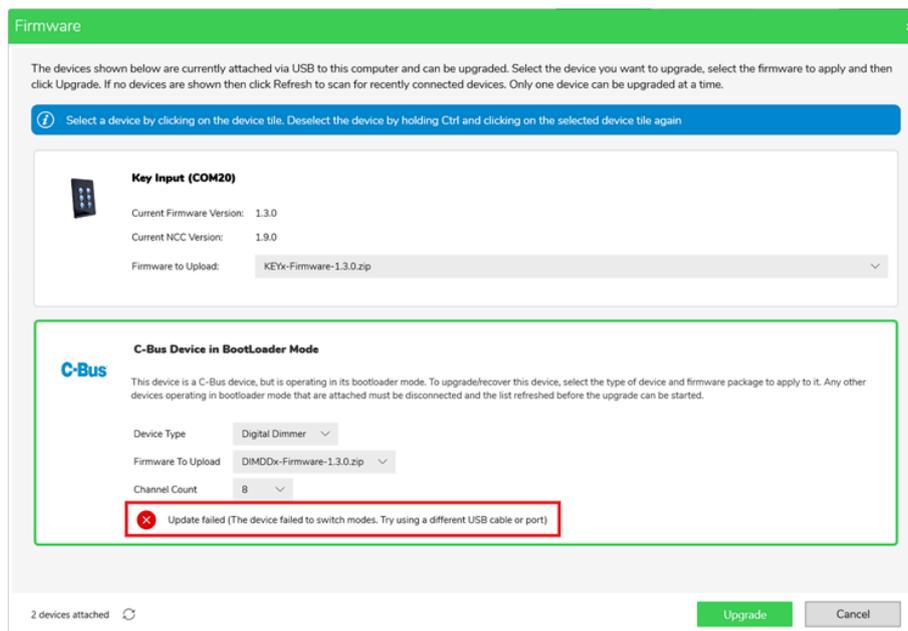
7. Once the upgrade is completed, success message is displayed.



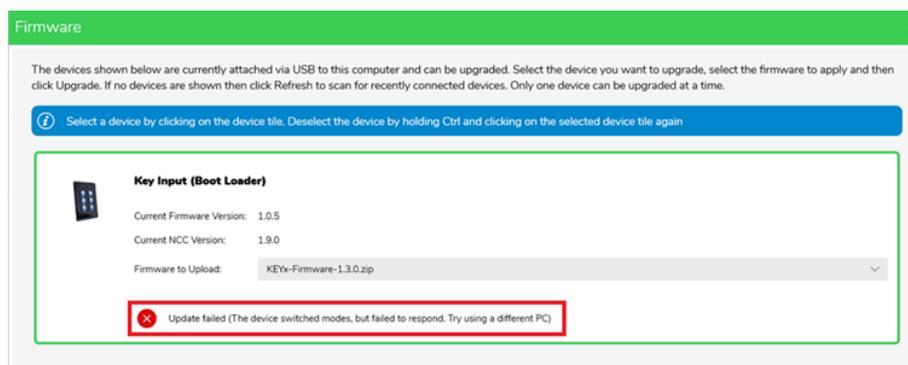
8. Click the **Refresh** icon, the bootloader device tile is replaced with a normal device tile indicating the device is a Digital Dimmer.



9. If the connected device fails to switch modes, the below error message is displayed.



10. If the connected device is not found, the below error message is displayed.



## Optimizing the Firmware Update Efficiency for C-Bus Digital Dimmers/High Power Dimmers

If the binary files are already present on the dimmer device, the software will not upload them again when initiating the firmware update process.

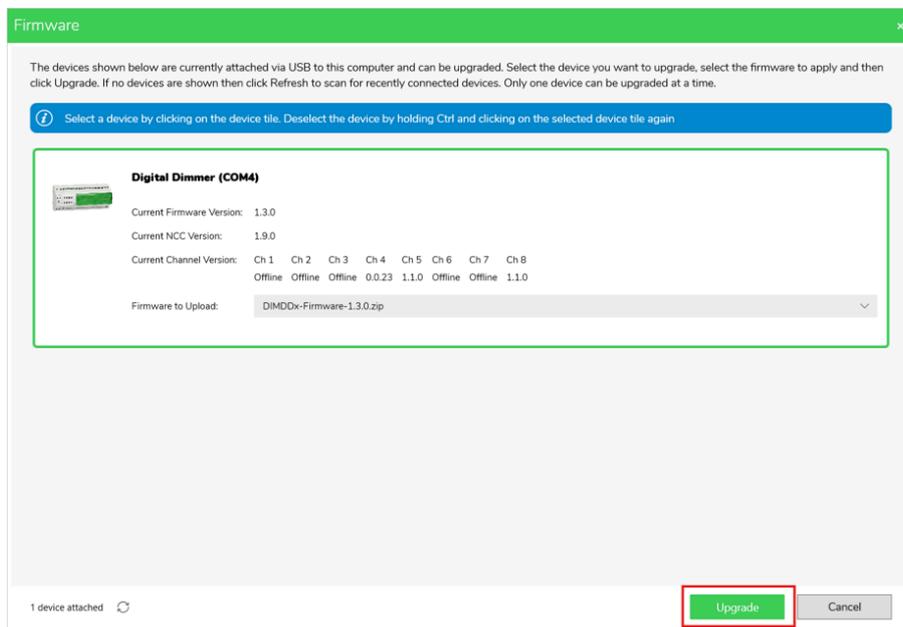
When the firmware update process of a dimmer device begins, the software checks the NCC firmware version and each channel's firmware version. If they match the firmware package, the binary files will not be uploaded.

Additionally, it also:

- Reduces the firmware update time for dimmers by excluding unnecessary NCC firmware and the channel firmware version updates.
  - If the NCC and Channel firmware files are already on the dimmer, skip uploading them.
  - If the NCC and Channel firmware versions are same on the device, skip the upload phase.
- Enables the firmware update process to complete successfully even if a channel bank is unpowered.
- Bypasses the unpowered channel bank to complete the update, upon user confirmation.

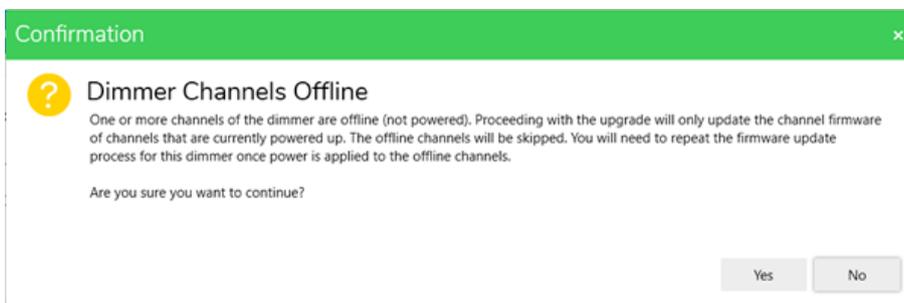
To update the firmware efficiency for C-Bus Digital Dimmer/High Power Dimmer devices:

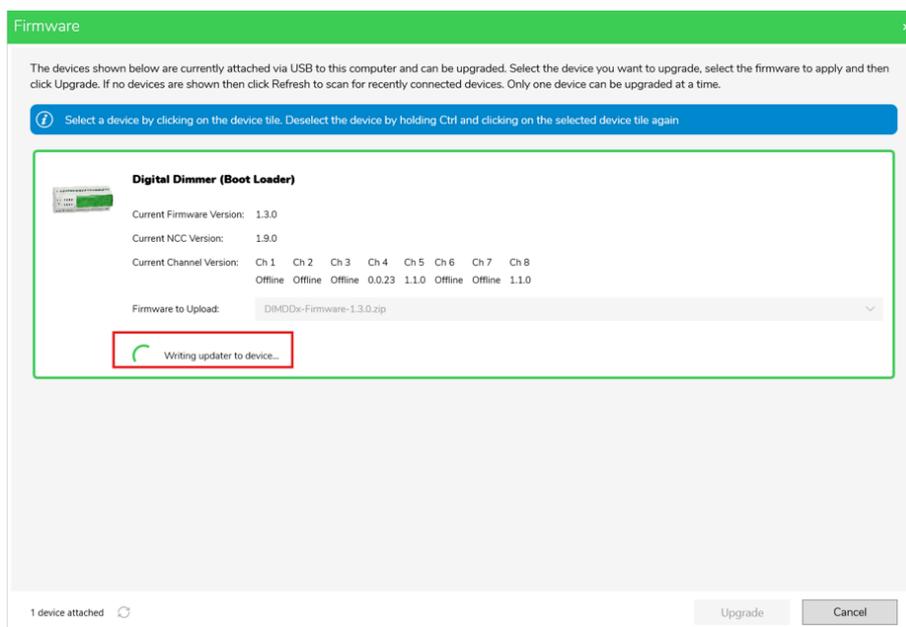
1. Connect the unit to the system through an appropriate USB cable.
2. Click .
3. Click **Firmware**.
4. Select the unit (Digital Dimmer).
5. Select the firmware to upgrade, from the **Firmware to Upload** drop-down menu.



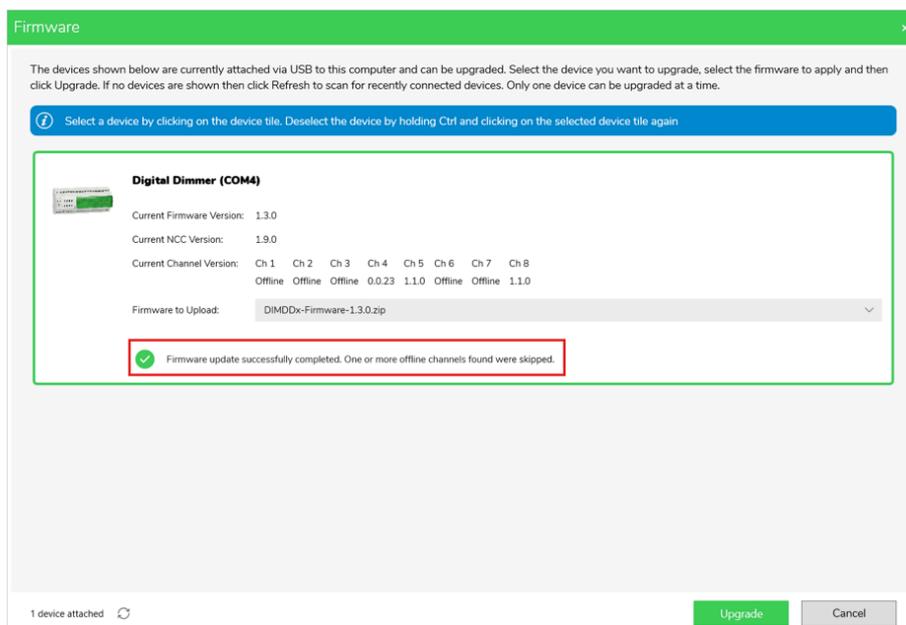
**IMPORTANT:** DO NOT close the application or switch between views while the unit firmware upgrade is in-progress, as this may cause the application to stop abruptly.

6. Click **Upgrade**. A **Confirmation** pop-up appears.



7. Click **Yes** to proceed.

## 8. Once the upgrade is completed, success message is displayed.



## Settings

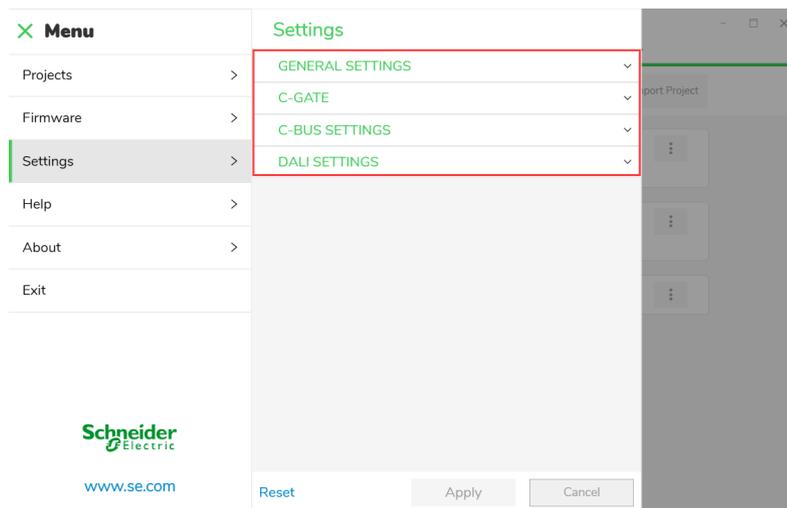
The Settings option allows a user to perform general settings for the software, C-Bus and DALI system. The sections in the *Settings* option are follows:

- General settings, page 45
- C-Gate (To be implemented)
- C-Bus settings, page 48
- DALI settings , page 47

## To Open Settings

1. Click 

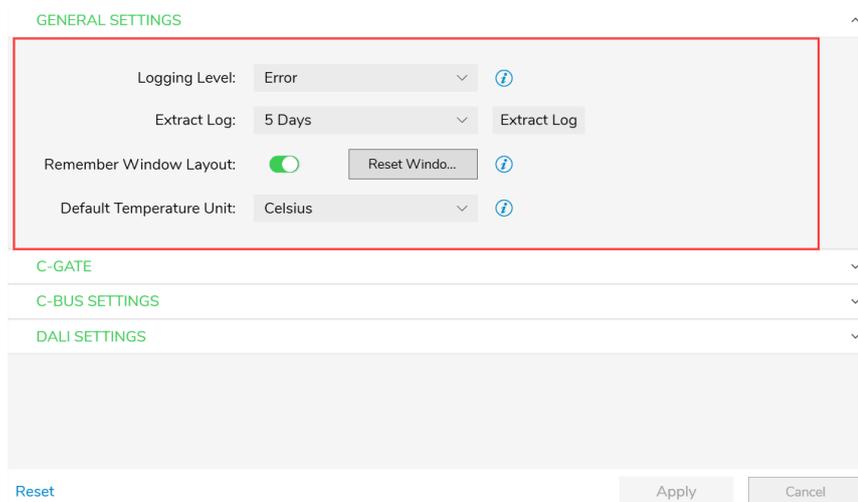
## 2. Select Settings.



## General Settings

The operations that can be performed in the *General Settings* section are as follows:

- Logging Level
- Extract Log
- Remember Window Layout
- Default Temperature Unit



## Logging Level

Based on the different *Logging Levels* the client and server logs can be extracted. When a logging level is set, it becomes the new default setting and any lower levels are automatically included in the extracted report.

For example: If the Information level is selected, it includes the Warning, Error and the Fatal levels. This feature might be helpful for the debugging purposes.

GENERAL SETTINGS

Logging Level: **Error** ⓘ

Extract Log:

Remember Window Layout: **Error** ⓘ

Default Temperature Unit: **Fatal** ⓘ

C-GATE

C-BUS SETTINGS

DALI SETTINGS

Reset

**NOTE:**

- Click **Apply** to make the selected *Logging Level* as a user-defined
- Click **Reset** to change the Logging level to the system default, which is the Information logging level

Confirm **Yes** in the **Confirmation** dialog box.

Logging levels	Purpose	Description
Error	This is a default level and can be used in general day to day usages	This logging level is helpful when an error occurs in the software <b>NOTE:</b> This is the default level set in the software
Warning	This level is used based on the need to check any warnings generated	This logging level includes any warnings generated during the configuration
Information	This level is used to capture more information details in the Client logs	This logging level includes the login and session information
Fatal	This level is used based on the need to trace a software crash	This logging level is helpful when the software crashes

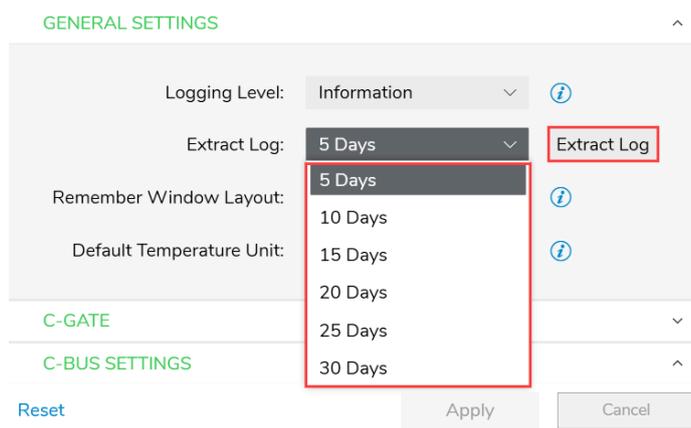
## Extract Log

The log events of C-Bus Commission and C-Gate can be extracted using *Extract Log* button.

Name	Type	Compressed size	Password p...	Size	Ratio	Date modified
CBus-Commission.2023-09-12	JSON File	261 KB	No	11,736 KB	98%	09/21/2023 10:32 AM
CBus-Commission.2023-09-13	JSON File	36 KB	No	844 KB	96%	09/21/2023 10:32 AM
CBus-Commission.2023-09-14	JSON File	20 KB	No	214 KB	92%	09/21/2023 10:32 AM
CBus-Commission.2023-09-21	JSON File	4 KB	No	32 KB	91%	09/21/2023 10:32 AM
C-Gate-Log-Extract-20-Days.2023-...	Compressed (zipped) Fol...	20,319 KB	No	25,926 KB	22%	09/21/2023 10:32 AM

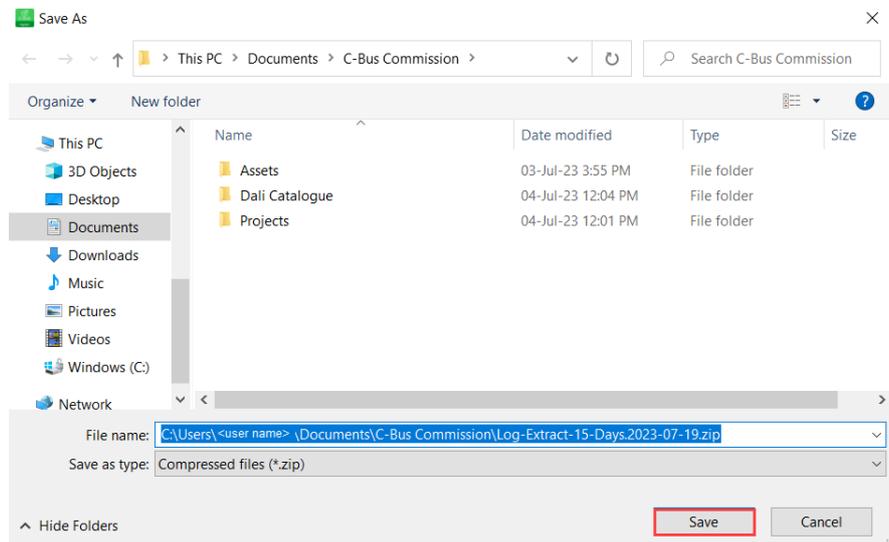
The steps to extract logs for the specified logging level is as explained below:

1. Select the number of days for which the Log has to be extracted and click **Extract Log**



**NOTE:** The number of days selected will not be saved in the general settings and is only used to extract log.

2. “Save As” window is displayed



**NOTE:** The details are saved in zip file.

Click **Save**

## Window Layout

### Remember Window layout

Toggle ON, to remember the user-defined layout.

### Reset Window layout

To reset the system default setting as windows layout, click **Reset Window Layout**

## Temperature Unit

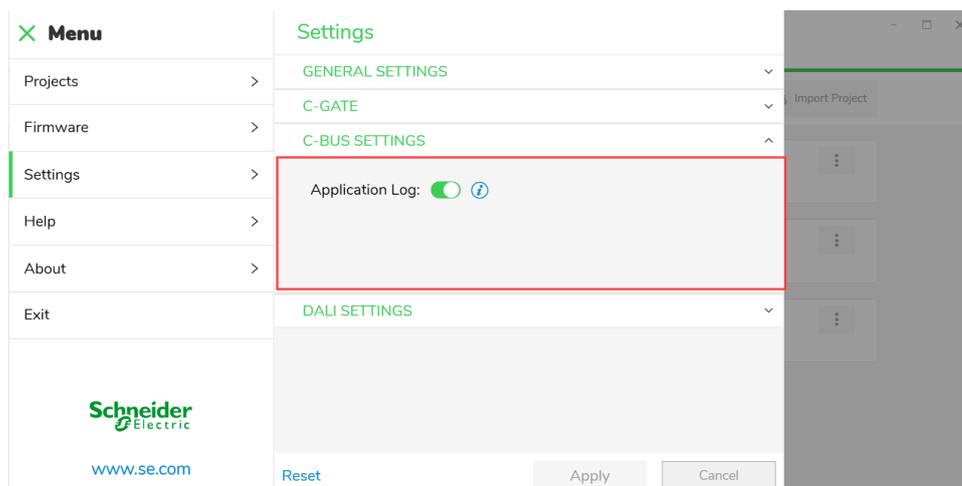
The Default Temperature unit can be set either as Celsius or Fahrenheit.

## C-Gate Options

To be implemented.

## C-Bus Settings

The operations that can be performed in the General Settings section are as follows:



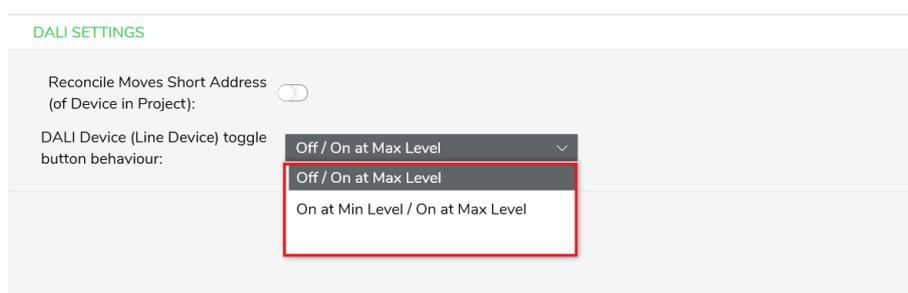
### Application Log

The Application Log allows the user to display group activity on the physical network. By default, the application log is toggled ON.

## DALI Settings

DALI SETTINGS can be performed by toggling on **Reconcile Moves Short Address (of Devices in Project)**.

- While performing reconciliation on DALI devices:
  - If the DALI settings is toggled off, the short address and object Id of a device in **Devices in Project** section will not be changed.
  - If the DALI settings is toggled on, the short address and object Id of a device in **Line Devices** section will not be changed.
- Select the option from the **DALI Device (Line Device) toggle button behaviour** drop-down.



**NOTE:** This setting changes the behavior of the toggle off/on button in the DALI **Line Device** section, making it switch between **Off/On at Max Level** and **On at Min Level/On at Max Level** when toggled.

## About

The About option displays the version number of the SpaceLogic C-Bus Commission software, which can be helpful during communicating with the technical support team.

# Exit

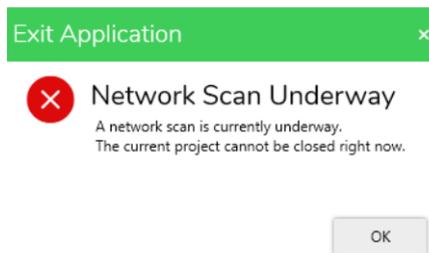
The Exit option allows to exit from the SpaceLogic C-Bus Commission software.

**IMPORTANT:**

- Trying to exit a software while deployment activities are in progress is not possible.



- Trying to exit a software while scanning is in progress is not possible.



# Projects Management

The management of projects consists of operations that can be performed on projects individually in the software.

The projects tool bar in the project home screen include project name.

Operations performed on project screen.

Icons	Operation
	Close the current project, see <a href="#">Close project</a> , page 53
Windows ▼	Windows Drop-down menu, see <a href="#">Overview of Project space</a> , page 58

Operations performed on projects dashboard:

- Create a project, page 50
- Switch projects, page 51
- Open an existing project, page 52
- Rename a project, page 52
- Search a project, page 52
- Sort projects, page 57
- Import projects, page 53
- Export projects, page 54
- Close a project, page 53
- Delete a project, page 53

## Create a Project

**Prerequisites:** The SpaceLogic C-Bus Software must be opened.

To create a new project, either in the **Projects dashboard** or in the  , Click

 Create Project

**New Project** dialog box is displayed. Enter the required information about the project.

**New Project** [X]

Project Name : \* OFFICE  
(1 to 8 characters)

Description :

Customer Contact :

Site Details

Address :

City :

State :

Country : United States

Postcode :

\* Required fields

Create Cancel

A new project is created

## Switch Projects

**Prerequisites:** More than one project must already be created.

SpaceLogic C-Bus Commission software allows you to switch between the projects.

1. Click ☰ in the projects dashboard.
2. Click ⋮ of the individual project to be switched.
3. Select **Open** .
4. Confirm **Yes** in the **Confirmation** dialog box.

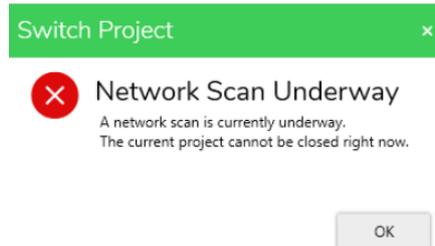
**Step result:** Your selected project is opened.

**IMPORTANT:**

- Trying to switch a project while deployment activities are in progress is not possible.



- Trying to switch a project while scanning is in progress is not possible.



## Open an Existing Project

**Prerequisites:** The project must already be created.

1. Click  in the projects dashboard.
2. Click  of the individual project to be opened.
3. Select **Open**.
4. Confirm **Yes** in the **Confirmation** dialog box.

## Rename a Project

**Prerequisites:** The project must already be created.

SpaceLogic C-Bus Commission software allows you to Rename an Existing project.

1. Click  in the projects dashboard.
2. Click  of the individual project to be renamed.
3. Select **Rename**
4. Confirm **Yes** in the **Confirmation** dialog box.

## Search a Project

**Prerequisites:** The project must already be created.

SpaceLogic C-Bus Commission software allows you to search existing projects.

1. Click 
2. In the Project section, enter the name of the project in the **Search** bar.
3. The Project matching the search criteria is listed in the **Projects dashboard**.

4. Select the project and click 
5. Select **Open**.

## Close a Project

**Prerequisites:** The project must already be opened.

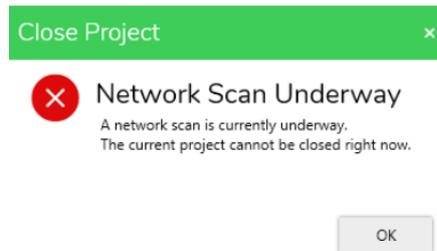
In the Projects tool bar, Click  to close a current project.

**IMPORTANT:**

- Trying to close a project while deployment activities are in progress is not possible.



- Trying to close a project while scanning is in progress is not possible.



## Delete a Project

**Prerequisites:** The project must already be created.

SpaceLogic C-Bus Commission software allows you to switch between the projects. The Delete Project function deletes a project from the database of the SpaceLogic C-Bus Commission Software.

1. Click  in Projects dashboard, click  of the project to be deleted from database.
2. Select **Delete**.
3. Confirm **Yes** in the **Confirmation** dialog box.

## Import Projects

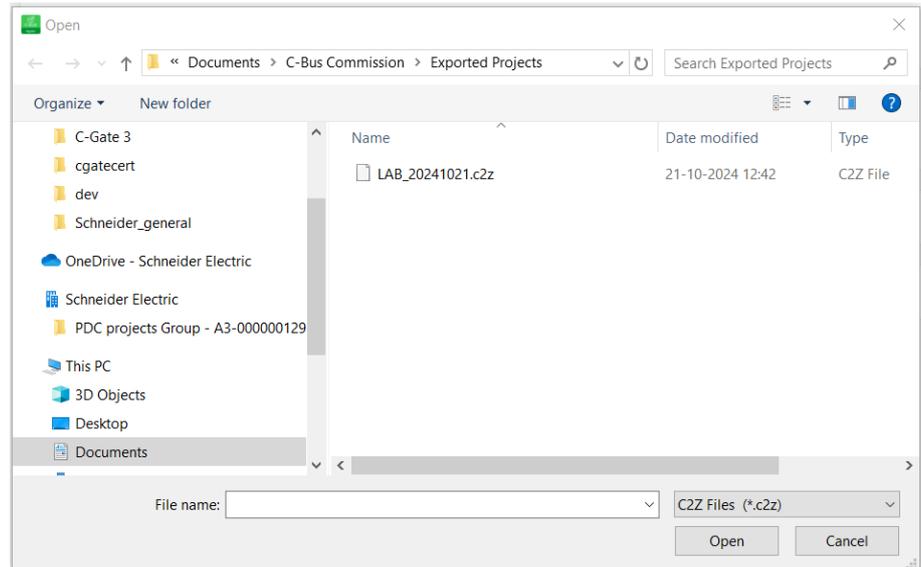
SpaceLogic C-Bus Commission software allows to import projects and all associated files into the software.

The Import function is available in the welcome screen of the software and in the 

To import projects:

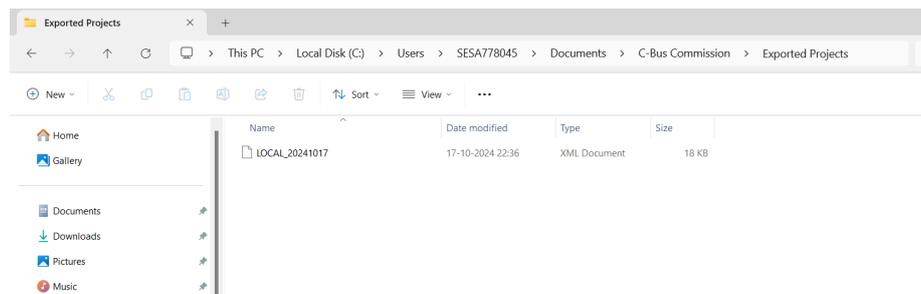
1. Click **Import Project**.

- Windows file browser dialogue is displayed with default location proposed C: \Users\\Documents\C-Bus Commission\Exported Projects



- Select the project which needs to be imported.

All the associated project files will be imported (like project file, the eDLT/DLT, BMP and Index TXT files, and so on).



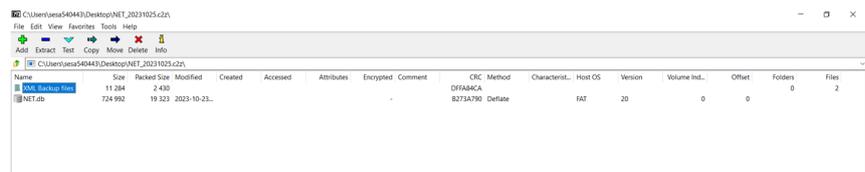
The project files are successfully imported to the software.

## Export Projects

**Prerequisites:** The project must be closed before being exported.

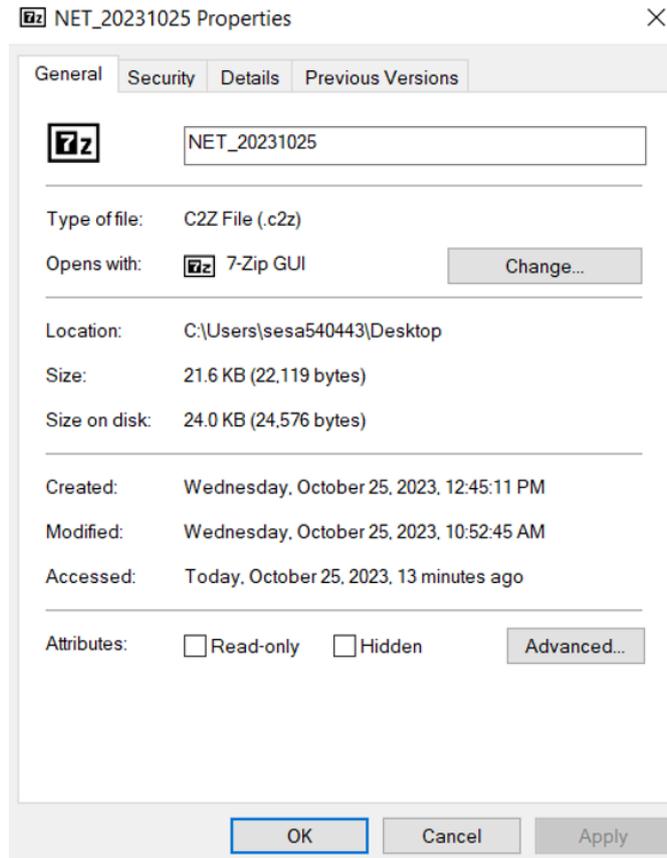
SpaceLogic C-Bus Commission software allows to export project and any associated files from a software as a single file package to save/backup/use elsewhere.

- Any project/all associated project files are considered together as a single file package, including but not limited to:
  - Files contained within its project file folder.



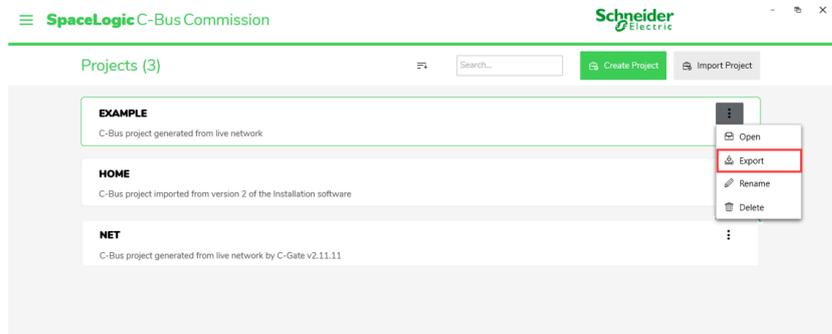
The file package are named/identified as a ".C2Z" file type.

2. The .C2Z file type are registered with Windows (as per Toolkit .CBZ file type).



3. The Export function is available and invoked from:

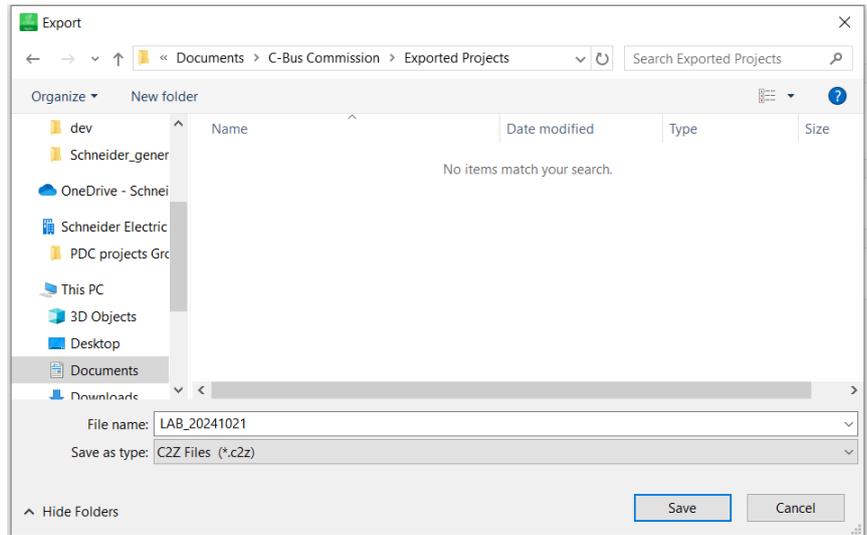
a. The  of a project in the project dashboard.



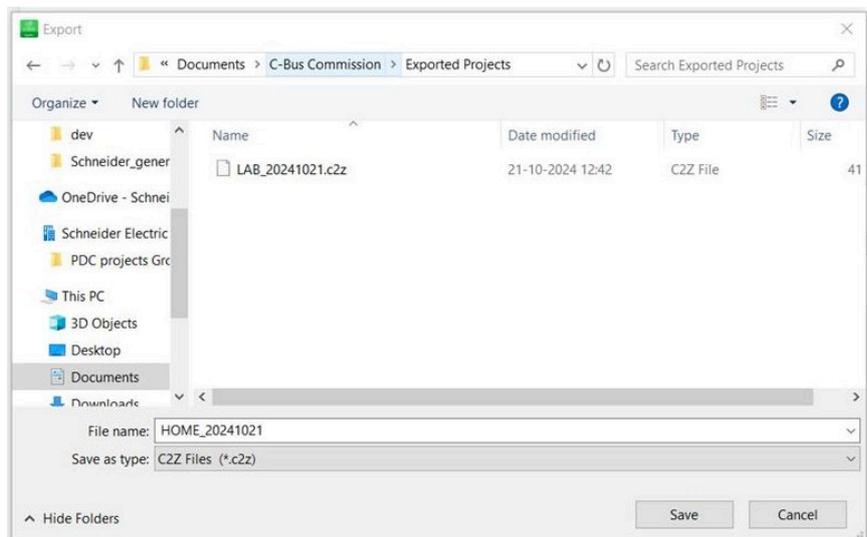
b. Right-click on the project in the project dashboard.

4. You can either export the files in C2Z file type or XML file type.

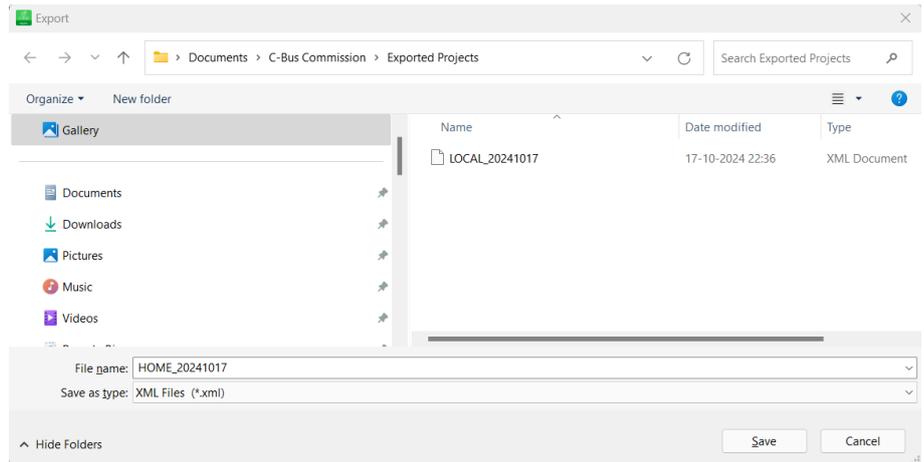
5. When the export function is invoked, the Windows file browser dialog is displayed with a default name and default location proposed.
- Default name proposed: 'ProjectName'\_YYYYMMDD (where YYYYMMDD is the current date). In the **Save as type** drop-down list, by default the C2Z files (\*.c2z) is selected.



- Click **Save**. The file is saved in the default location proposed: C:\Users\  
\<Username>\Documents\C-Bus Commission\Exported Projects.



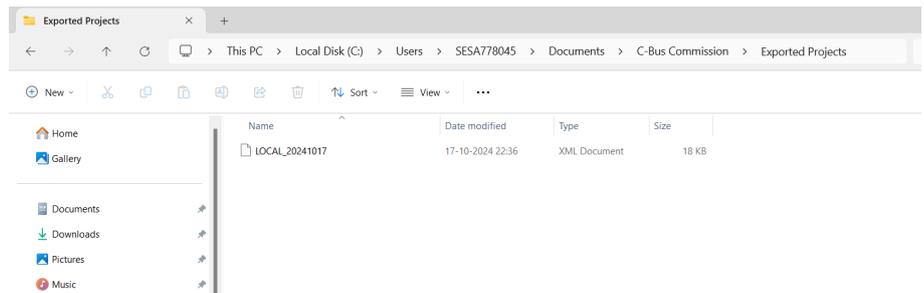
6. To export your C-Bus project to the legacy XML format, select the XML Files (\*.xml) option from the **Save as type** drop-down list.



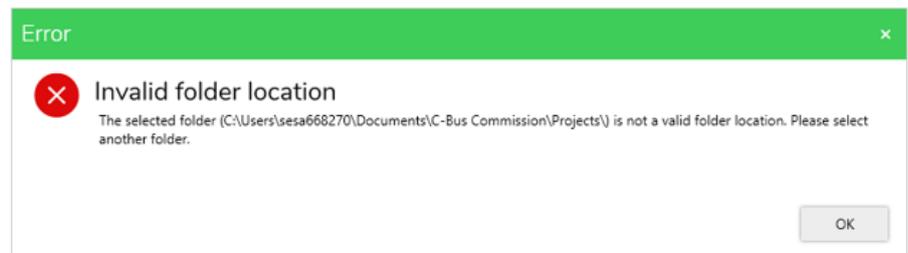
**NOTE:** XML format is compatible with legacy Toolkit and C-Gate2 or other legacy C-Bus tools as well as for use with third party C-Bus Enabled systems.

7. Click **Save**. The file is saved in the default location proposed: C:\Users\<Username>\Documents\C-Bus Commission\Exported Projects.

The project and all its associated files are exported successfully from software to the default location.



8. If you try to export and save a project of any file type to the C:\Users\<username>\Documents\C-Bus Commission\Projects" location, Error dialog is displayed.



9. Click **OK** to close the Error dialog box.

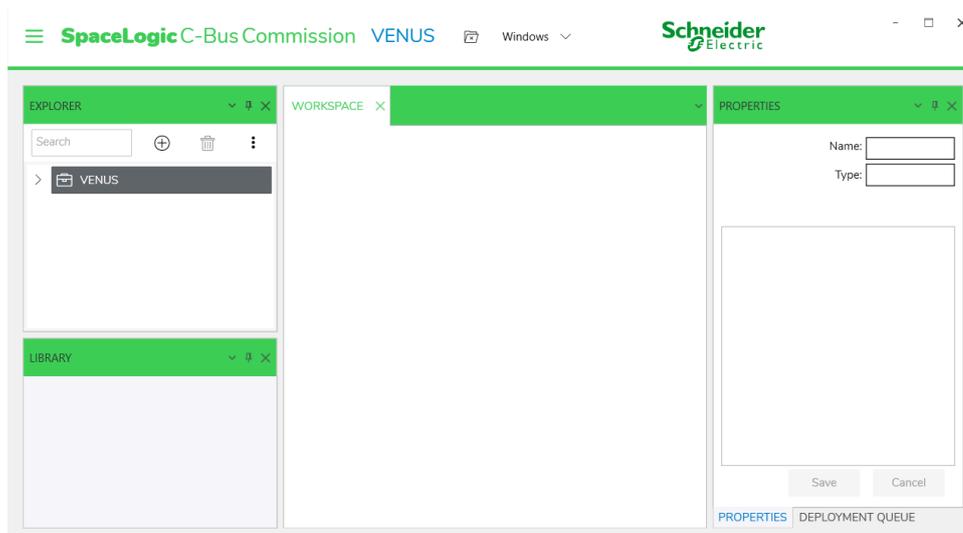
## Sort Projects

**Prerequisites:** More than one project must be created.

SpaceLogic C-Bus Commission software allows you to sort the existing projects using  on project dashboard, either by ascending or descending based on project name.

# Overview of Project Space

The **Windows** ▾ displays the different windows in the SpaceLogic C-Bus Commissioning software, which consists of:



- Network Management, page 59
- Library window, page 64
- Workspace window, page 72
- Properties window, page 117
- Deployment queue, page 119

Windows	Description
<b>EXPLORER</b>	This window allows to view and manage all the networks created in the current project.
<b>LIBRARY</b>	This window allows to view the device catalogue details and relevant functions.
<b>WORKSPACE</b>	This window is the main area of display for project information which consists list of devices in the projects database and list of devices in the network.
<b>PROPERTIES</b>	This window allows to view the applicable properties of selected device in a single editor window.
<b>DEPLOYMENT QUEUE</b>	This window displays the process of devices being transferred to <b>Devices in Project</b> and getting deployed to <b>Network devices</b> .

# Network Management

The network management is performed in the **Explorer** window which allows to Add networks and displays all the available C-Bus networks in the project.

Each network created consists of 3 nodes:

- C-Bus devices
- Applications
- Application Log

The Network is represented with symbol 

Operation performed on networks:

- Add network, page 59
- Add Bridge network, page 60
- Search network, page 62
- Delete network, page 63

Each network created consists of the following nodes:

1. C-Bus devices, page 65
2. Applications, page 120
3. Application log, page 127

## Add a Network

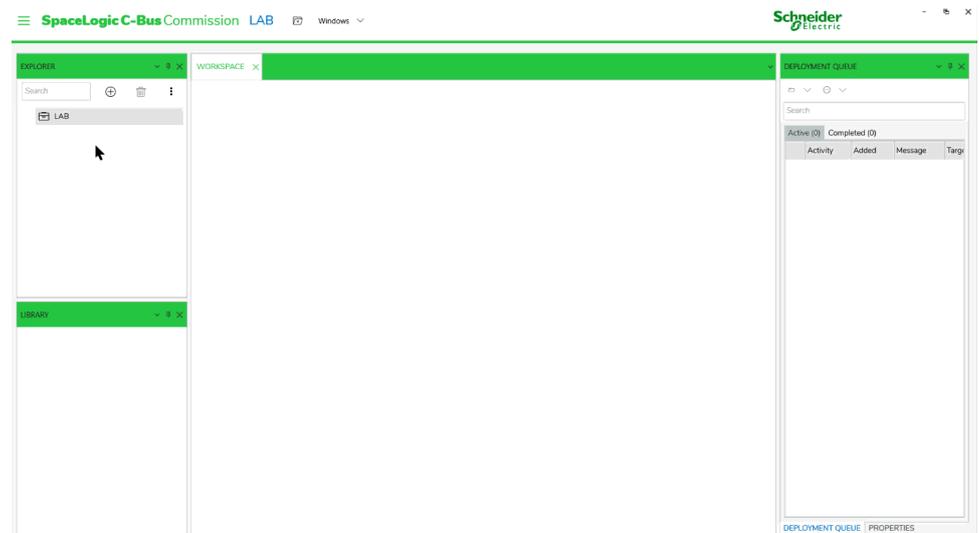
Explorer window allows you to add a C-Bus networks to the project, where each project can have a maximum of 255 networks.

**Prerequisites:** A Project must already be created and opened.

1. In the **Explorer** window, select the project and click 

**Step result:** Add Network dialog box is displayed.
2. Fill in the network details in the displayed dialog box and click **create**

The process of creating a network is as demonstrated below:



The Add Network dialog box consists of following fields:

Fields	Description
Network Name	Enter the name of the network maximum of 32 characters

Interface Type	Choose an interface type from the following: <ul style="list-style-type: none"> <li>• <b>Ethernet</b> This interface type is used to connect a network through a Automation controller or a C-Bus Network Interface (CNI)</li> <li>• <b>Serial</b> This interface type is used to connect a network through a PC Interface (PCI)</li> <li>• <b>C-Bus</b> This interface type is used for interconnection of C-Bus networks using a bridge</li> </ul>
Device Type	Enter the type of device:  Valid device types for <b>Ethernet Interface</b> are: <ul style="list-style-type: none"> <li>• Application Controller</li> <li>• Automation Controller</li> <li>• C-Bus Network Interface</li> </ul> Valid device types for <b>Serial Interface</b> are: <ul style="list-style-type: none"> <li>• PC Interface (PCI)</li> <li>• PC Interface (PCI) USB</li> </ul> Valid device types for <b>C-Bus Interface</b> is: <ul style="list-style-type: none"> <li>• C-Bus Network Bridge</li> </ul>
COM Port	Communication port which the C-Bus interface device is connected

**TIP:** Alternate ways to Add a network:

- Click  and select ADD
- Right click on project name in explorer window and select ADD

## Add a Bridge Network

The C-Bus bridges provide connectivity between wired C-Bus networks. Each of the bridge units have a near and far side, which relates to whether the side is connected to a local or remote network.

**Prerequisites:** The project must already be created and at least one network has to be created to use as an transient network.

The Bridge network consists of components and functions as similar to other networks: *C-Bus Devices*, *Applications* (Lighting, Enable, Trigger), and *Application log*.

Bridge network can be created in 2 ways:

### Method 1

1. Select the network and click  in the **Explorer** window
2. **ADD NETWORK** dialog box is displayed
3. Select C-Bus as the *Interface type* and fill in the required fields

**NOTE:** A transit network is a network that is connected to the current network that is being defined.

4. Confirm **Create**

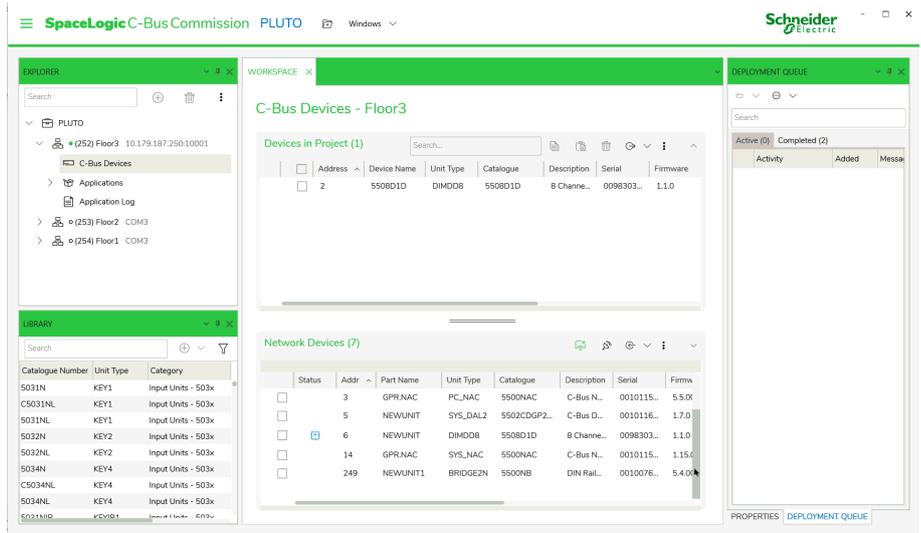
### Method 2

Bridge network can also be created from the *Network Devices*. The *Make Network* function creates, configures, and opens a new network corresponding to the other side of the selected bridge or gateway.

1. Open and scan the live *Network Devices*
2. Right-click on the bridge network device

### 3. Select Make Network

The process to create bridge network is as demonstrated below:



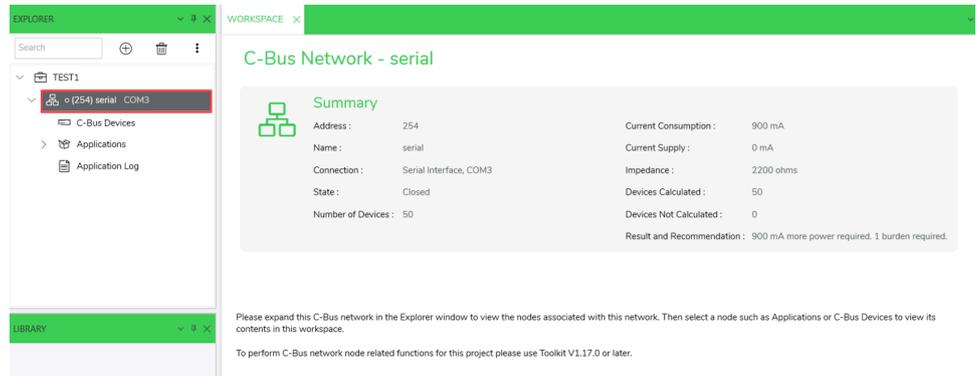
**CAUTION:** When a Bridge network is deleted, all information related to this network will be lost. Far side bridge devices will also be deleted from adjacent networks. Any remote bridge networks connected to this bridge network will not be accessible.

For more details on bridge devices, see Bridges, page 239

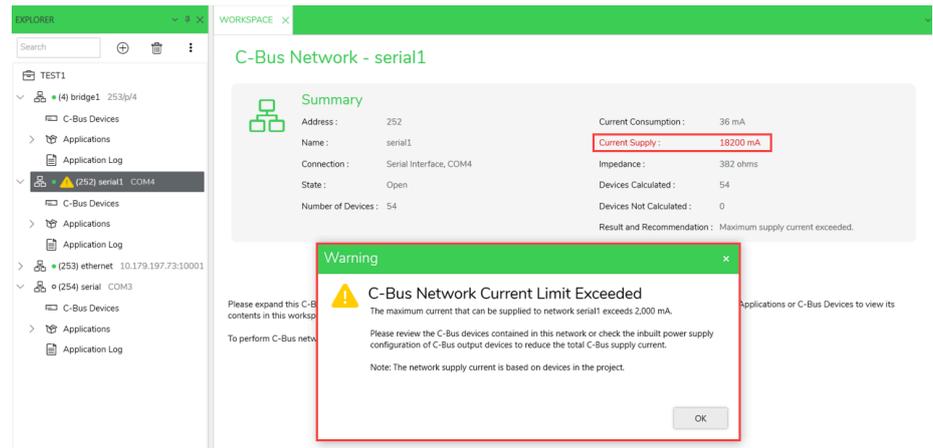
## C-Bus Network summary

The created C-Bus network (serial, ethernet, transit, bridge) summary can be viewed by selecting the network, the details are displayed in workspace window.

The summary gives the details of the network as shown below:



**NOTE:** If the network is overpowered (current supply is  $\Rightarrow$  2,001 mA), current supply and its value is highlighted and a warning message is displayed as shown below:



The C-Bus network displays  or  attention, if any results and recommendations require action.

The  is displayed for following C-Bus network states only:

- Underpowered C-Bus network state (where the "Result and Recommendation" field states the message "XXX mA more power required").
- High impedance C-Bus network state (where the "Result and Recommendation" field states the message "1 burden required").

The  is displayed for following C-Bus network states only:

- Overpowered C-Bus network state (where the "Result and Recommendation" field states the message "Maximum supply current exceeded").

The  or  is not displayed for the following C-Bus network states:

- "okay" C-Bus network state (where the "Result and Recommendation" field states the message "OK").
- "empty" C-Bus network state (no C-Bus devices) (where the "Result and Recommendation" field states the message "None").

**NOTE:** In the scenario where multiple C-Bus network states exist which include the overpowered network state, then  is displayed.

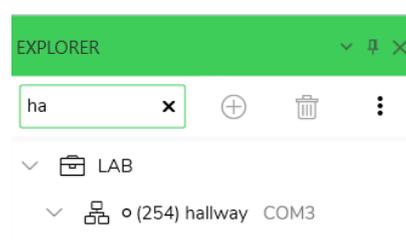
## Search a Network

**Prerequisites:** The network must already be existing in the project.

Explorer Window allows you to search an existing network in the project

The search bar in the **Explorer** window allows searching for the existing networks in the project.

Enter the name of the network in the search bar.



The network matches the search criteria appears on the screen.

## Delete a Network

**Prerequisites:** The network must already be existing in the project.

Explorer Window allows you to delete an existing networks in the project.

1. Click on the network to be deleted
2. Click  in the Explorer window
3. Confirm with **Yes** in the **Confirmation** dialog box

**TIP:** Alternate ways to delete a network :

- Click  and select Delete
- Right click on project name in explorer window and select Delete

**IMPORTANT:** When a Bridge network is deleted, all information related to this network will be lost. Far side bridge devices will also be deleted from adjacent networks. Any remote bridge networks connected to this bridge network will not be accessible.

# Library Window

The **Library** window lists the C-Bus Unit and DALI devices available for use in the project. The relevant device types are displayed with respect to whether a C-Bus network or DALI gateway is selected in the **Explorer** window. The operations are performed with regards to a C-Bus device or a DALI device added in the network of the SpaceLogic C-Bus Commission software.

The different operations performed in Library window are:

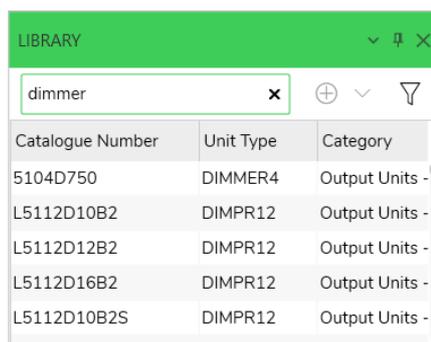
- Search a device, page 64
- Add C-Bus devices, page 65
- Filter, page 64

## Search a Device

**Prerequisites:** A project must already be open in the Explorer window with a network created in the project.

The **Library** window allows searching for a device. The device appears on the list, after the name of the device is entered in the search bar.

1. Select a network in the **Explorer** window
2. In the **Library** window, enter the name of the device in the search bar

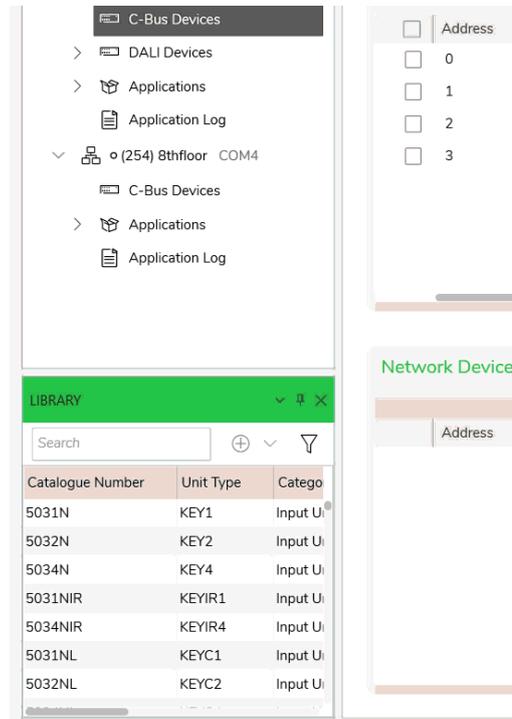


**Step result:** Related devices are displayed in the **Library** window.

**TIP:** The device can be searched either by giving catalogue number, unit type or category.

## Filter

The  displays the devices in the **Library** window based on the categories.



To remove the applied filter, Click  and click **Clear All**

## Unit Type Categories

C-Bus units can be divided into categories according to their functional role. The general categories are listed below:

- Output Units, page 199
- Support Units, page 239

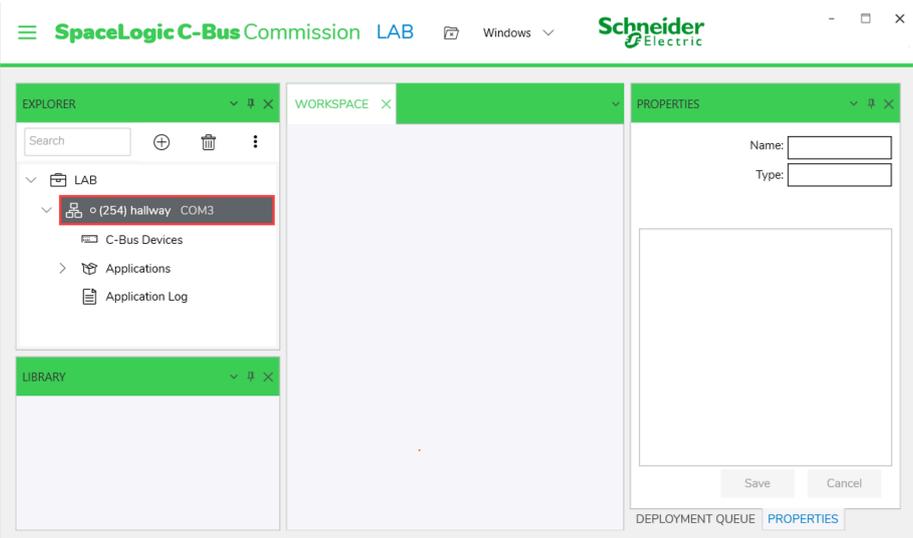
## C-Bus Devices

The C-Bus Devices in each network allow you to add C-Bus unit devices in the project.

## Add C-Bus Device

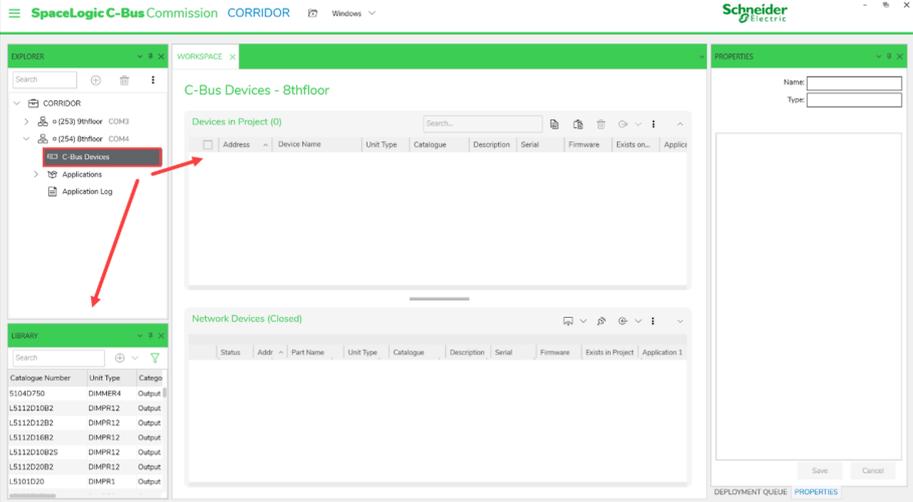
**Prerequisites:** Make sure your project is Open, and network has been selected.

1. Select the network of the project you want to add unit devices.



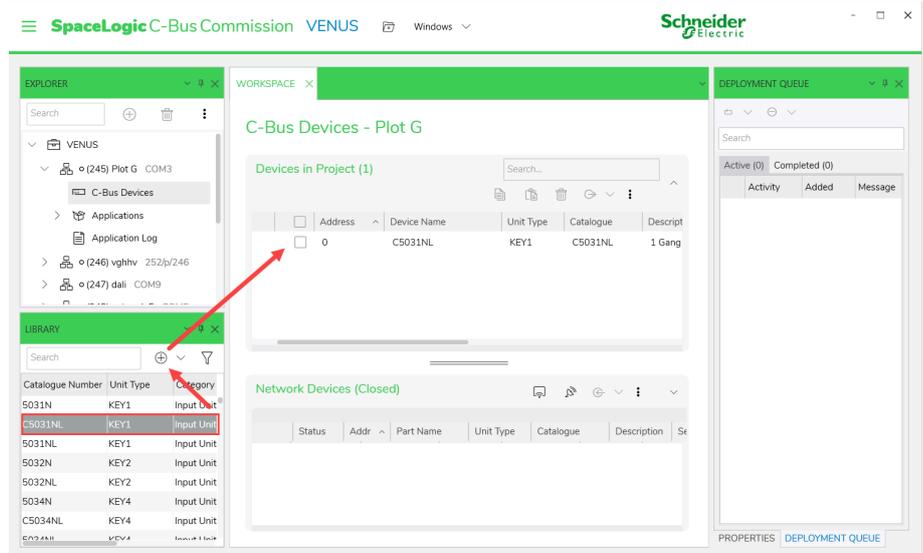
2. On selecting **C-Bus Devices**, **LIBRARY** and **WORKSPACE** window contents are displayed.

**NOTE:** Make sure you have **LIBRARY** and **WORKSPACE** windows opened.



3. In the **Library** window, select the unit device and click .

This will add device to the project which is displayed in **WORKSPACE** in **Devices in Project** section.



**TIP:** Alternate ways to add devices:

- Double-click on unit device
- Drag and drop unit device to **Devices in Project**

**IMPORTANT:**

- When the same unit device is added “N” times, each device postfixes with an incremented number to maintain the uniqueness.



C-Bus Devices - plot1

Address	Device Name	Unit Type	Catalogue	Description	Serial	Firmware	Exists on...	Appl...
15	5200WHC2	PC_CNIE	5200WHC2	Wiser M...	0000000...	5.4.00		
16	5031NIR	KEY1R1	5031NIR	1 Gang a...	0000000...	1.2.67		
17	5031NIR (1)	KEY1R1	5031NIR	1 Gang a...	0000000...	1.2.67		
18	5031NIR (2)	KEY1R1	5031NIR	1 Gang a...	0000000...	1.2.67		
19	5031N	KEY1	5031N	1 Gang K...	0000000...	1.2.67		
250	NEWUNIT	BRIDGE2N	5500NB	DIN Rail...	0000000...	5.5.00		Light
251	NEWUNIT	BRIDGE1N	5100B	Network...	0000000...	2.01		

- Each device can be renamed in their respective **Property** window (It is advised to rename the device appropriately).

Each C-Bus device can be configured by making changes in the respective **Property** window, which can be seen based on the Unit Type categories, page 65.

**IMPORTANT:** In an existing Project, when a **C-Bus Device** node is clicked the existing device name in **Devices in Project** is assigned automatically as per following:

If PART NAME is	"NEW UNIT"	If TAG NAME is	"NEW UNIT"	DEVICE NAME is assigned same as Catalog number	If DEVICE NAME is unique in network node	TAG NAME is same as DEVICE NAME	PART NAME is assigned same as DEVICE NAME (maximum 8 characters)
					If DEVICE NAME is not unique in network node	Numeric 1 is appended to DEVICE NAME	

			not "NEW UNIT"	DEVICE NAME is assigned same as TAG NAME	If DEVICE NAME is unique in network node	PART NAME is assigned same as TAG NAME	
					If DEVICE NAME is not unique in project	PART NAME is assigned same as TAG NAME Numeric 1 is appended to DEVICE NAME and is incremented for next instance	
	is not "NEW UNIT"	If TAG NAME is	"NEW UNIT"	If PART NAME is	unique in C-Bus network	DEVICE NAME is assigned same as PART NAME	TAG NAME is assigned same as DEVICE NAME
					not unique in C-Bus network	Numeric 1 is appended to DEVICE NAME and is incremented for next instance DEVICE NAME is assigned same as PART NAME.	
			not "NEW UNIT"	If TAG NAME is	unique in C-Bus network	DEVICE NAME is assigned same as TAG NAME	
					not unique in C-Bus network	Numeric 1 is appended to DEVICE NAME and is incremented for next instance DEVICE NAME is assigned same as TAG NAME	

## Add multiple C-Bus devices

**Prerequisites:** The project must already be opened in **EXPLORER** window with a network created in the project.

The **LIBRARY** window allows to add multiple devices at a time.

1. Select the C-Bus Device of a network in the **EXPLORER** window

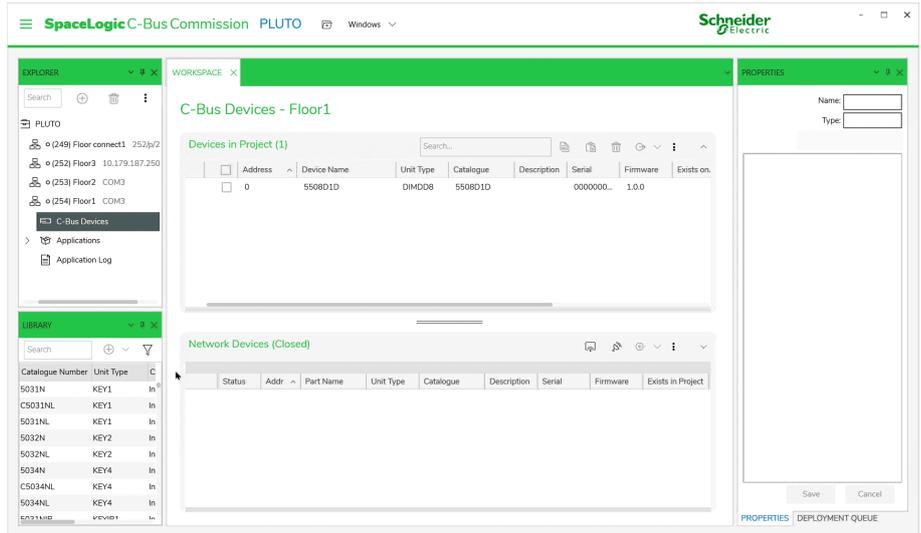
**Step result:** The devices that can be added to the network appear in the **LIBRARY** window .

2. Select the device and click  drop-down, choose **Add Multiple**.

**TIP:** Alternate method to add multiple devices:

- Right click on the device, and select **Add Multiple**.

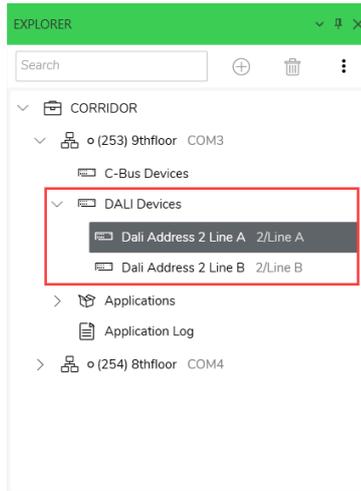
3. Fill in the device information as demonstrated below:



## Add Dali Devices

**Prerequisites:** A project must already be open in the Explorer window. A network must already be created with a DALI-2 Gateway added to the network, see Add DALI-2 gateway, page 167

1. Select a DALI line in the **Explorer** window



2. Select the Dali device and click  in **Library** window

**TIP:** Alternate ways to add DALI devices:

- Double-click on unit device
- or
- Drag and drop a unit device to **Devices in Project**

**Step result:** Selected device is added to the project.

The different DALI ECG devices in each DALI Line are as listed below:

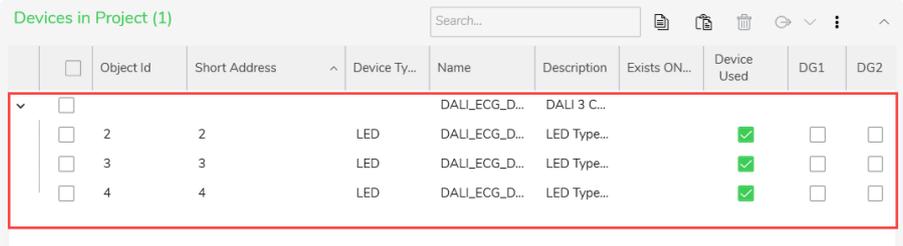
Device Type	Device Name	Meaning
Emergency or Exit Light	DALI ECG DT1 (Generic)	Emergency or Exit Light (Generic)
	DALI ECG DT1 A	Emergency or Exit Light (Switched Maintained Dimmable)

	DALI ECG DT1 B	Emergency or Exit Light (Switched Maintained Non-Dimmable)
	DALI ECG DT1 C	Emergency or Exit Light (Maintained)
	DALI ECG DT1 D	Emergency or Exit Light (Non – Maintained Dimmable)
LED	DALI ECG DT 6	Single Channel LED Device
	DALI 2x ECG DT 6	DALI 2 Channel Device (DT6)
	DALI 3x ECG DT 6	DALI 3 Channel Device (DT6)
	DALI 4x ECG DT 6	DALI 4 Channel Device (DT6)
Channel	DALI ECG	DALI ECG (Generic)
	DALI 2x ECG	DALI 2 Channel Device (Generic)
	DALI 3x ECG	DALI 3 Channel Device (Generic)
	DALI 4x ECG	DALI 4 Channel Device (Generic)
Color Control	DALI ECG DT8	Single Channel Tunable / Color Controllable Device

**NOTE:** When a DALI channel device is added, based on the number of channels DALI device is added. Each DALI channel device can be collapsed and expanded.

Example, when the DALI 3x ECG DT6 is added the result is as shown below:

Dali Devices - plot1



To Configure DALI ECG Devices, see DALI ECG devices, page 260

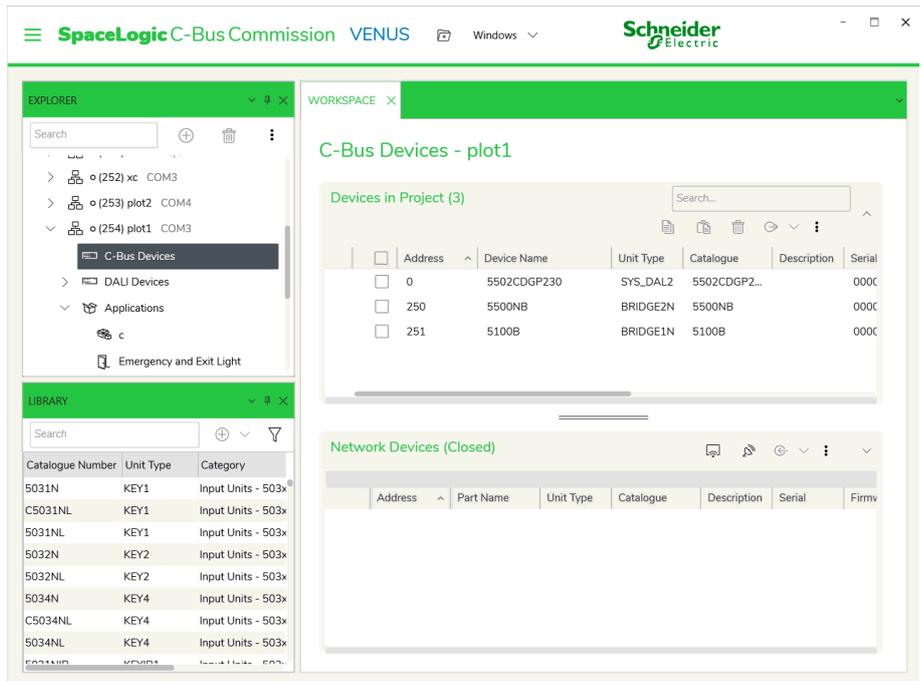
## Add multiple Dali devices

**Prerequisites:** A project must already be open in the Explorer window. A network must already be created with a DALI-2 Gateway added to the network. A DALI Line must already be selected.

1. Select the DALI device and click ⊕ drop-down, choose Add Multiple.

**Step result:** Add Multiple DALI Devices dialog box is displayed.

2. Fill in the device information as demonstrated below:

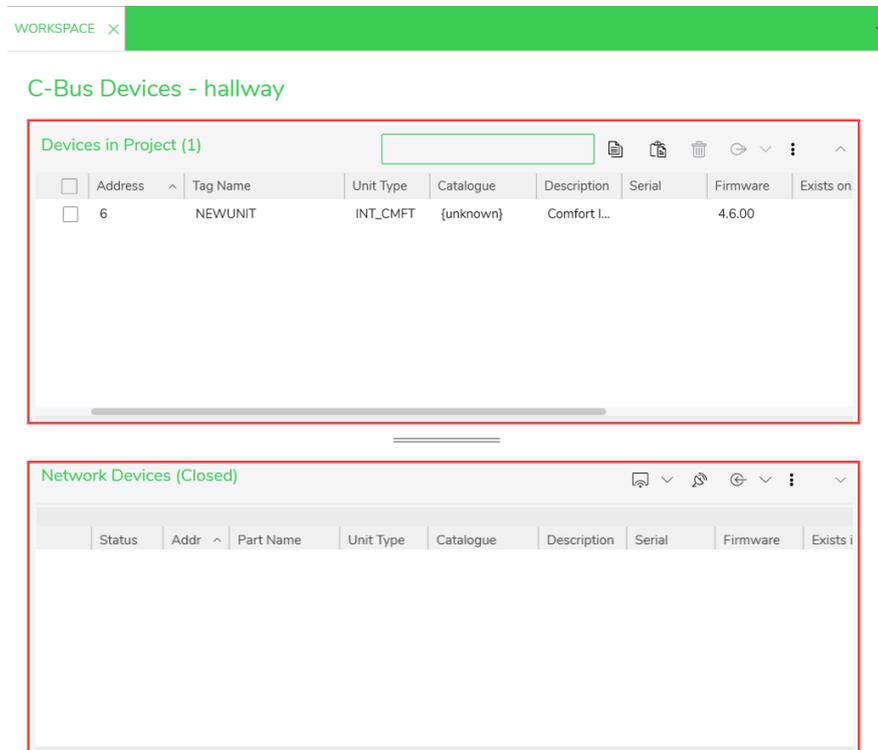


# Workspace Window

The **Workspace** window displays the devices in the project and the network. This window allows you to connect your project's devices to the network.

This window consists of two built-in sections for **C-Bus Devices**:

- 1. Devices in Project, page 73
- 2. Network Devices, page 76

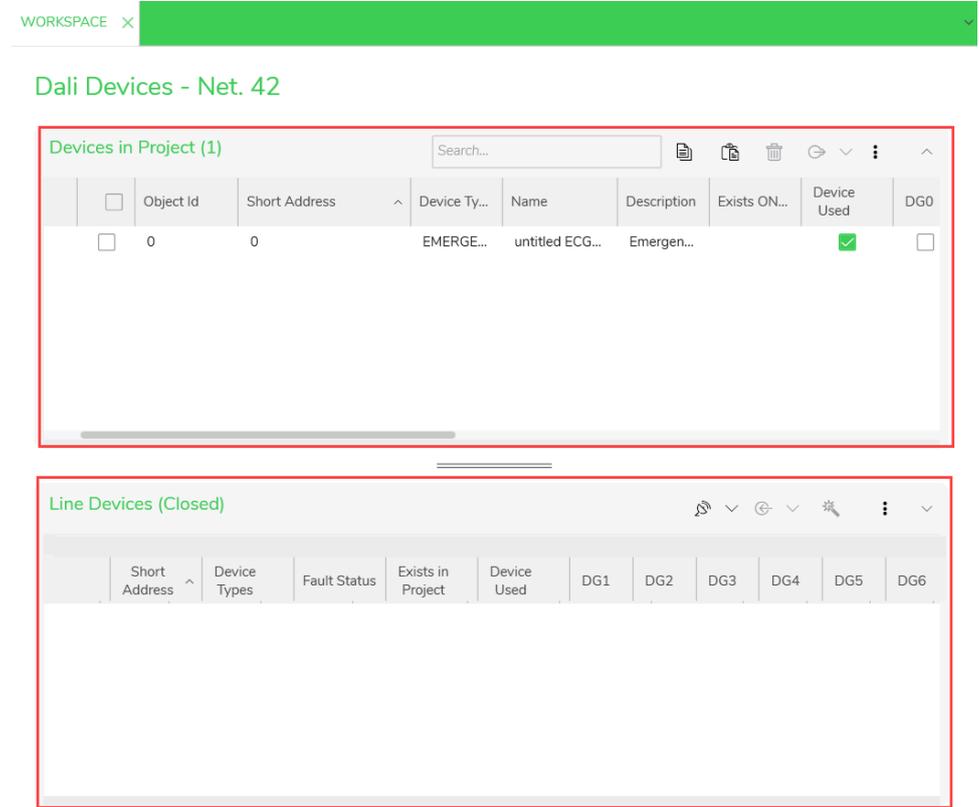


**For Dali Devices**

**Prerequisites:** The DALI-2 Gateway must be already added.

This window consists of two built-in sections for Dali Devices:

1. (DALI) Devices in project, page 93
2. Line devices, page 103



## Devices in Project

The **Devices in Project** section displays all the devices in the project database.

Fields	Description
<b>Address</b>	This field displays the unit address assigned to the device. <b>NOTE:</b> <ul style="list-style-type: none"> <li>• For a C-Bus device, the values vary from 0 to 255.</li> <li>• For a DALI device, the values vary from 0 to 63.</li> </ul>
<b>Device Name</b>	This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
<b>Unit Type</b>	This field displays the unit type of the device on the network.
<b>Catalogue</b>	This field displays the commercial reference for the device.
<b>Description</b>	This field displays the description of the device and cannot be edited.
<b>Serial</b>	This field displays the serial number which exists on the physical network or which has been assigned to the logical representation of the unit.
<b>Firmware</b>	This field displays the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
<b>Exists on Network</b>	Displays whether the device exists on network.
<b>Application</b>	This field displays the name of the application being used for the device.

The operations that can be performed on **Devices in Project** section are:

- Search a device, page 74
- Copy device
- Paste device
- Delete device, page 74
- Deploy device, page 74
- Sort device, page 75

## Search a Device

**Prerequisites:** The devices must already be added in a **Devices in project** section of an network .

The **Devices in project** section allows searching of a device in the existing project database by entering the **Device Name** in the **Search** bar of **WORKSPACE** window.

**NOTE:** You can also search by entering either **Address, Unit Type , Catalogue, Description** and **Serial** number.

## Copy Device

To Be Implemented

## Paste Device

To Be Implemented

## Delete Device

**Prerequisites:** The devices must already be added in a **Devices in project** of network and must be fully matched with **Network devices**.

1. Select the device check box.
2. Click .

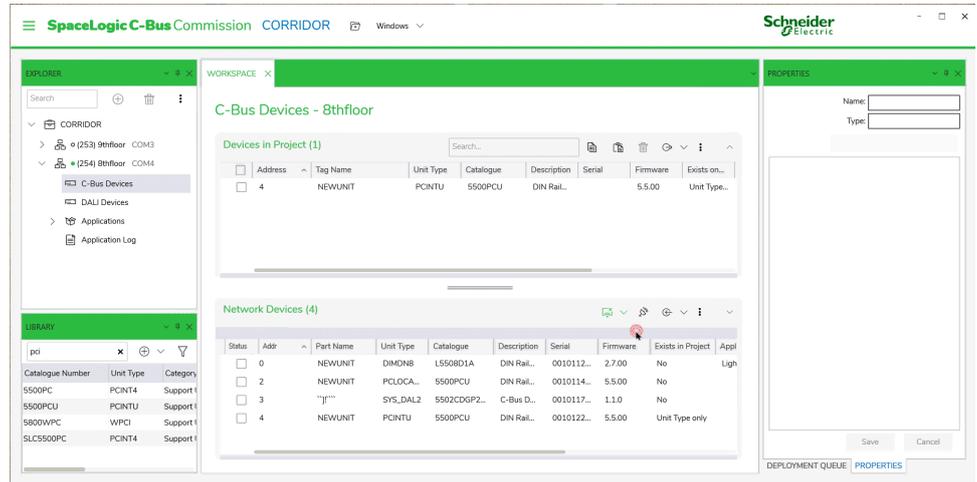
**TIP:** Alternate method to delete device:

Select the device check box, right-click on **Devices in project > Delete**

## Deploy Devices from Project to Network

**Prerequisites:** The network must be already created. The C-Bus network should be opened and scanned C-Bus devices. The devices must be fully matched, click How to do fully matched devices.

The process to deploy devices is as demonstrated below:



## Sort Device

**Prerequisites:** The devices must already be added in a **Devices in project** of network.

The devices in the device list can be sorted using  and selecting an appropriate sort method.

## Readdress

**Prerequisites:** The C-Bus devices must be already added to the project database.

The Readdress function allows the readdressing of the C-Bus devices within a C-Bus network or project database.

To readdress a network:

1. Select a device and right-click on section **Devices in Project > Readdress Project Device**.

**Readdress Project Device** dialog box is displayed.

2. Choose the address and confirm **OK**.

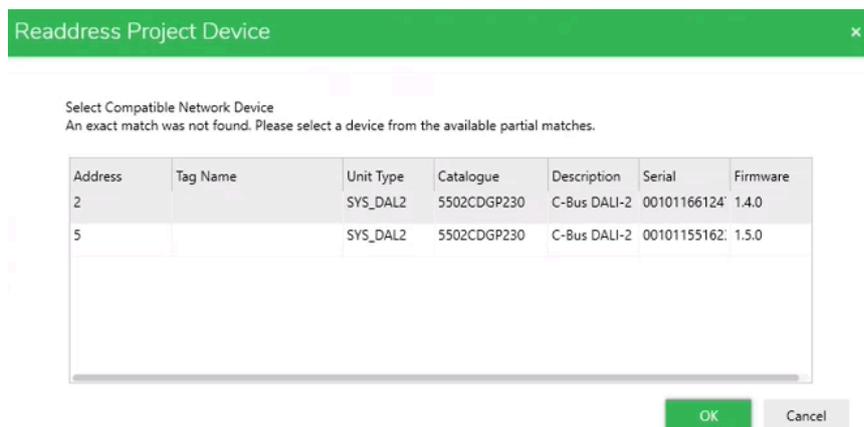
**NOTE:** Readdressing cannot be performed on Bridge devices.

**IMPORTANT:**

- Readdress Project Device is used when an existing device address needs to be utilized for another device.
- **Readdress to Match Network** is used to perform fully match, see *How to do fully matched devices*.

If there are a lot of logical units and want to synchronize a physical unit with one, the Readdress to Match Network function is useful for finding logical units with the same unit type.

The Readdress to Match Network operation searches for a unit/device within the logical list(scanned devices) for any compatible unit types. If none are found, a message box confirms that there is “no match”. If more than one compatible unit types are found, the Readdress Project Device dialog box appears displaying the choice.



Choose the device and confirm **OK**.

## Network Devices

The **Network Devices** section displays the devices physically connected to the C-Bus Network, provided a C-Bus Interface is connected to the C-Bus Network and the software is able to communicate to this interface.

The DALI devices will be displayed when a DALI line is selected, provided the C-Bus DALI- 2 Gateway is part of the C-Bus Network.

**NOTE:**

- The C-Bus Network must be opened and scanned to display the C-Bus Devices on the Network.
- The DALI line must be scanned to display the DALI devices on the selected DALI line (DALI-2 Gateway must be reconciled before scanning the DALI line).

Fields	Description
<b>Status</b>	This field displays firmware update icon for the C-Bus Devices indicating a new firmware is available for a respective C-Bus Device and an upgrade is advised.
<b>Address (Addr)</b>	This field displays the unit address assigned to the device. <b>NOTE:</b> <ul style="list-style-type: none"> <li>• For a C-Bus Device, the values vary from 0 to 255.</li> <li>• For a DALI device, the values vary from 0 to 63.</li> </ul>
<b>Part Name</b>	This field displays a 8 characters long name that is stored in the device given by the user.
<b>Unit Type</b>	This field displays the unit type of the device on the network.

<b>Catalogue</b>	This field displays the commercial reference for the device.
<b>Description</b>	This field displays the description of the device and cannot be edited.
<b>Serial</b>	This field displays the serial number that is on the physical device which is unique to all the devices.
<b>Firmware</b>	This field displays the version number of the of the physical device. Some devices have multiple firmware's: interface board, main board. By default, here the software will display the Main board firmware.
<b>Exists in Project</b>	This field displays whether there is a matching device that exist on the network. Matching rules: <ol style="list-style-type: none"> <li>1. Yes: Fully matched, where the unit address, serial number, unit type and firmware version are the same in project and on the network.</li> <li>2. Unit Type Only: Partial matched, where the unity type, firmware and unit address are the same in project and on the network.</li> </ol>
<b>Application</b>	This field displays the selected device's application address that the device has been assigned.
<b>Voltage</b>	This field displays the voltage of the device.

The operations that can be performed in this section are:

- Open C-Bus network, page 77
- Open C-Bus Network Using Open Using Feature, page 77
- Scan C-Bus devices, page 82
- Transfer device from network to project, page 82
- Sort line/network devices, page 87

## Open C-Bus Network

**Prerequisites:** The C-Bus Interface must be connected to the C-Bus Network and the software must be able to communicate to this interface.

The Open Network option opens a network connection to the C-Bus Commission. To open the C-Bus Network:

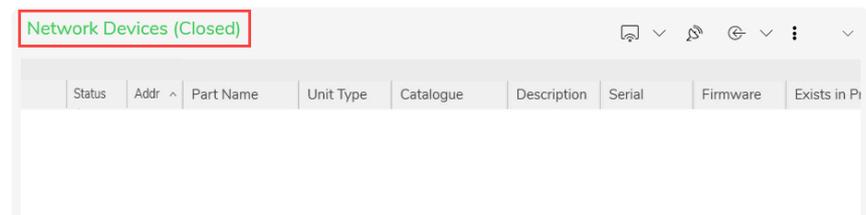
1. Select the network from the project.

**NOTE:** When the network is closed, the network appears as shown below:

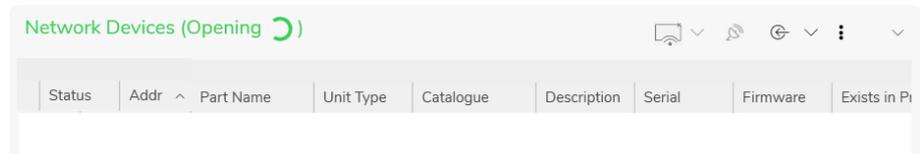


2. Click **C-Bus Devices**.

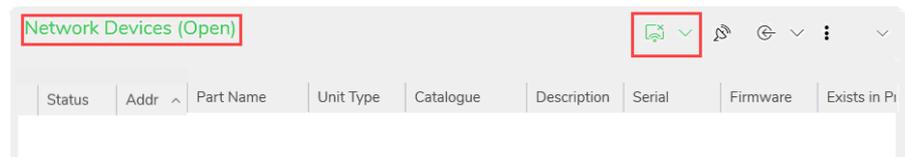
In the **Workspace** window, the **Network Devices** section appears as shown below before opening the network.



3. Click  in **Network Devices** section.



The network opens.



**IMPORTANT:** Do not close the network while deployment activities are in progress.

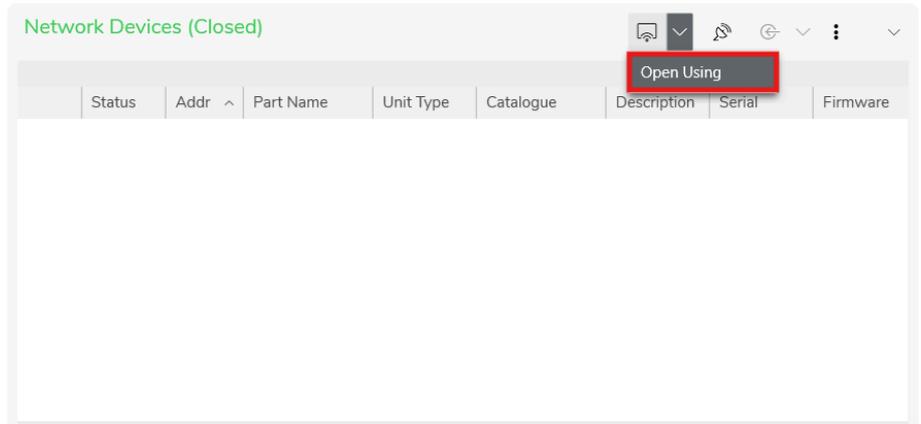


## Open C-Bus Network Using Open Using Feature

Open Using can be used on both standalone networks and bridge networks. It serves as a temporary interface that allows for the commissioning of the network without altering the existing network structure/topology. This method does not modify the network's interface within the project. Instead, it provides a temporary connection for commissioning purposes during a specific instance or session.

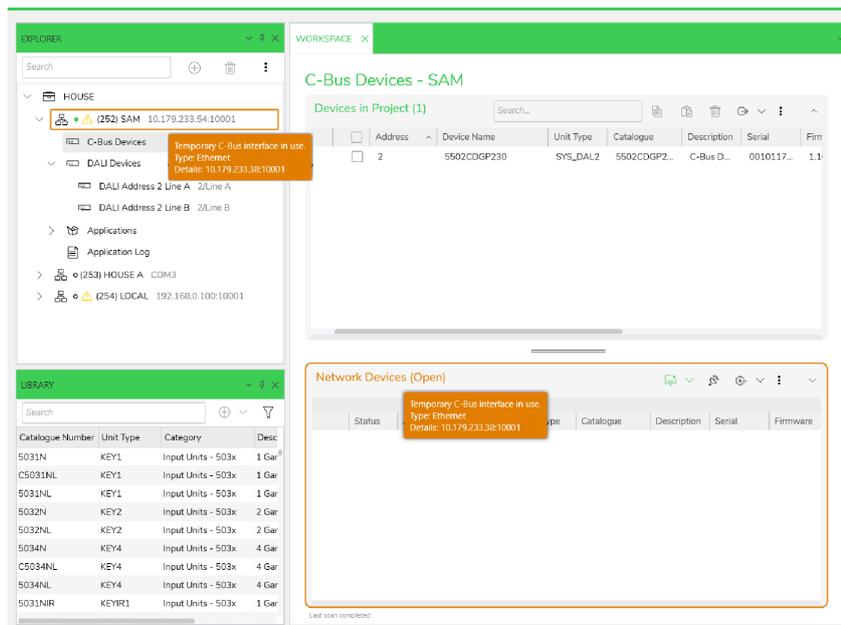
1. Select the network from the project.
2. Click **C-Bus Devices**.

3. In **Network Devices**, click  drop-down and select **Open Using**.

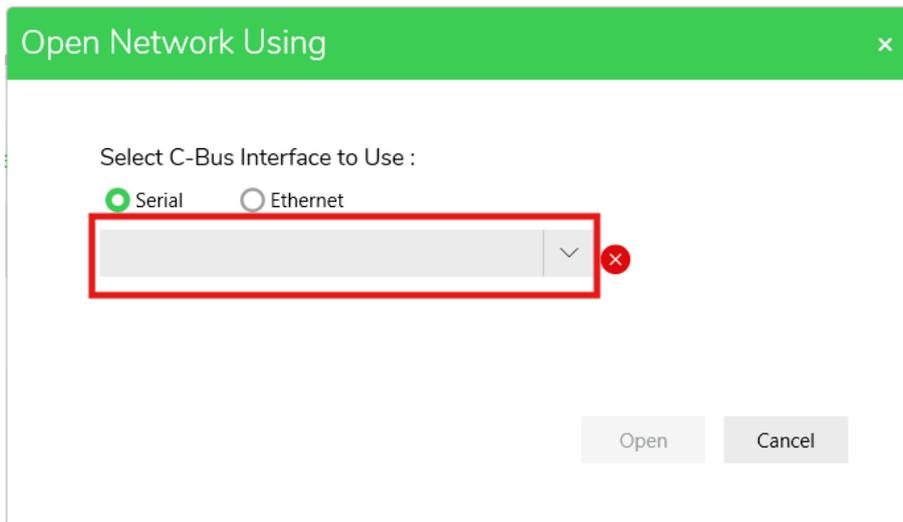


Once the C-Bus Network is opened using the **Open Using** feature:

- The **Network Devices** section border is highlighted in orange color.
- The **Network Devices** title changes to orange color.
- Network node border is highlighted in orange color.
- Tooltip messages of **Network Devices** and Network node are highlighted in orange color.

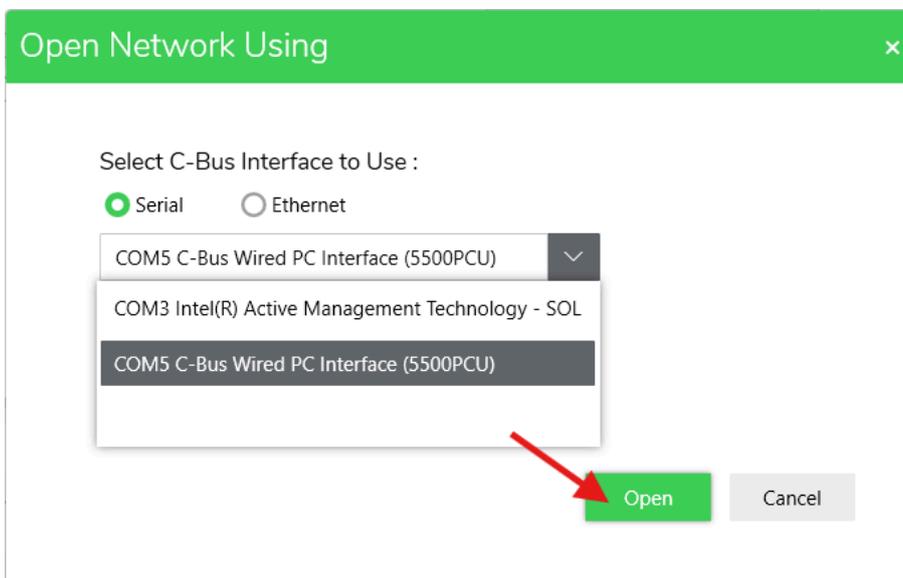


An **Open Network Using** pop-up appears.



**NOTE:** By default, **Serial** option is selected.

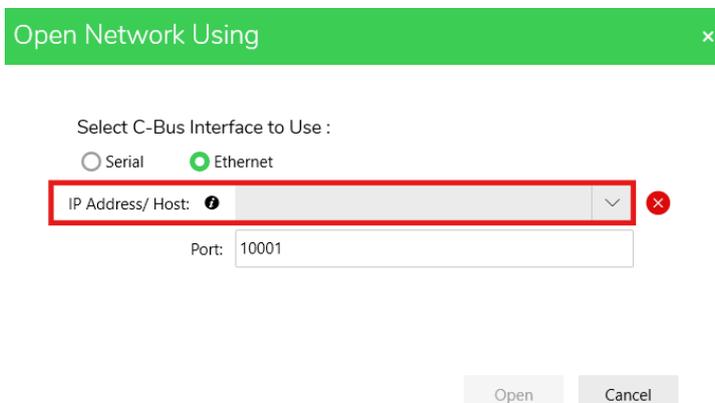
4. Select the COM port number and device's name from the drop-down.



Once you select the port number/device name, the **Open** button is enabled.

**NOTE:** You can easily view the serial port associated with the PCI name, eliminating the need to search for it in the Device Manager.

5. Select **Ethernet** to open network devices using an IP address.



By default, the **Port** is displayed as 10001.

## 6. You can either:

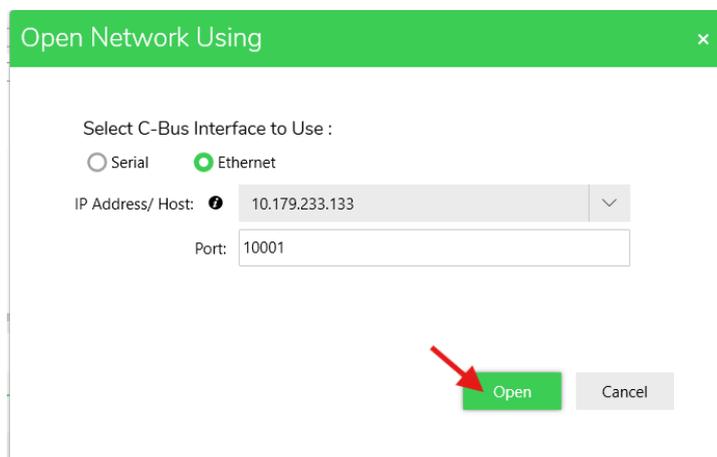
- Select the **IP Address/Host** from the drop-down.
- or,
- Enter the new **IP Address/Host**.

**IMPORTANT:** When you enter the IP Address:

- Ensure to have four numbers (0-255) separated by periods.
- Do not start with zero unless the address is zero itself.

When you enter the Host Name:

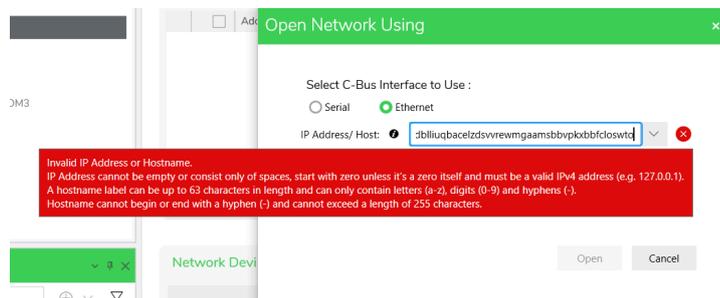
- The host name can contain up to 63 characters, including letters (a-z), digits (0-9), and hyphens (-).
- It must not start or end with a hyphen.
- The total length of the host name must not exceed 255 characters.
- Each label within a host name (separated by periods) can be up to 63 characters long.



Once you select or enter the **IP Address/Host**, the **Open** button is enabled.

**NOTE:** The IP address/host drop-down menu keeps a record of the last 20 recently used entries. When a new IP Address or Host is used, it is added to the top of the list, and the oldest entry is removed to maintain the list size.

If you fail to follow the criteria when entering **IP Address/Host**, the following error message appears.

7. Click **Open**. The network opens.

Once the network is opened, the below functions are disabled:

- Delete Network
- Add Bridge Network
- Open Bridge Network
- Open and Scan Bridge Network
- Make Network

## Scan C-Bus Network

**Prerequisites:** The network must be opened before scanning.

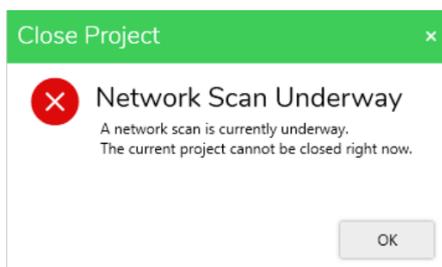
The C-Bus Devices present in the network appears in the **Devices on Network** section, after the network is opened and scanned. The DALI devices present on the line appears in the **Line Devices** section, after the DALI line is scanned.

1. Click  to search for the devices in the network.

**NOTE:** If network scanning is done without opening the network, internally the network is opened first and then scanning is performed.

**IMPORTANT:**

- If you remove a device from the project that has applications or groups configured, scanning the network will automatically recreate those applications or groups with default names.
- Do not close the network or project while scanning is in progress.



- If you try to scan the network device in C-Bus Commission while a network scan is already in progress in the Toolkit, an **Error** pop-up will be displayed.



2. Once the scanning is completed,  firmware update icon is displayed for the C-Bus Devices, indicating a new firmware is available for the C-Bus Device.

Network Devices (6)										
	Status	Addr ^	Part Name	Unit Type	Catalogue	Description	Serial	Firmware	Exists in Project	Application
<input type="checkbox"/>		1	NEWUNIT	PCINTU	5500PCU	DIN Rail...	0010122...	5.5.00	No	
<input type="checkbox"/>		3	GPR.NAC	PC_NAC	5500NAC	C-Bus N...	0010115...	5.5.00	No	
<input type="checkbox"/>		5	NEWUNIT	SYS_DAL2	5502CDGP2...	C-Bus D...	0010116...	1.6.0	No	Lighting
<input type="checkbox"/>		9	NEWUNIT	DIMDD8	5508D1D	8 Channe...	0098303...	1.1.0	No	Lighting
<input type="checkbox"/>		14	GPR.NAC	SYS_NAC	5500NAC	C-Bus N...	0010115...	1.15.0	No	
<input type="checkbox"/>		249	NEWUNIT1	BRIDGE2N	5500NB	DIN Rail...	0010076...	5.4.00	No	

3. Click  to perform firmware upgrade for a respective C-Bus Device.

Once the firmware is successfully upgraded, re-scanning the Network Devices will display the new firmware version.

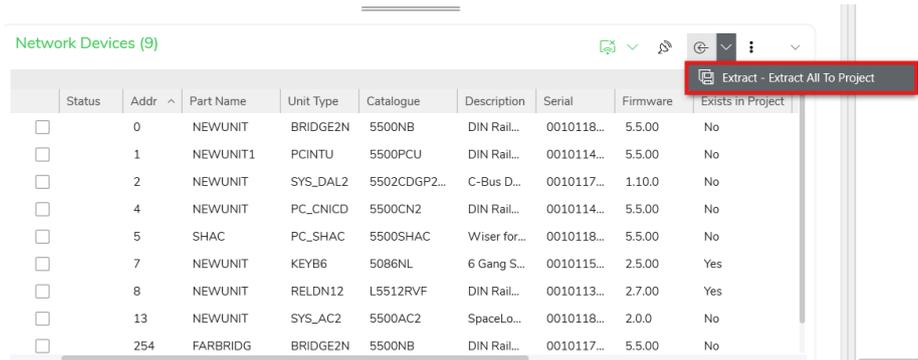
**NOTE:** After you update the firmware for a selected device and re-scan the Network Device, the firmware icon will no longer be displayed.

## Extract All and Deploy All C- Bus Devices

With C-Bus Commission, you can extract and deploy all C-Bus devices between your project and the live network without switching to Toolkit. So, the need to



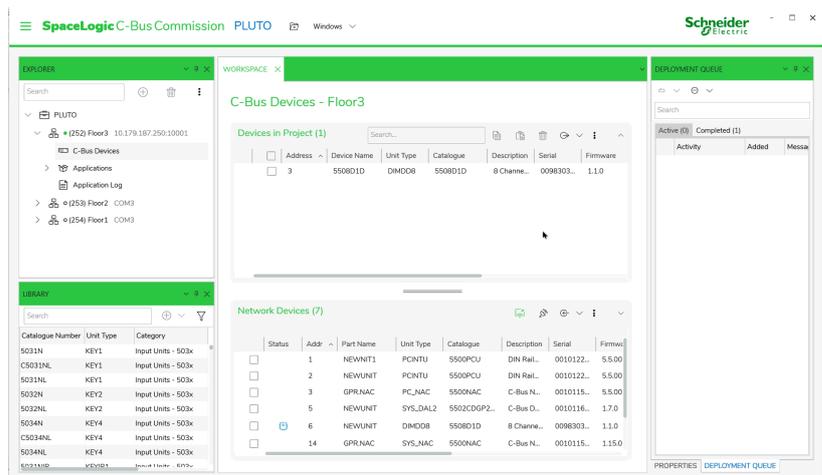
1. In the **Network** section, click  drop-down and choose **Extract — Extract All to Project**.



**NOTE:** Multiple devices can be extracted only if all of them are fully matched.

**TIP:**

- If a device does not exist in the project, you can add the device in the **Project** from the library and extract all the live data into the project device.
- The firmware version of the device added to the project must match the firmware version of the live network device.
- If a device is partially matched then, the device must be matched fully with the project device in **Project**. The video of fully matching the devices is demonstrated below:

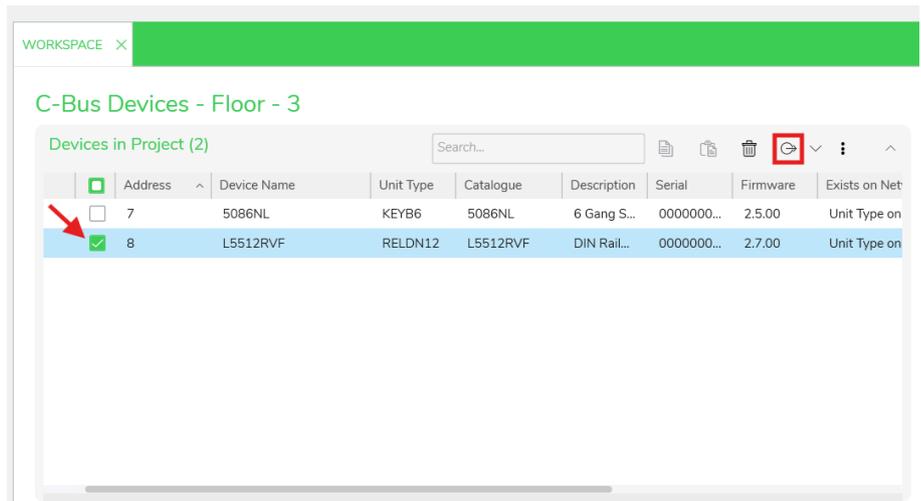


Once extract all function is completed, all newly extracted devices are placed with their live network configurations into the project.

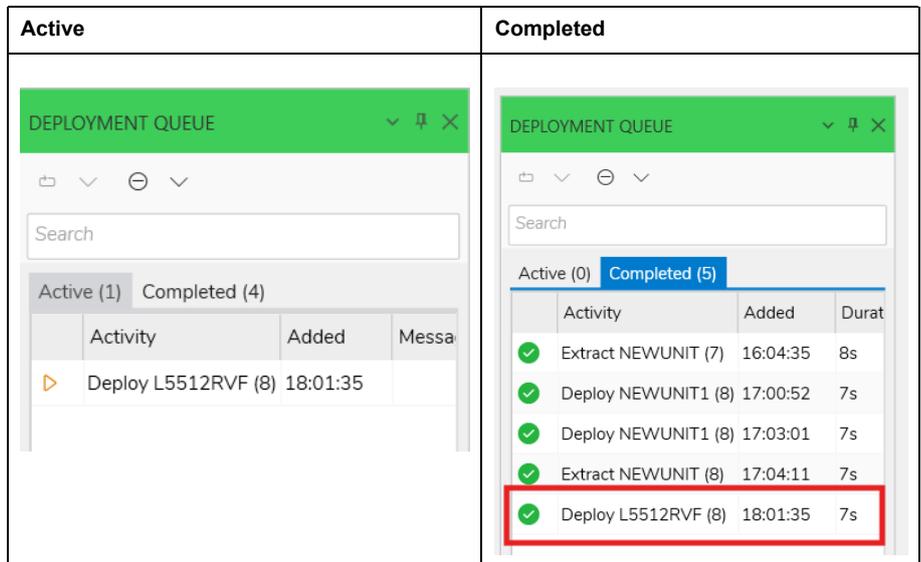
To Deploy Single Device/All Devices

1. Select the device in **Devices in Project** section and click  to deploy selected device to C-Bus Network.

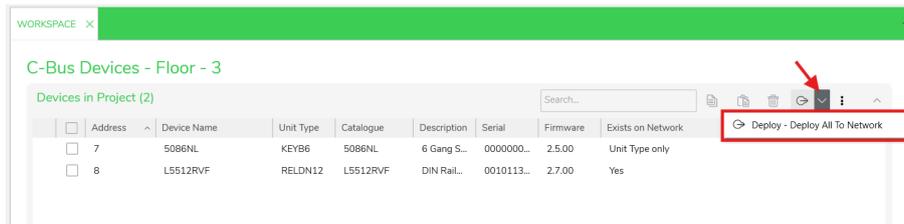
**NOTE:** You can select one or more devices.



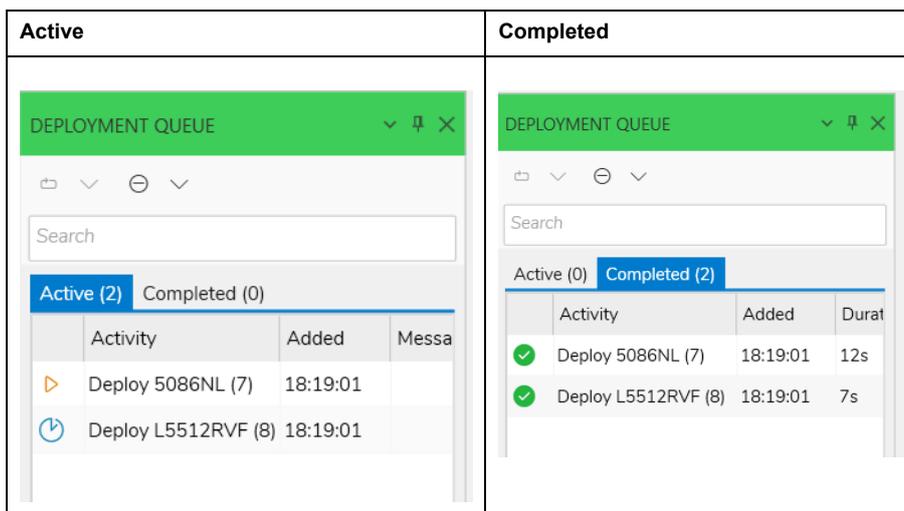
The project device information is transferred to the network devices. You can view the **Active** and **Completed** status in **DEPLOYMENT QUEUE** window.



- To deploy all devices to C-Bus Network, click  drop-down and choose **Deploy – Deploy All to Network**.



You can view the **Active** and **Completed** status in **DEPLOYMENT QUEUE** window.



**NOTE:** The **Deploy - Deploy All To Network** will be enabled only when at least one device is in a matched or partially matched state.

Once deploy all function is completed, all newly deployed devices are placed with their project configurations into the live network.

The deploy all function will deploy the project device information to the device (s) on the network, regardless of whether the device can be edited in the Property Editor of C-Bus Commission or was previously edited in Toolkit.

The below table lists the legacy devices supported in C-Bus Commission.

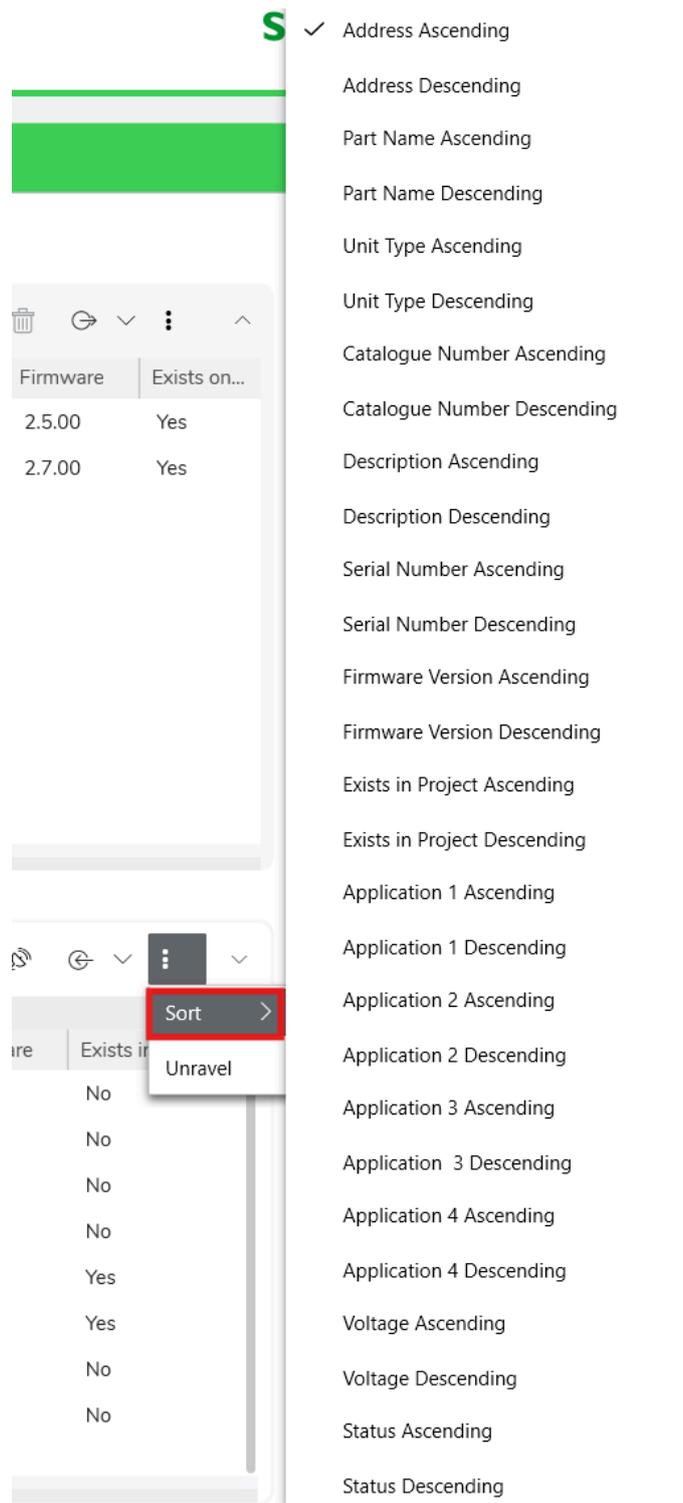
KEY1	KEYAUX4	KEYAV4	KEYP2	KEYDV2	RELDN8SP	DIMDN4	PC_INT_1	PC_PGA	PC_CTD
KEY2	DINAUX4	KEYA6	KEYP4	KEYDV3	RELDN8B	DIMDN4F	PCINT4	PC_PACA	PC_CTDL
KEY4	KEYBC2	KEYA8	KEYP6	KEYDV4	RELDC4	DIMDN8F	PC_CNIEI	PCINTU	PC_WHAM
KEYIR1	KEYBC4	KEYB2	KEY-BIR2	CLK2	RELDB1	DMXDO12	PC_CNIED	PCLOCA-LU	INT_CIS
KEYIR4	KEYM2	KEYB4	KEY-BIR4	RELAY1	RELMB8	DIMDN8	PC_CNICI	EN_UNIV	INT_AXEZ
KEYC1	KEYM4	KEYB6	KEY-BIR6	RELAY2	DSIMB8	DIMDS8	PC_CNICD	PC_MIND2	EN_AXEZ
KEYC2	KEYM8	KEYH1	KEYV1	RELAY4	ANOMB8	ANODN4	PCLOCAL4	PC_CTB	INT_CMFT
KEYC4	KEYA1	KEYH2	KEYV2	DIM-MER4	DIMPR1	PC_LOCAL	PC_CBTI	PC_CTBL	EN_CMFT
KEYCIR1	KEYAV2	KEYH3	KEYV3	AN-OUT4	DIMPR2	PC_INT	PC_CTA	PC_CTC	INT_MIND
KEYCIR4	KEYA3	KEYH4	KEYD-V1	RELDN8	DIMPR4	PC_INT1	PC_IRT2	PC_CTC3	INT_HS

INT_D16	INT_ELK	INT_VIEO	INT_HUIO	INT_AQUA	BRIDGE1N	BRIDGE1F	BRIDGE2N	BRIDGE2-F	GATEWLSN
GATEWLS-F	RELSM8	PC_CNICW	PC_CNIC	PC_CNIE	PC_CNIEW	SYSWSR2			

## Sort Device

**Prerequisites:** The devices must already be opened and scanned in a **Network**.

1. Click  to sort the devices in the live network.
2. Select **Sort** from the available options and then select an appropriate sort method.



## Unravel

Unravelling unit address is the process of giving unique unit address to all units within a C-Bus Network.

Unravelling unit address is important when you are adding C-Bus units to the physical address. When new C-Bus units are added to the network which have been previously used on another network, they may be configured with unit addresses that are already taken on the C-Bus Network.

Network Devices (6)

Status	Addr	Part Name	Unit Type	Catalogue	Description	Serial	Firmware	Exists in Project	Application 1	Application 2
	79	DUPLICATE								
	16	DLT	KEYBL5	5085DL	5 Gang D...	001011333823	3.0.00	No	Application...	Trigger Cont...
	6	SARAHSHU	RELDB1	L5501RBCP	DIN Rail...	001011281428	2.7.00	No	Lighting	

C-Bus network scanning process identifies the C-Bus units with duplicate addresses, which is highlighted as duplicate.

On identifying duplicate the confirmation box is displayed to resolve the conflict.

Confirmation
×

?

**Duplicate unit addresses found.**

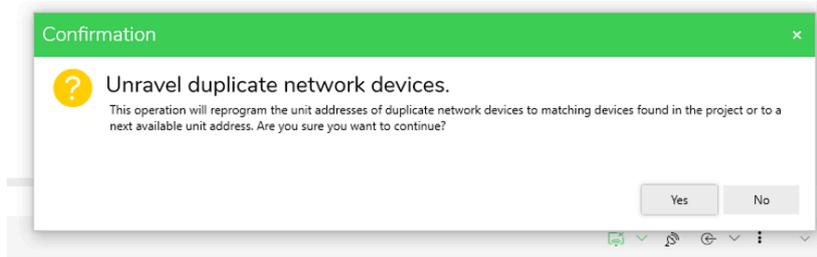
Units with duplicate Unit Addresses were found. Do you want to resolve this conflict?

Yes

No

1. Select **No**, to retain the duplicate address.

2. Select **Yes, Confirmation** dialog box is displayed to unravel duplicate network devices.



- a. If you select **No**, the duplicate address is retained.

This can be resolved manually :

To unravel duplicate unit addresses, select the device and click  select **Unravel**.

**TIP:** Unravel can also be done by right-click **Network Devices > Unravel**.

- b. If you select **Yes**, unravelling process is initiated.

The screenshot shows a table titled 'Network Devices (6) ... unravel in progress'. The table has columns: Status, Addr, Part Name, Unit Type, Catalogue, Description, Serial, Firmware, Exists in Project, Application 1, and Application 2. A row with status '79' is highlighted in yellow and labeled 'DUPLICATE'. Other rows show various device details.

Status	Addr	Part Name	Unit Type	Catalogue	Description	Serial	Firmware	Exists in Project	Application 1	Application 2
79										
16		DLT	KEYBL5	5085DL	5 Gang D...	001011333823	3.0.00	No	Application...	Trigger Cont...
6		SARAHSHU	RELD1	L5501RBCP	DIN Rail...	001011281428	2.7.00	No	Lighting	
5		SARAHDAL	SYS_DAL2	5502CDGP2...	C-Bus D...	001011661258	1.4.0	No	Lighting	
3		PCI1	PCLOCA...	5500PCU	DIN Rail...	001011553374	5.5.00	No		
0		SARAH58	PC_NAC2	5500NAC2	SpaceLo...	001012242108	5.5.00	No		

- c. Once unravel is completed, the details of unravelled devices and their new addresses are displayed.

The dialog box is titled 'Unravel Complete' and shows 'Number of devices unravelled: 2'. Below this is a table with columns: Unit Type, Serial Number, Old Address, and New Address. At the bottom right, there are 'Copy' and 'Close' buttons.

Unit Type	Serial Number	Old Address	New Address
PC_CNICD	001011660806	79	2
PCINTU	001004190428	79	4

The details can be copied to the notepad for future use or/and close the window.

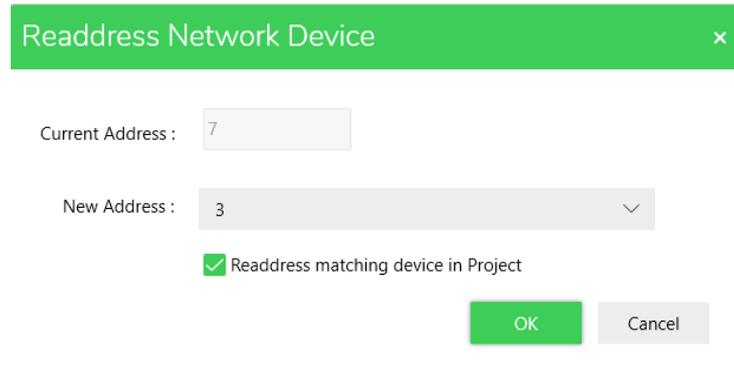
All the addresses in the network are unique.

## Readdressing

The Readdress function allows the readdressing of units within a C-Bus Network or database. When you readdress a matched device, the **Readdress matching device in Project** check box is enabled to ensure the matched device is also updated in the database.

To readdress a network:

1. Right-click on **Network Device > Readdress Network Device**.  
**Readdress Network Device** pop-up is displayed.



Readdress Network Device

Current Address : 7

New Address : 3

Readdress matching device in Project

OK Cancel

2. Select the **New Address** and click **OK**.

**NOTE:** Readdressing cannot be performed on Bridge devices.

If the C-Bus project has only serial or C-Bus Network Interface (CNI) connections, the re-addressing of a single network is straightforward.

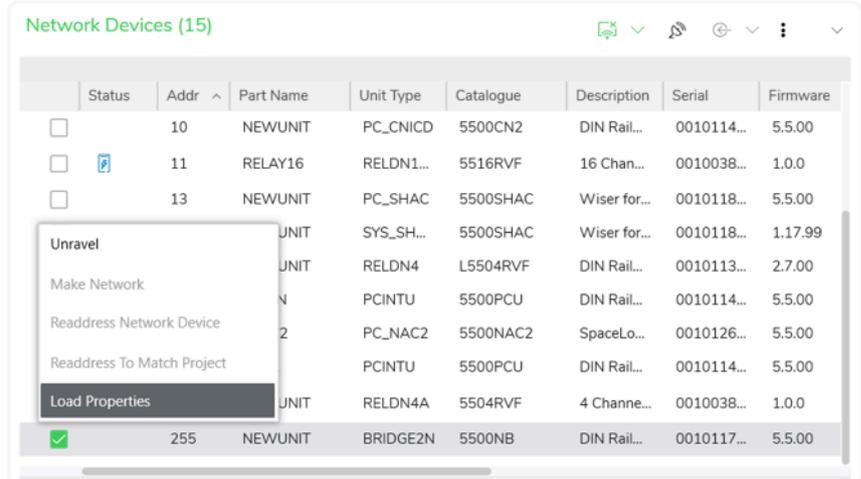
**TIP:** The addressing structure must be maintained when readdressing networks.

The network device is readdressed.

To view the property editor:

1. You can either:

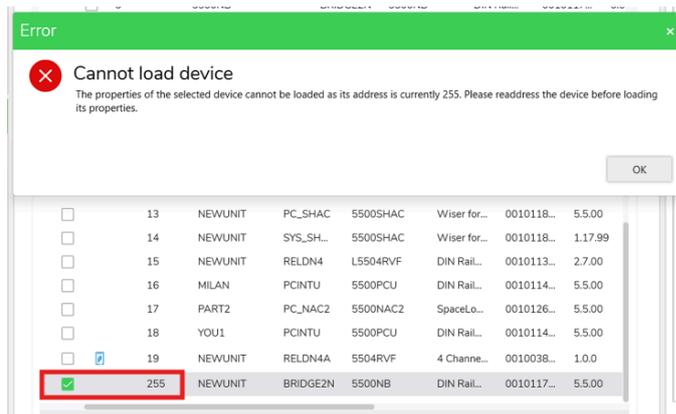
- Right-click on **Network Device > Load Properties**.



or

- Double-click on the **Network Device**.

**NOTE:** When you try to load a live C-Bus network device with unit address 255 into the **PROPERTIES** window, an **Error** pop-up is displayed.

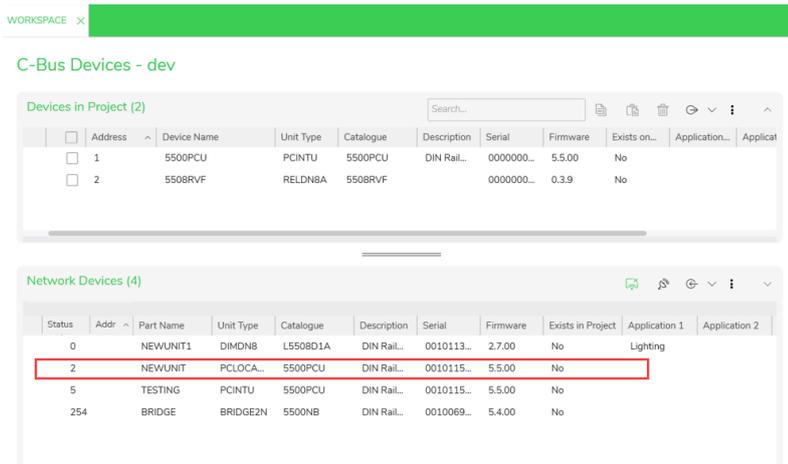


## Dynamic Mode devices

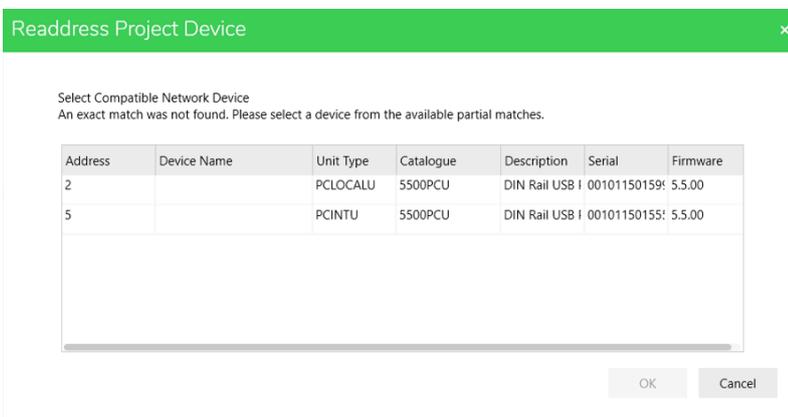
When PCI or CNI devices are connected, they are identified as different unit types. The software will not allow these dynamic types to reconcile, deploy or extract with the dynamic device modes.

To handle the dynamic device modes (unit types) when network is open:

1. After scanning a network and discovering a network device with a unit type variant of LOCAL, it is possible to match the network device to a project device using the existing matching rules.

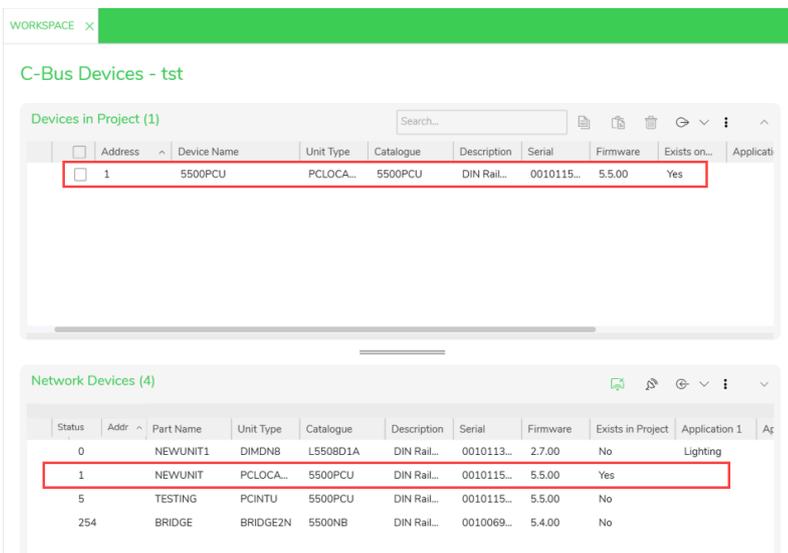


2. The match status will reflect **Yes** or **Unit Type Only** if the alternative LOCAL unit type is discovered on a network scan and existing matching rules are met.



**NOTE:** The Unit Type of the project device will not change after the matching status is updated (it will never reflect the LOCAL Unit Type, and cannot be set to the LOCAL Unit Type variant).

3. All existing operations and functions will be allowed once the match status is set.



## Devices in Project (DALI)

**Prerequisites:** Make sure the DALI Gateway is already added to project database.

The **Devices in Project** section displays all the DALI devices in the project database.

Field	Description
Object Id	Displays the object Id of the device (the DALI line address which ranges between 0-63).
Short Address	Displays the short address of the device (the physical device address).
Device Type	Displays the type of the device.
Name	Displays the name of the device.
Description	Displays the description of the device.
Exists on DALI Line	Displays whether the device is existing on DALI line or not.
Device used	Displays the devices is used or not (default it will be selected).
DG (DALI Groups 1–16)	Displays the selected DALI groups for each DALI device.
Application	Displays the selected device's application number (default lighting application).
C-Bus Group	Displays the selected C-Bus group address.

The operations that can be performed on **Devices in Project** section are:

- Search a device, page 93
- Copy device
- Paste device
- Delete device, page 94
- Deploy devices, see Deploy device
- Sort devices, page 94

## Search a Device

**Prerequisites:** The DALI gateway and DALI devices must already be added in a **Devices in Project** section of an network .

The **Devices in Project** section allows searching of a DALI device in the existing project database by entering the device name in the **Search** bar.

**NOTE:** You can also search by entering either *Unit Type* , *Catalogue* or *Description*.

## Copy Device

To Be Implemented

## Paste Device

To Be Implemented

## Delete Device

**Prerequisites:** The DALI devices must already be added in a DALI line of network and must be reconciled.

1. Select the DALI device check box.
2. Click .

**TIP:** Alternate method to delete device:

Select the device check box, right-click on **Devices in project > Delete**.

## Deploy DALI Devices from Project to Network

**Prerequisites:** The DALI device must be reconciled before deploying to network.

Once the DALI device are configured, they can be deployed in two ways:

**Method 1:**

1. Select the DALI device in **Devices in Project** section.
2. **Save** the settings and check the **Deploy to Network**.

**Method 2:**

1. Select the DALI device in **Devices in Project** section.
2. **Save** the settings.
3. Click  on **Devices in Project** section.

## Sort Device

**Prerequisites:** The devices must already be added in a **Devices in Project** of network.

The DALI devices in the device list can be sorted using  and selecting an appropriate sort method.

## 50/50 Reconcile

**Prerequisites:** The DALI devices must be added to project and **Line Devices** must be scanned.

The 50/50 function allows a user to quickly find the desired device on the DALI line by turning half on and half off at the same time and assist in finding the specific device and reconcile it.

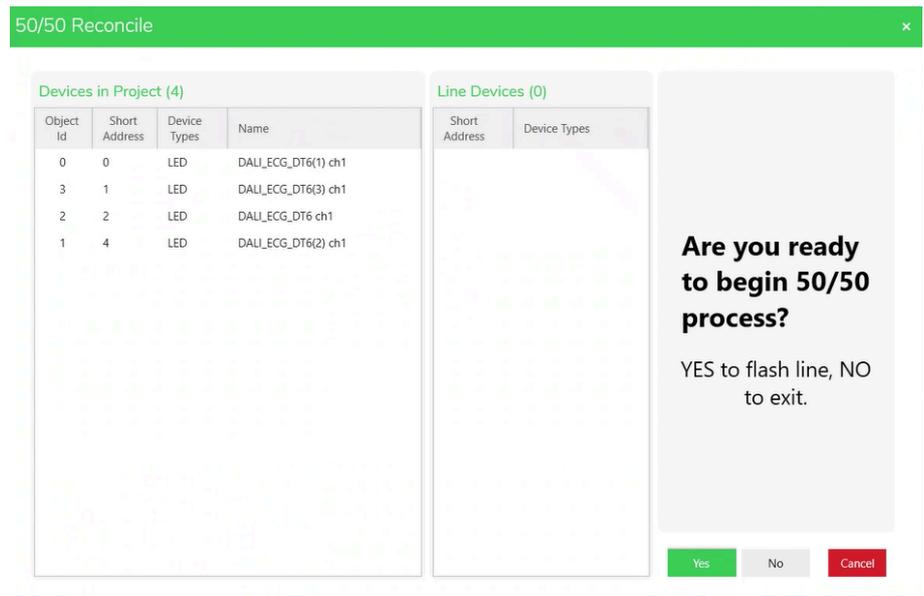
**NOTE:** A 50/50 function is performed depending on the type of device selected.

- Devices which cannot perform 50/50 are filtered out.
- Example, If the user is using a generic device type in their project to perform 50/50, it will filter for all other device types except for Emergency Device type C & D as they are not compatible.
- If there is only one compatible device type on the network, 50/50 will be aborted as it cannot be performed on a single device (Instead use identify function).

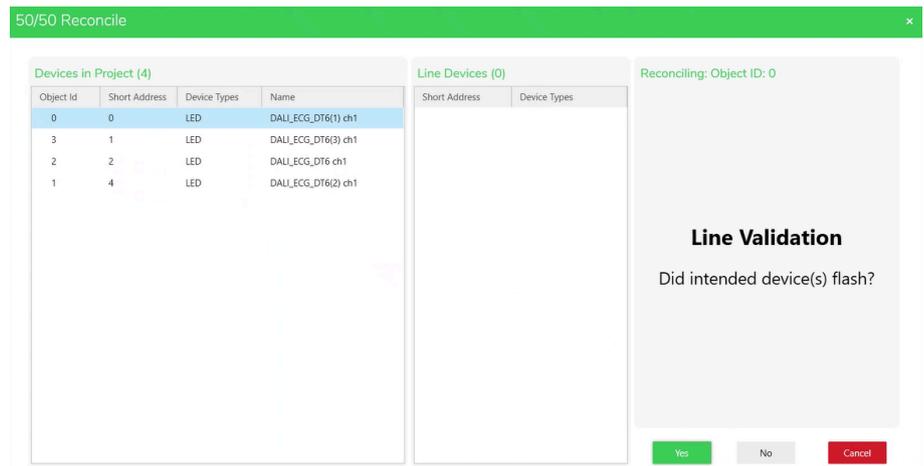
To perform 50/50:

1. Select the device and right-click on the section, **Devices in project > 50/50**.

**A 50/50 dialog box is displayed**

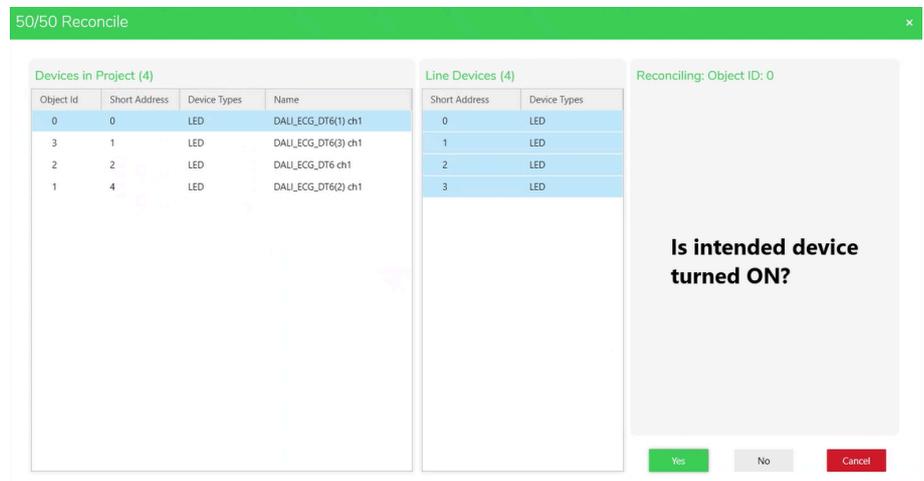


2. If you choose **Yes**, it will display Line Validation “Did the intended device(s) flash”.

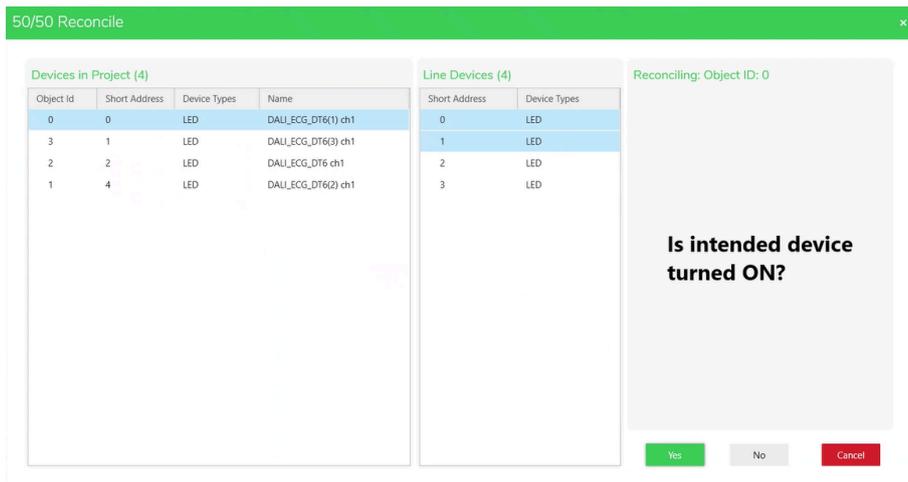


Confirm **Yes**, if flash is seen on physical device else confirm **NO**.

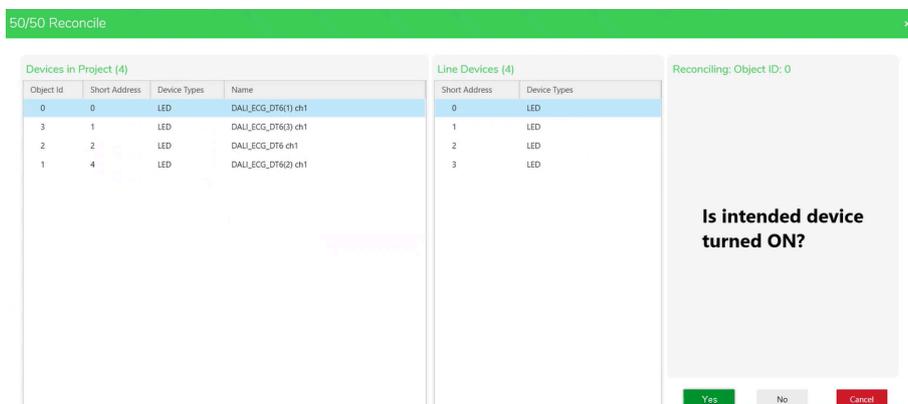
3. On confirming **Yes**, 50/50 is performed on all light devices of selected line.



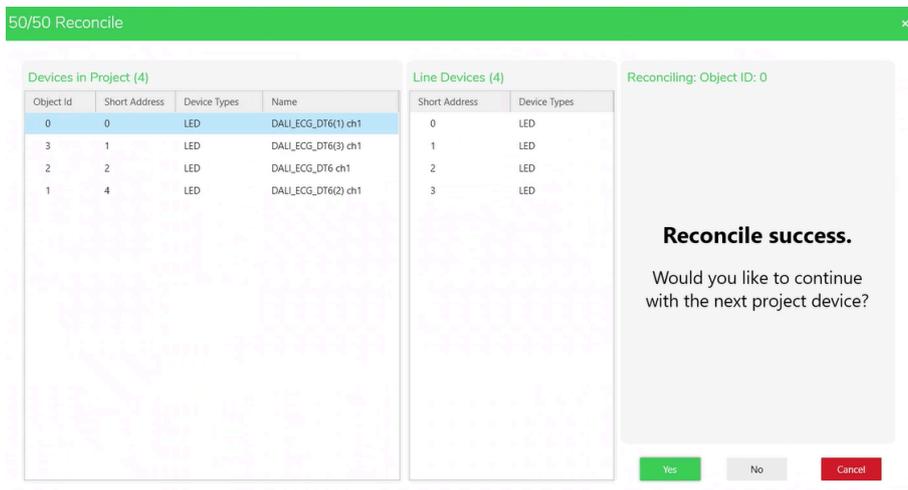
- If there is no light On confirm **No**, the 50/50 process will be performed on other half of the line devices.



- The process continues until the device has been selected in the DALI line.



- On confirming **Yes**, it will confirm successful reconciliation.



After Reconciliation, the reconciled devices are removed from the **Devices in project** and **Line Devices** of 50/50 window.

7. The Reconciled status of a device is visible in **Devices in Project** as well as in **Line Devices** section.

	Object Id	Short Add...	Device Ty...	Name	Description	Exists ON...	Device Used	DG1	DG2	DG3
<input type="checkbox"/>	1	1	LED	DALI_ECG_DT6(1) ch1	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	2	2	LED	DALI_ECG_DT6(2) ch1	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	4	3	LED	DALI_ECG_DT6(4) ch1	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	3	4	LED	DALI_ECG_DT6(3) ch1	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	0	5	LED	DALI_ECG_DT6 ch1	LED Type...	Reconciled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	6	LED	DALI_ECG_DT6(5) ch1	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**IMPORTANT:** After reconciling, the 50/50 is automatically displayed for the next object Id unless confirmed **Cancel**.

**NOTE:** During any stage of reconciling, 50/50 process can be aborted by clicking **Cancel**.

## Readdress

**Prerequisites:** The DALI devices must be already added to the project database and Line devices must be scanned.

The Readdress function allows the readdressing of the DALI devices within a C-Bus network or project database.

**NOTE:** DALI device can be readdressed in either **Devices in Project** or **Line Devices**

To Readdress, select a DALI device and right-click on section **Devices in Project / Line Devices > Readdress**.

**Readdress Project / Network Device** dialog box is displayed (depending from which section readdress is being performed), choose the address and confirm **OK**.

**IMPORTANT:** Readdress is performed only on Short address.

**NOTE:** Readdress is used when an existing device address needs to be utilized for another device.

## Reconcile

Reconciling is the process of matching the device available in both **Devices in project** and **Line Devices**.

Reconcile can be achieved either via 50/50 process or by manually.

To perform Reconcile manually:

1. Select the DALI device in both the **Line Devices** and **Devices in project** section.
2. Right click on either of section and select **Reconcile**.

	Object Id	Short Address	Device Ty...	Name	Description	Exists ON...	Device Used	DG1
<input checked="" type="checkbox"/>	0	0	EMERGE...	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	1	1	EMERGE...	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>

# Un-Reconcile

**Prerequisites:** The selected device must already be reconciled.

The un-reconcile operation allows to release the device from the reconciled state.

Select the device both in **Line devices** section and **Devices in project** section that are already reconciled.

WORKSPACE X

### DALI Devices - DALI Address 2 Line B (5502CDGP230)

Devices in Project (5)

<input type="checkbox"/>	Object Id	Short Address	Device Types	Name	Description	Exists ON...	Device Used
<input type="checkbox"/>	0	0	EMERGENCY-D	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	1	1	EMERGENCY-C	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	2	2	EMERGENCY-GENERIC	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	3	3	EMERGENCY-C	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	4	4	LED	DALI_ECG_D...	LED Type...	Partial	<input checked="" type="checkbox"/>
<input type="checkbox"/>	5	5	LED	DALI_ECG_D...	LED Type...	Reconciled	<input checked="" type="checkbox"/>

Line Devices (2)

<input type="checkbox"/>	Short Address	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6	D
<input type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

Right click on either sections and select Un-reconcile, the devices get un-reconciled as shown below:

WORKSPACE X

### DALI Devices - DALI Address 2 Line B (5502CDGP230)

Devices in Project (5)

<input type="checkbox"/>	Object Id	Short Address	Device Types	Name	Description	Exists ON...	Device Used
<input type="checkbox"/>	0	0	EMERGENCY-D	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	1	1	EMERGENCY-C	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	2	2	EMERGENCY-GENERIC	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	3	3	EMERGENCY-C	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	4	4	LED	DALI_ECG_D...	LED Type...		<input checked="" type="checkbox"/>
<input type="checkbox"/>	5	5	LED	DALI_ECG_D...	LED Type...		<input checked="" type="checkbox"/>

Line Devices (2)

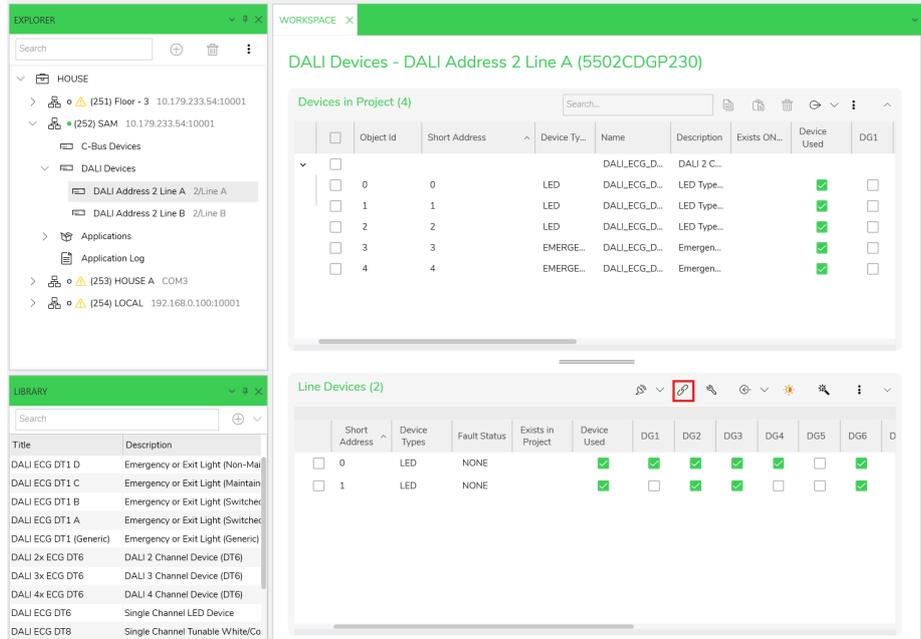
<input type="checkbox"/>	Short Address	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6	D
<input type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	LED	NONE		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

# Identify and Reconcile

This method combines the identify and reconcile features into a seamless workflow within a single pop-up window, so that you can complete your task efficiently. It allows you to identify and reconcile the devices to the project directly from a single pop-up window.

**Prerequisites:** The **Line Devices** must be scanned.

1. Click  in the **Line Devices**.



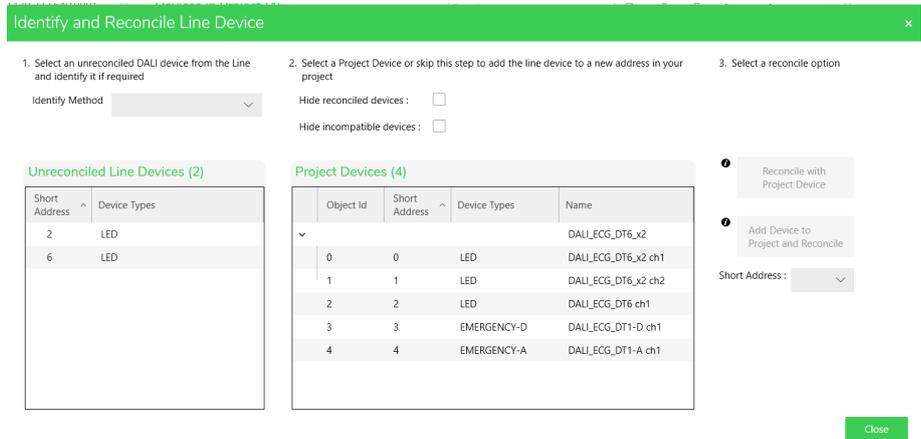
**Workspace Panel: DALI Devices - DALI Address 2 Line A (5502CDGP230)**

Object Id	Short Address	Device Ty...	Name	Description	Exists ON...	Device Used	DG1
0	0	LED	DALL_ECG_D...	DALI 2 C...		<input checked="" type="checkbox"/>	<input type="checkbox"/>
1	1	LED	DALL_ECG_D...	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	2	LED	DALL_ECG_D...	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	3	EMERGE...	DALL_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	4	EMERGE...	DALL_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Library Panel:**

Title	Description
DALI ECG DT1 D	Emergency or Exit Light (Non-Mai
DALI ECG DT1 C	Emergency or Exit Light (Maintain
DALI ECG DT1 B	Emergency or Exit Light (Switched
DALI ECG DT1 A	Emergency or Exit Light (Switched
DALI ECG DT1 (Generic)	Emergency or Exit Light (Generic)
DALI 2x ECG DT6	DALI 2 Channel Device (DT6)
DALI 3x ECG DT6	DALI 3 Channel Device (DT6)
DALI 4x ECG DT6	DALI 4 Channel Device (DT6)
DALI ECG DT6	Single Channel LED Device
DALI ECG DT8	Single Channel Tunable White/Co

Identify and Reconcile Line Device pop-up is displayed.



**Identify and Reconcile Line Device**

1. Select an unreconciled DALI device from the Line and identify it if required
2. Select a Project Device or skip this step to add the line device to a new address in your project
3. Select a reconcile option

Identify Method:

Hide reconciled devices:

Hide incompatible devices:

**Unreconciled Line Devices (2)**

Short Address	Device Types
2	LED
6	LED

**Project Devices (4)**

Object Id	Short Address	Device Types	Name
0	0	LED	DALI_ECG_DT6_x2
1	1	LED	DALI_ECG_DT6_x2 ch1
2	2	LED	DALI_ECG_DT6 ch1
3	3	EMERGENCY-D	DALI_ECG_DT1-D ch1
4	4	EMERGENCY-A	DALI_ECG_DT1-A ch1

Reconcile with Project Device

Add Device to Project and Reconcile

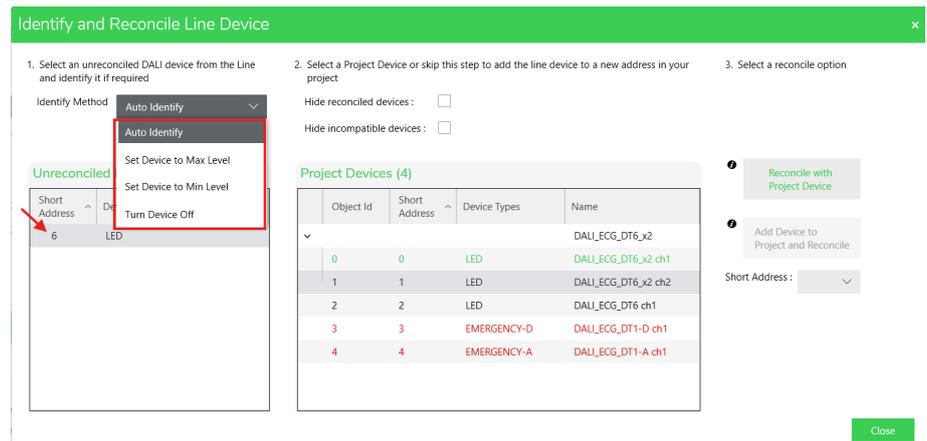
Short Address:

Close

Three sections are defined to identify and reconcile the line devices, they are:

- **Select an unreconciled DALI device from the Line and identify it if required.**
- **Select a Project Device or skip this step to add the line device to a new address in your project.**
- **Select a reconcile option.**

2. Select an **Unreconciled Line Device** and then select the **Identify Method** from the drop-down to identify the device.



- If you select **Auto-identify**, the selected device flashes.
- If you select **Set Device to Max Level**, the selected device is set to maximum level.
  - IMPORTANT:** Once the device selection is changed, the previously selected device remains at its current level.
- If you select **Set Device to Min Level**, the selected device is set to maximum level.
- If you select **Turn Device Off**, the selected device will be turned off.
  - NOTE:** Use keyboard up/down arrows or mouse clicking for device selection. Only one row can be selected at a time.

- To reconcile the project devices, select the line device to reconcile with the project device and then click **Reconcile with Project Device**.

**NOTE:** The **Reconcile with Project Device** button is enabled only when an unreconciled line device and valid project device are selected.

Identify and Reconcile Line Device

1. Select an unreconciled DALI device from the Line and identify it if required  
Identify Method

2. Select a Project Device or skip this step to add the line device to a new address in your project  
Hide reconciled devices:   
Hide incompatible devices:

3. Select a reconcile option

**Unreconciled Line Devices (4)**

Short Address	Device Types
1	LED
2	LED
56	EMERGENCY-C
63	EMERGENCY-B

**Project Devices (4)**

Object Id	Short Address	Device Types	Name
1	1	LED	DALL_ECG_DT6 ch1
2	2	LED	DALL_ECG_DT6(1) ch1
56	56	EMERGENCY-C	DALL_ECG_DT1-C ch1
63	63	EMERGENCY-B	DALL_ECG_DT1-B ch1

Reconcile with Project Device

Add Device to Project and Reconcile

Short Address:

Close

In the **Project Devices** table, the reconciled devices are displayed in green and incompatible project device types are displayed in red.

- Select **Hide reconciled devices** check box to hide the reconciled devices from the **Project Devices** table.
- Select **Hide incompatible devices** check box to hide the incompatible devices from the **Project Devices** table.
- The project devices which are a part of multi-channel device are grouped and displayed in expanded/collapsed format.

Identify and Reconcile Line Device

1. Select an unreconciled DALI device from the Line and identify it if required  
Identify Method

2. Select a Project Device or skip this step to add the line device to a new address in your project  
Hide reconciled devices:   
Hide incompatible devices:

3. Select a reconcile option

**Unreconciled Line Devices (4)**

Short Address	Device Types
1	LED
2	LED
56	EMERGENCY-C
63	EMERGENCY-B

**Project Devices (5)**

Object Id	Short Address	Device Types	Name
0	0		DALL_ECG_GENERIC_x4
3	3		DALL_ECG_GENERIC_x4
4	4		DALL_ECG_GENERIC_x4
5	5		DALL_ECG_GENERIC_x4
1	1	LED	DALL_ECG_DT6 ch1
2	2	LED	DALL_ECG_DT6(1) ch1
56	56	EMERGENCY-C	DALL_ECG_DT1-C ch1
63	63	EMERGENCY-B	DALL_ECG_DT1-B ch1

Reconcile with Project Device

Add Device to Project and Reconcile

Short Address:

Close

- If you don't want to reconcile the project devices, you can directly select the **Short Address** from the drop-down and then click **Add Device to Project and Reconcile** to add the device to project and perform reconciliation.

Identify and Reconcile Line Device
✕

1. Select an unreconciled DALI device from the Line and identify it if required

Identify Method ▼

2. Select a Project Device or skip this step to add the line device to a new address in your project

Hide reconciled devices:

Hide incompatible devices:

3. Select a reconcile option

Unreconciled Line Devices (3)

Short Address	Device Types
2	LED
56	EMERGENCY-C
63	EMERGENCY-B

Project Devices (4)

Object Id	Short Address	Device Types	Name
1	1	LED	DALI_ECG_DT6 ch1
2	2	LED	DALI_ECG_DT6(1) ch1
56	56	EMERGENCY-C	DALI_ECG_DT1-C ch1
63	63	EMERGENCY-B	DALI_ECG_DT1-B ch1

Reconcile with Project Device

Add Device to Project and Reconcile

Short Address: 3 ▼

Close

**NOTE:** Only the available, unused short addresses for the DALI line will be listed in the drop-down.

**IMPORTANT:** If you try to close the **Identify and Reconcile Line Device** pop-up when reconcile is in-progress, an **Information** pop-up is displayed.

Information
✕

i

**Reconcile in progress**

This window cannot be closed right now as a device is being reconciled. Please wait for the operation to be completed.

OK

- Once the required configuration is done, click **Close**. The **WORKSPACE** window refreshes and displays the latest reconciled devices.

WORKSPACE
✕

DALI Devices - DALI Address 53 Line A (5502CDGP230)

Devices in Project (4)

	Object Id	Short Address	Device Types	Name	Description	Exists ON DALI Line	Device Used	DG1	DG2	DG3	DG4
<input type="checkbox"/>	1	1	LED	DALI_ECG_DT6 ch1	LED Type ECG	Reconciled	✓	✓	✓	✓	
<input type="checkbox"/>	2	2	LED	DALI_ECG_DT6(1) ch1	LED Type ECG		✓	✓	✓	✓	✓
<input type="checkbox"/>	56	56	EMERGENCY-C	DALI_ECG_DT1-C ch1	Emergency Type C - ECG		✓				✓
<input type="checkbox"/>	63	63	EMERGENCY-B	DALI_ECG_DT1-B ch1	Emergency Type B - ECG		✓	✓	✓	✓	✓

Line Devices (4)

	Short Address	Device Types	Fault Status	Exists in Project	Device Used	D01	D02	D03	D04	D05	D06	D07	D08	D09	D010	D011	D01
<input type="checkbox"/>	1	LED	NONE	Reconciled	✓	✓	✓	✓									
<input type="checkbox"/>	2	LED	NONE		✓	✓	✓										
<input type="checkbox"/>	56	EMERGENCY-C	NONE		✓												
<input type="checkbox"/>	63	EMERGENCY-B	NONE		✓	✓	✓	✓									

## Line Devices

The **Line Devices** section displays the DALI ECG that is physically connected to the DALI-2 gateway.

**NOTE:** To communicate with the Interface, C-Bus Interface must be linked to the C-Bus Network.

Fields	Description
<b>Object ID</b>	Displays the object ID which ranges between 0-63.
<b>Short Address</b>	Displays the short address of the device (the physical device address) that ranges between 0–63.
<b>Device Types</b>	Displays the type of the device.
<b>Faulty Status</b>	Displays the applicable faulty status if the device has any faults.
<b>Name</b>	Displays the name of the device.
<b>Description</b>	Displays the brief description of the device.
<b>Exists in Project</b>	Displays <b>Yes</b> , if device is reconciled with a project device else displays <b>No</b> .
<b>DG (DALI Groups 1–16)</b>	Displays the selected DALI groups for each DALI device which is read-only.
<b>Application</b>	Displays the application address assigned to the selected device.
<b>C-Bus Group</b>	Displays the C-Bus group address assigned to the selected device.

The below operations can be performed in the **Line Devices** section:

- Scan Devices, page 103
- Extract DALI Devices from Network to Project, page 114
- Auto Identify, page 105
- Toggle On/Off, page 106
- Identify, page 108
- Address All Unaddressed, page 109
- Reset All Devices, page 111
- Discover Faults, page 109
- DALI Broken Devices, page 110
- DALI Missing Devices, page 110
- DALI Duplicate Devices, page 111
- Sort DALI Devices, page 112
- Remove Devices, page 113
- Replace Devices, page 114
- 

## Scan Devices

**Prerequisites:** The DALI-2 gateway must already be added and DALI line must be selected before scanning.

The scan option identifies the DALI ECG devices connected to the DALI-2 gateway. The following are the scan types:

- DALI Scan
- DALI Device Type Scan
- Read DALI Gateway

### DALI Scan

DALI Scan gathers information about DALI devices including their short address, device types, and DALI Group properties.

1. Click  to scan.



2. Navigate to **DEPLOYMENT QUEUE** window to view the DALI scan.

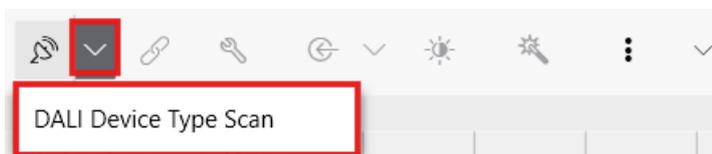
Active (0)		Completed (5)	
Activity	Added	Duration	
 Extract DALI2 (7)	9:00:24 PM	7s	
 Scan Gateway 248/7 (EXT_ONLY)	9:00:24 PM	56s	
 Scan DALI Address 7 Line A (DALI SCAN)	9:06:34 PM	13s	

3. You can view DALI Group, DALI Scene, DALI device levels properties (Min, Max, Recovery & Fail) in the **PROPERTIES** window.

### DALI Device Type Scan

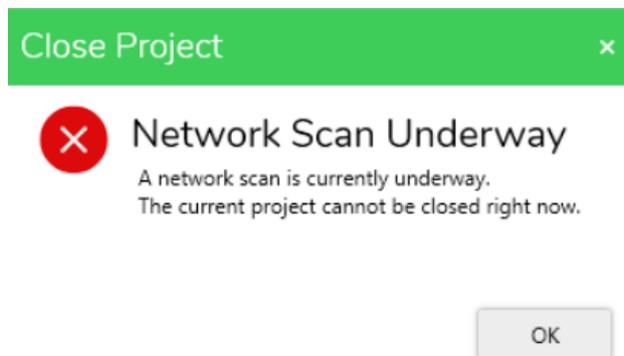
This scan is performed to obtain basic DALI device information such as the short address and device types.

1. To use the DALI Device Type Scan (default scan), click the drop-down and select **DALI Device Type Scan**.



2. You can address all unaddressed devices, discover all devices connected to the DALI gateway, and all missing, duplicate and broken devices.

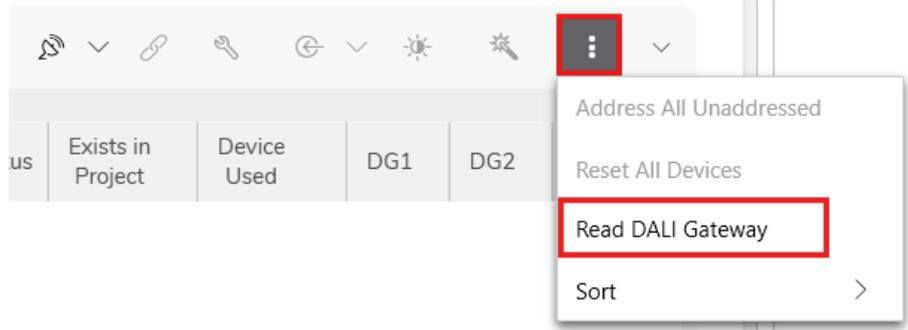
**IMPORTANT:** Do not close a project while scanning is in progress.



### Read DALI Gateway

This scan is performed to read and retrieve the contents of the C-Bus DALI-2 gateway including the programming of both the C-Bus gateway and all DALI devices.

1. Click  and select **Read DALI Gateway** to scan. You can scan both DALI lines, perform DALI device type scan, DALI scan, view serial number and GTIN number, all DALI & C-Bus properties and it allows you to fully extract DALI devices and rebuild the project from scratch.



## Auto Identify

**Prerequisites:** The line devices must be scanned.

The Auto Identify function allows you to identify live devices on the line and reconcile them with project devices.

1. Select the device in **Line Devices** and click .

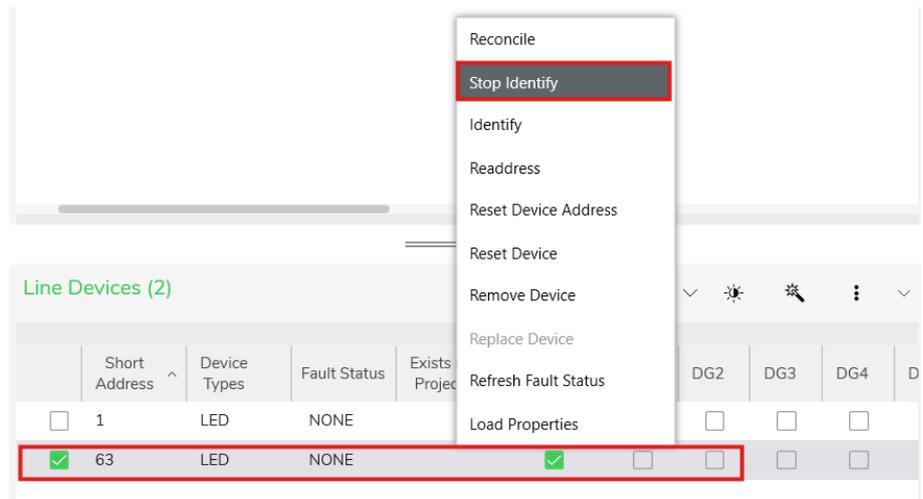
**NOTE:** The **Auto Identify** icon turns green  when it is ON .

Line Devices (2)											
	Short Address	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input checked="" type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. Once identified, the physical device begins to flash on and off until it times out or until another device is selected.

**NOTE:** Emergency devices have a 20 second time-out to stop.

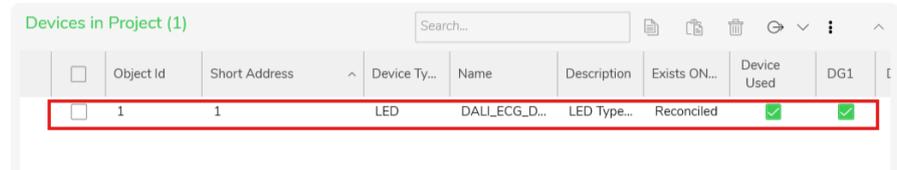
3. To stop a device from identifying, right-click on the device name and select **Stop Identify** from the list.



**IMPORTANT:** All the devices have a time-out of 30 seconds. You can stop identifying DT6, DT8, and generic device types manually, but you cannot stop DT1 types until their time-out period expires.

- To match the short address of line device and network device, select and right-click the identified device in **Devices in Project** and choose **Reconcile**.

#### DALI Devices - DALI Address 2 Line A (5502CDGP230)



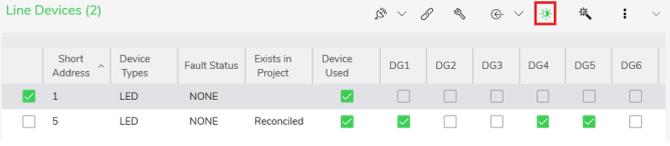
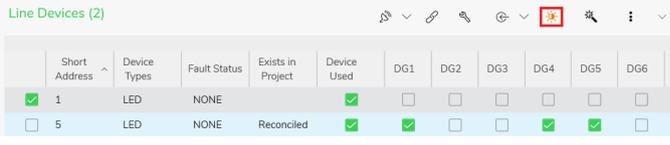
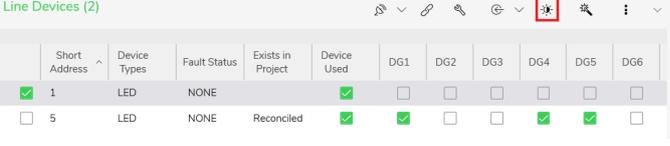
	Object Id	Short Address	Device Ty...	Name	Description	Exists ON...	Device Used	DG1
<input type="checkbox"/>	1	1	LED	DALI_ECG_D...	LED Type...	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Toggle On/Off

The Toggle On/Off icon is used to adjust brightness, contrast and to control or identify a DALI light on a DALI Line. You can set the device to its maximum or minimum level or turn off, making it easier to locate the light in a room, zone, or an area.

- Select the device in the **Line Devices** section and click .

2. The below table describes the control functions of the toggle button according to the **DALI Setting** in the Main menu. For more information, refer DALI Settings, page 48.

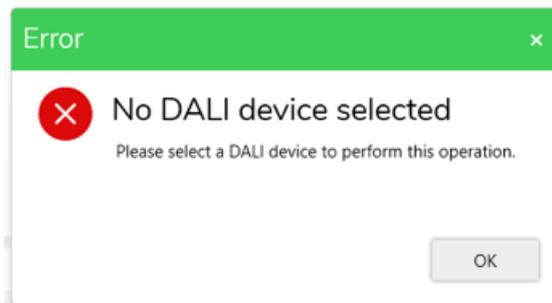
Control Function	Color of Toggle On/Off icon	UI
If you set the button to <b>On at Max Level</b>	Changes to Green	
If you set the button to <b>On at Min Level</b>	Changes to Orange	
If you set the button to <b>Off</b>	Changes to Grey	

**NOTE:** The keyboard shortcuts are functional only when your working with DALI line devices. Use the below shortcuts keys to control the **Toggle On/Off** icon:

- Press Alt+ M to set maximum level for a DALI device
- Press Alt+ O to OFF the DALI device
- Press Alt+ N to set minimum level for a DALI device

Below are the error scenarios:

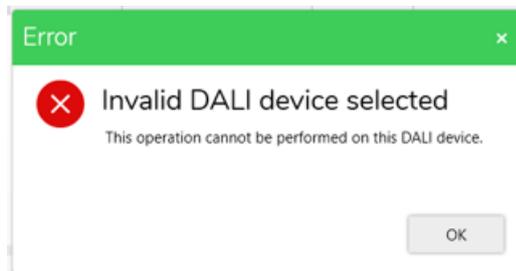
- If you click the **Toggle On/Off** icon or use a keyboard shortcut without selecting DALI device from the **Line Devices** section, the following error message appears.



- If you click the **Toggle On/Off** icon after selecting more than one DALI device, the following error message appears.



- If you click the **Toggle On/Off** icon after selecting a DALI emergency device type DT1-C or DT1-D, the following error message appears.



- To set the selected live DALI device to its maximum level, when the **DALI SETTINGS** in the main menu is set to default **Off / On at Max Level**, turn on the **Toggle On/Off** icon.

Line Devices (2)

	Short Address ^	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input checked="" type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- To turn off the selected DALI device, when the **DALI SETTINGS** is set at **Off / On at Max Level**, turn off the **Toggle On/Off** icon.

Line Devices (2)

	Short Address ^	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input checked="" type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- To set the selected DALI device to its maximum level (indicated by green), when the **DALI SETTINGS** is configured to **On at Min Level / On at Max Level**, click the **Toggle On/Off** icon while it's in the ON state (indicated by orange).

Line Devices (2)

	Short Address ^	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- To adjust the selected live DALI device to its minimum level (indicated by orange), when the **DALI SETTINGS** is configured to **On at Min Level / On at Max Level**, click the **Toggle On/Off** icon while it's in the ON state (indicated by green).

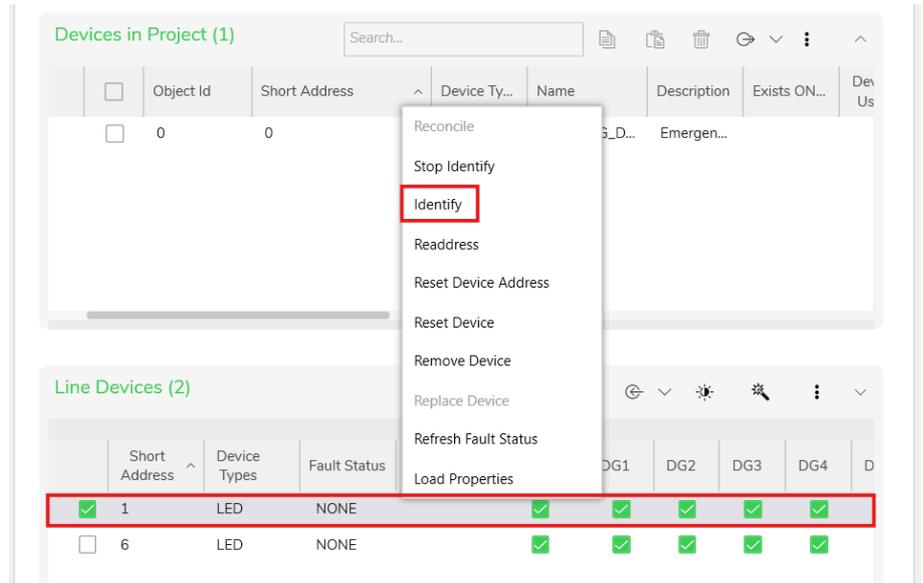
Line Devices (2)

	Short Address ^	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input type="checkbox"/>	1	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Identify

You can identify the device using **Identify** function from the context menu.

1. Select the device in the **Line Devices** section, right-click on it and select **Identify** from the list.

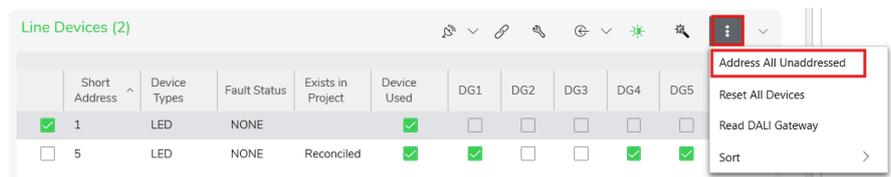


**NOTE:** If the physical device starts flickering, then the device has been identified.

## Address All Unaddressed

When the DALI devices are scanned, the addresses are assigned automatically. If devices on the network do not have an address assigned, you can manually assign the addresses.

1. Select the device in the **Line Devices** section, then click  > **Address All Unaddressed**.

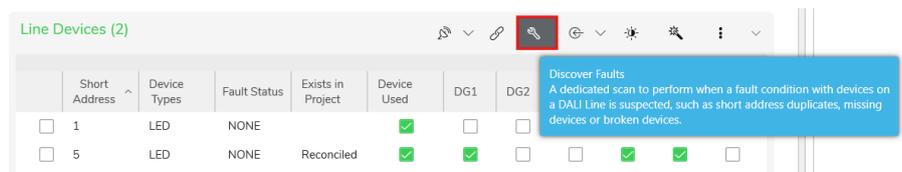


## Discover Faults

Perform a dedicated scan when a fault condition with devices on a DALI line is suspected, such as short address duplicates, missing devices or broken devices.

To reconfirm that the faulty devices have been resolved, you can perform the Discover Faults.

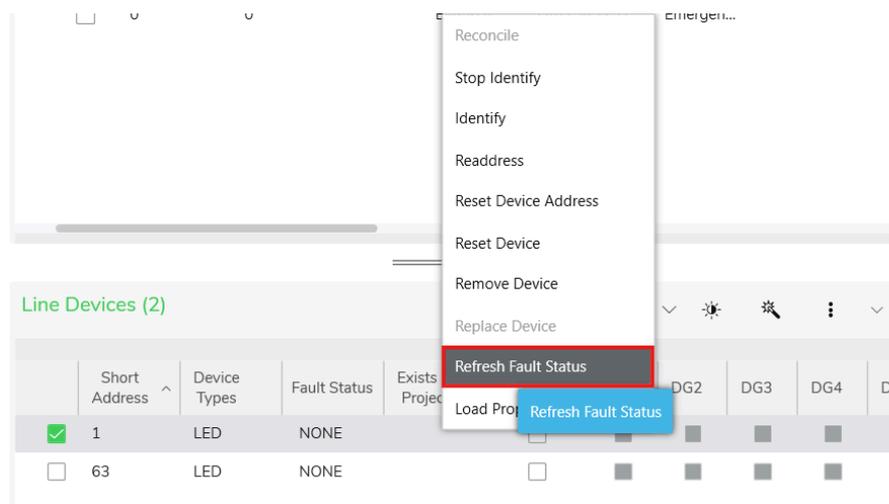
1. Click  in the **Line Devices** section.



**NOTE:** A DALI device can have multiple fault statuses, which is resolved one at a time. The scanning takes a while depending on the number of devices on the DALI Line.

**IMPORTANT:** Make sure to fix the faults before refreshing fault status.

- To update the status of fault devices, right-click on the device in the **Line Devices** section and then select **Refresh Fault Status** from the available list of options.



## DALI Broken Devices

Physical defects in DALI devices result in a **Broken Device** status. For example, if the battery is removed from an emergency device, it triggers a broken fault status and displays the device as **BROKEN** and highlighted in orange color.

The screenshot shows a software interface with a table titled 'Line Devices (6)'. The table has columns for 'Object Id', 'Short Address', 'Device Types', 'Fault Status', 'Name', and 'Description'. Six rows are visible. The second row, with Object Id '5', Short Address '1', Device Types 'EMERGENCY-D', and Fault Status 'BROKEN - Control Gear Failure, Emergency Battery Failure', is highlighted in orange. The other rows have Fault Status 'NONE'.

The broken fault device can be resolved by removing the device from gateway or by connecting the battery back to the device.

### IMPORTANT:

- Remove the physical device before removing from **Line Devices** section.
- or,
- Fix the broken device and perform the scan again.

- To remove the broken DALI device, right-click on **BROKEN** DALI device and then select **Remove Device** from the available list of options.

**IMPORTANT:** Make sure all the faults have been resolved before proceeding with the commissioning process.

## DALI Missing Devices

When you move the DALI devices from one DALI line to another and scan them in the former line, you discover a DALI missing device.

**NOTE:** The gateway displays a DALI device as missing if it has not received any response from the device, based on the number of times defined by you in the gateway configuration under each line's *Missing Device Threshold*. By default, the threshold is set to 2. If the gateway receives 2 reports indicating that the device is missing, it displays the device as **MISSING** and highlighted in rose color.

Object Id	Short Address	Device Types	Fault Status	Name	Description	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5
<input type="checkbox"/> 0	0		NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> 1	1		NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> 2	2		MISSING				<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> 4	4		NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> 5	5		NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> 6	6		MISSING				<input checked="" type="checkbox"/>	<input type="checkbox"/>				

You can resolve the missing device issue by either removing the device from the line or replacing it. Once you apply either function and scan again, the discovered DALI device faults will be resolved.

1. To remove the missing DALI device from line, right-click on it and then select **Remove Device** from the available list of options.
2. To replace the missing DALI device from line, right-click on it and then select **Replace Device** from the available list of options.

**NOTE:** When you discover a missing device, the gateway notifies you by displaying a yellow indicator on the physical gateway device.

**IMPORTANT:** When replacing the device, ensure that the new device is placed in the same location and connected to the same network as the existing device.

## DALI Duplicate Devices

When two DALI devices have the same short address, scanning the DALI line results in DALI duplicate devices. You can resolve this duplicate device issue by resetting one of the devices. Duplicate devices are displayed as **DUPLICATE** and highlighted in pale yellow color.

Object Id	Short Address	Device Types	Fault Status	Name	Description	Exists in Project	Device Used	DG1
<input type="checkbox"/> 6	0	EMERGE...	DUPLICATE (Short Address Conflict)				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 5	1	EMERGE...	DUPLICATE (Short Address Conflict)				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 4	3	EMERGE...	NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 0	4	LED	NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 2	5	LED	NONE				<input checked="" type="checkbox"/>	<input type="checkbox"/>

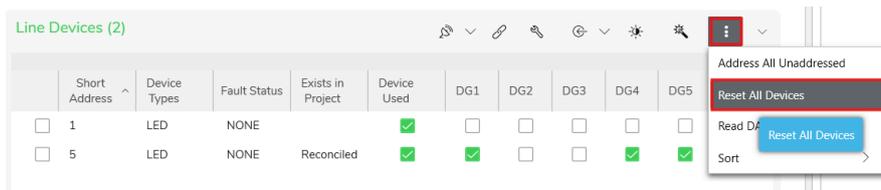
1. To reset a duplicate device, right-click on it and select **Reset Device** from the available list of options.
2. Once reset is done, re-scan the DALI line to discover the reset device.

**NOTE:** The reset device will reset the short address and Object ID, and it will clear the device from the gateway memory. However, it does not reset the DALI group or DALI scene configurations.

## Reset All Devices

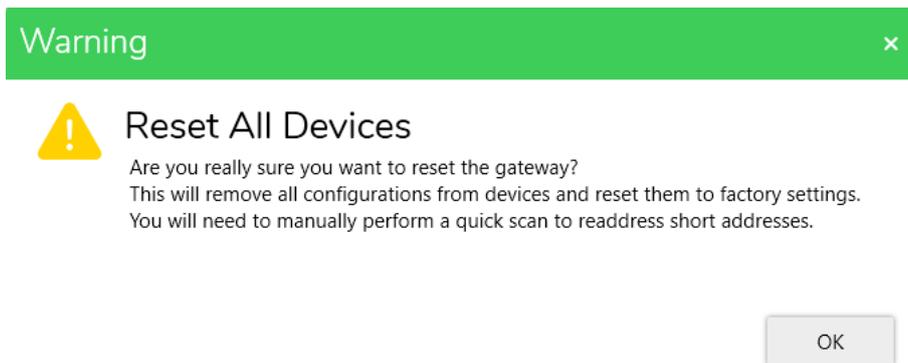
All DALI devices in the **Line Devices** section can reset their short addresses at the same time.

1. Select  > **Reset All Devices**.

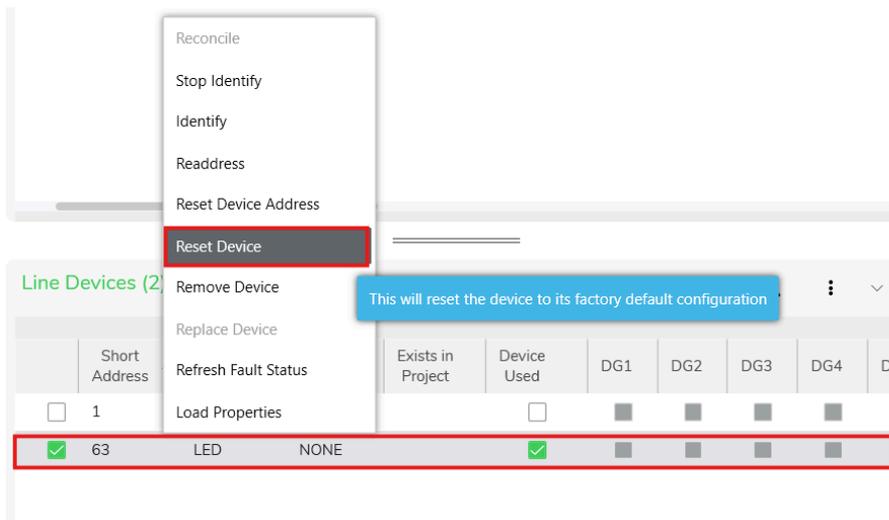


**NOTE:** **Reset All Devices** function will reset all the short address and object ID, and it will clear the device from the gateway memory but does not reset the DALI group or DALI scene configurations.

2. A **Warning** pop-up appears. Click **OK** to proceed.



3. To perform an individual short address reset for a DALI device, select the DALI device in the **Line Devices** section. Right-click on it and then select **Reset Device** from the available list of options..

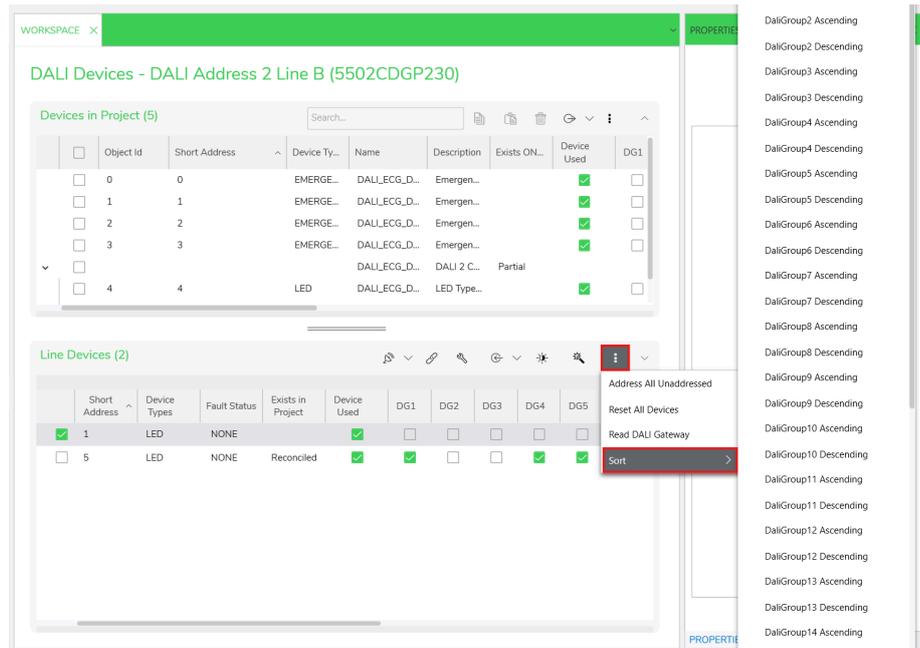


**NOTE:** After resetting the device(s), the reset device function will perform either a DALI Device Type Scan or DALI Scan.

## Sort

**Prerequisites:** The DALI gateway and DALI devices must already be added in the network.

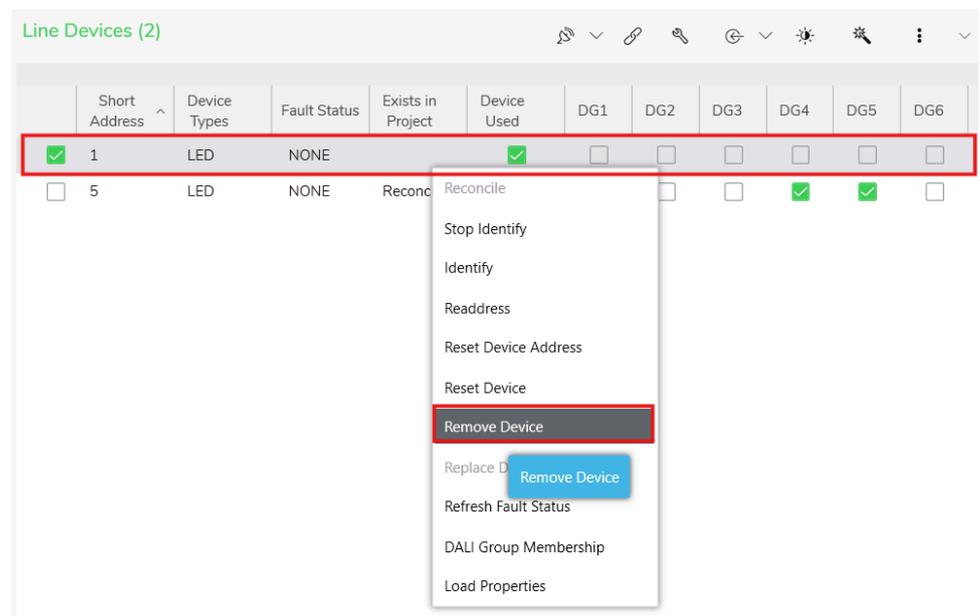
1. To sort the DALI devices in the live network, click **Sort** and then select an appropriate sort method.



## Remove Device

When the DALI faults are discovered, the faulted devices can either be removed or replaced.

1. To remove the faulted DALI device, select and right-click on the DALI device in **Line Devices** section, and then select **Remove Device** from available list of options.



**NOTE:** Perform DALI Device Type Scan or DALI Scan after removing the device(s).

## Replace Device

When the DALI faults are discovered, the faulted devices can either be removed or replaced with the new DALI devices which gets assigned with new short addresses.

1. To replace the faulted DALI device, select the DALI device in **Line Devices** section, right-click on it and then select **Replace Device** from the available list of options.

**NOTE:** Perform DALI Device Type Scan or DALI Scan after replacing device (s).

## To Extract DALI devices from Network to Project

**Prerequisites:** Ensure DALI-2 gateway device is already added to the network and DALI line is selected. A full DALI line scan has to be performed.

**TIP:** Reconciliation can also be done either by 50/50, page 94 process or by manually.

1. Scan the selected DALI line in the **Line Devices** section.
2. Select the DALI device that needs to be transferred from network to project.

**IMPORTANT:** If the DALI device is selected from the **Project** section, make sure the short address of the DALI device is same in both project and network. If not, readdress the device to match the same.

3. Click  in the **Line Devices** section.

### DALI Devices - DALI Address 2 Line A (5502CDGP230)

Devices in Project (4)

<input type="checkbox"/>	Object Id	Short Add... ^	Device Ty...	Name	Description	Exists ON...	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input type="checkbox"/>				DALI_ECG_D...	DALI 2 C...	Partial							
<input type="checkbox"/>	0	0	LED	DALI_ECG_D...	LED Type...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	1	1	LED	DALI_ECG_D...	LED Type...	Reconciled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	2	2	LED	DALI_ECG_D...	LED Type...	Reconciled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	3	3	EMERGE...	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	4	4	EMERGE...	DALI_ECG_D...	Emergen...		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Line Devices (2)

<input type="checkbox"/>	Short Address ^	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
<input type="checkbox"/>	0	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	2	LED	NONE	Reconciled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**NOTE:** Transferring all the DALI devices together from network to project can also be performed using **Extract All To Project** (🔄 drop-down) in the **Line Devices** section.

DALI Devices - DALI Address 2 Line A (5502CDGP230)

The screenshot shows two tables from a software interface. The top table, 'Devices in Project (4)', has columns: Object Id, Short Add..., Device Ty..., Name, Description, Exists ON..., Device Used, DG1, DG2, and DG3. The bottom table, 'Line Devices (2)', has columns: Short Address, Device Types, Fault Status, Exists in Project, Device Used, DG1, DG2, DG3, DG4, DG5, and DG6. In both tables, the 'Exists ON...' or 'Exists in Project' column contains the word 'Reconciled', which is highlighted with a red box.

Object Id	Short Add...	Device Ty...	Name	Description	Exists ON...	Device Used	DG1	DG2	DG3
			DALI_ECG_D...	DALI 2 C...	Reconciled				
0	0	LED	DALI_ECG_D...	LED Type...	Reconciled	✓	✓	✓	
1	1	LED	DALI_ECG_D...	LED Type...	Reconciled	✓			
2	2	LED	DALI_ECG_D...	LED Type...	Reconciled	✓		✓	
3	3	EMERGE...	DALI_ECG_D...	Emergen...		✓			
4	4	EMERGE...	DALI_ECG_D...	Emergen...		✓			

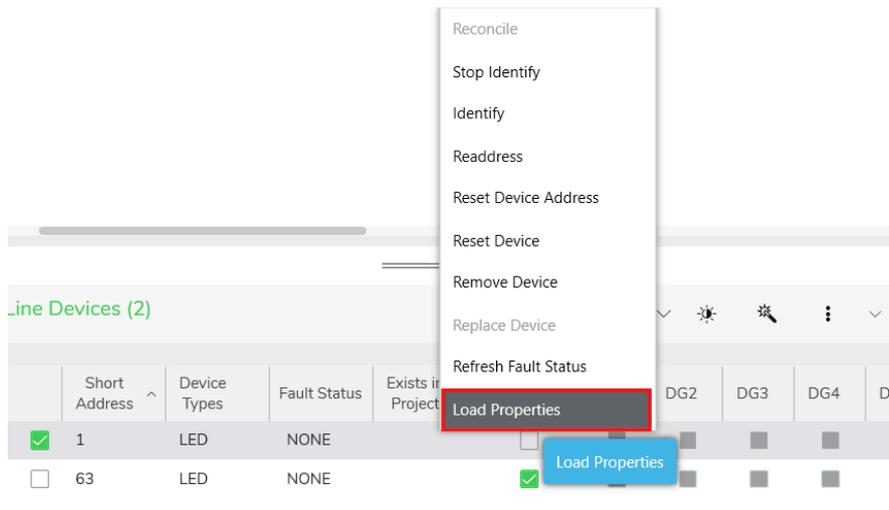
Short Address	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	DG5	DG6
0	LED	NONE	Reconciled	✓	✓	✓	✓	✓	✓	
2	LED	NONE	Reconciled	✓		✓	✓			✓

## Load Properties

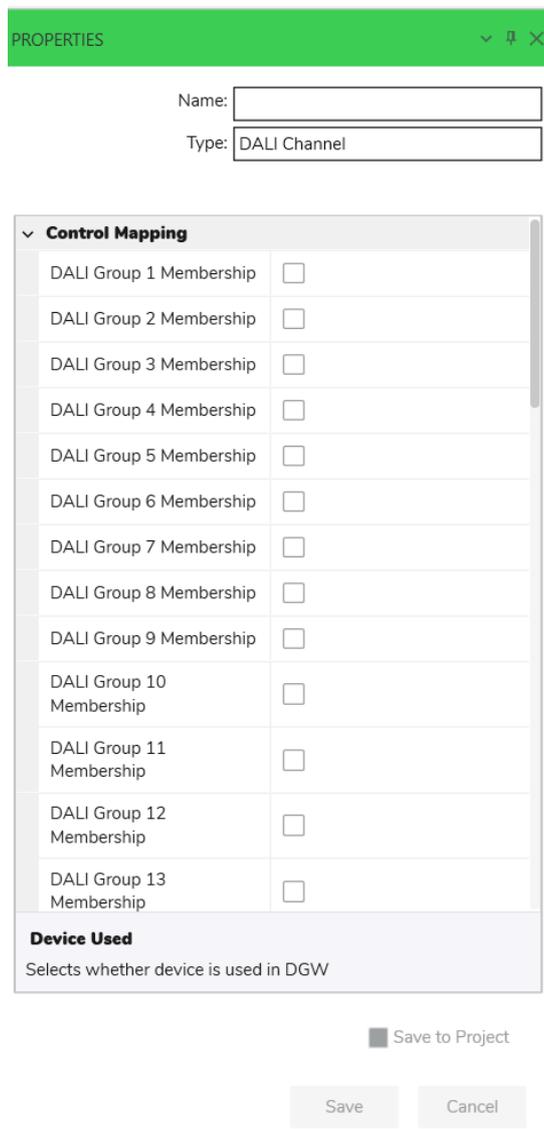
Commissioning DALI devices can be done by setting their properties.

1. Select the device in the **Line Devices** section.

- 2. Right-click on the device and then select **Load Properties** from the available list of options.



The properties of the selected device is displayed in the **PROPERTIES** window.



# Properties Window

This window displays C-Bus and DALI device properties where the name and type of the device can be updated. This also allows the user to configure different operational features for C-Bus and DALI devices added to each network.

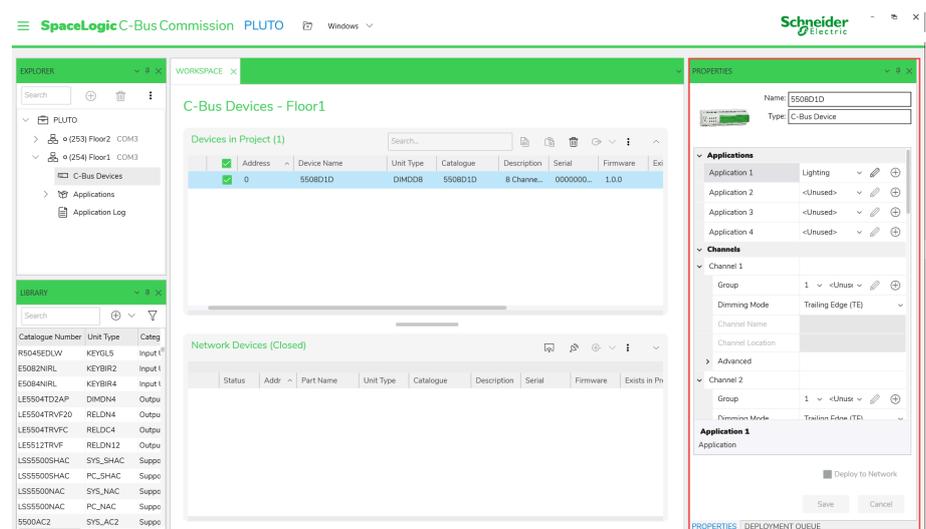
**TIP:** The properties of any units can also be loaded using **Load Properties in Network Device/Line Device (for DALI devices)** section of **WORKSPACE** window.

## To View/Edit C-Bus Device Properties

### Prerequisites:

- A project must be open in the SpaceLogic C-Bus Commission software. The C-Bus devices must already be added to a **Devices in Project** of a network.
  - This section displays the name and type of the C-Bus device. The name of the C-Bus device can be renamed and also allows you to configure different operational features for C-Bus devices added to each network.
1. Select a Network from the project.
  2. Click **C-Bus Devices** of a network.
  3. Select a C-Bus unit device from **Devices in Project**.

**Step result:** The selected C-Bus device properties are displayed in the **PROPERTIES** window.



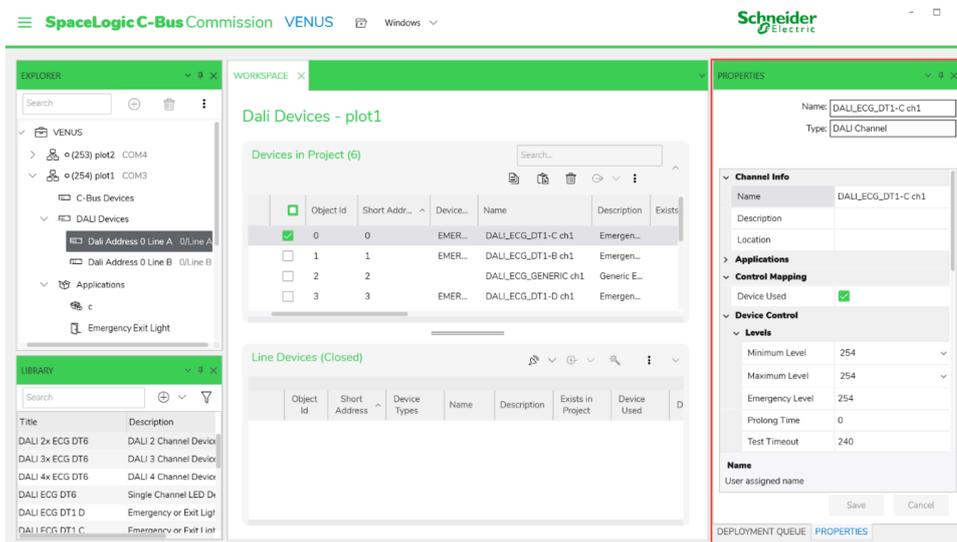
**NOTE:** The fields in the device properties can be modified as per the project requirement.

## To View/Edit DALI Device Properties

### Prerequisites:

- A project must be open in the SpaceLogic C-Bus Commission software. The DALI gateway and DALI device must already be added to a **Devices in Project** of a network (Adding DALI Gateway is similar to adding any C-Bus device).
- This section displays the name and type of the DALI device. The name of the DALI device can be renamed and also allows the user to configure different operational features for DALI devices added to a DALI line in each network.

1. Click DALI devices drop-down in the **EXPLORER** window.  
**NOTE:** DALI devices are visible only when DALI Gateway is added from **LIBRARY** window to **Devices in Project** of **WORKSPACE** window.
2. Choose a DALI line.
3. Select a DALI device from **Devices in Project** from **WORKSPACE** window.  
**Step result:** The selected C-Bus device properties are displayed in the **PROPERTIES** window.



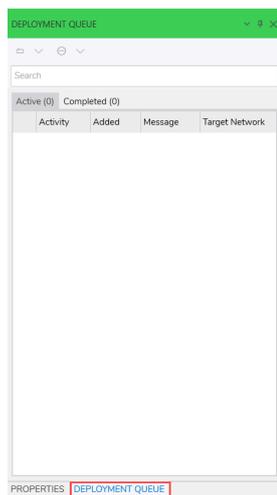
**NOTE:** The fields in the device properties can be modified as per the project requirement.

# Deployment Queue

The Deployment Queue displays the status of devices that are being extracted to *Devices in Project* and configured devices that are being deployed to the hardware. The devices can be identified in the physical device configuration.

**Prerequisites:** The network must already be created in project. *Devices in Project* must have been fully matched with *Network devices*.

The Deployment Queue allows reconciliation of the *Devices in the Project* and the network. The reconciled devices can then be deployed to the network. This Queue also allows searching for a device, by entering the device name, part number or description fully or partly in the search bar.



To Deploy any device once the configuring is completed, **Save** the settings and check *Deploy to Network*. or after saving the settings click on *Devices in Project* section.

To remove the *Deployed* devices based on Waiting, Failed, Completed Click drop-down.

The Deployment Queue consists of following tabs:

- **Active**  
This tab consists of devices that are currently active in deployment process.
- **Completed**  
This tab consists of devices that has finished the activity in deployment queue..

Field	Meaning
Activity	This field displays the activity of the unit device, whether the Unit device is being extracted or being deployed.
Added	Displays The time unit device was added to deployment queue.
Duration	Displays the time taken for the activity
Message	Displays the message whether the activity was failed, successful or Done.
Target Network	Displays the network through which the unit device was deployed.

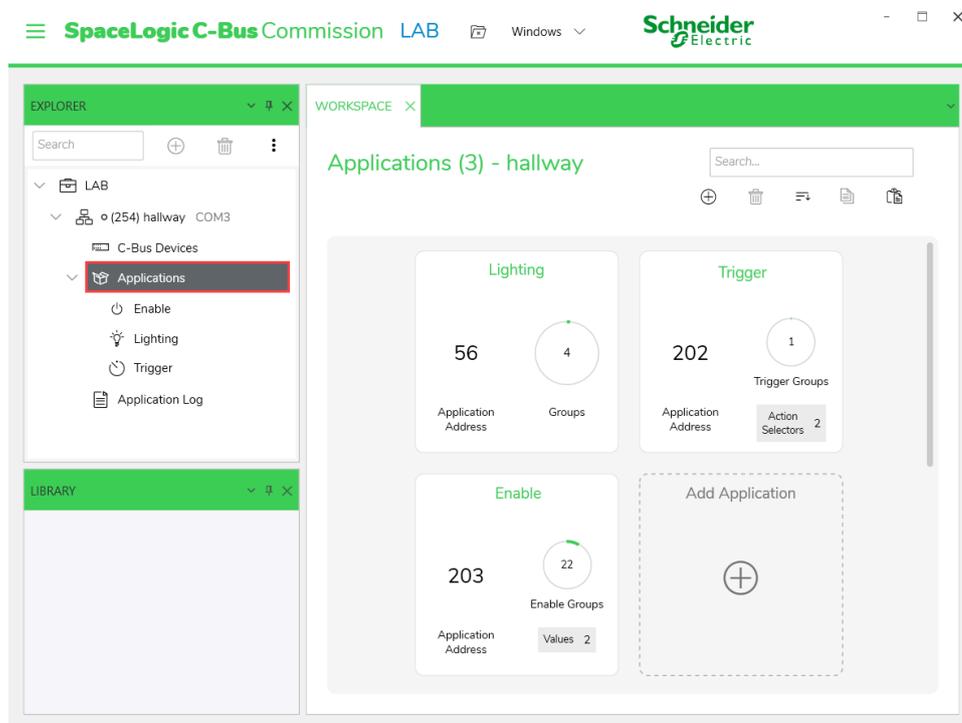
**IMPORTANT:** When Deployment activities are in progress performing following actions are not possible:

- Closing a network
- Switching between the projects
- Closing a project
- Exiting an application or software

# C-Bus Applications

The Application section window allows the management of the applications within a network. An application is used with a **Group Address** to define the relationship between devices. Example: which input(s) will control which output(s).

**NOTE:** C-Bus Application section is displayed in the **Workspace** window.



**NOTE:** Lighting, Trigger and Enable are the default applications added to all the networks in a project.

Application	Decimal	Hexadecimal
Lighting	56	38
Enable	203	CB
Trigger	202	CA
Error	206	CE
Measurement	228	E4
Emergency Exit Light	238	EE
Audio	205	CD
Media Transport	192	CO

Operations on C-Bus applications:

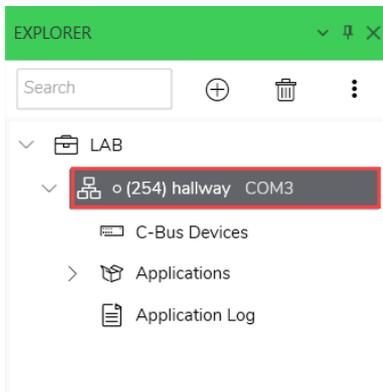
- Add application, page 121
- View application content, page 122
- Edit application, page 123
- Copy-paste application, page 124
- Search application, page 125
- Sort applications, page 126
- Delete application, page 126

# Add Applications

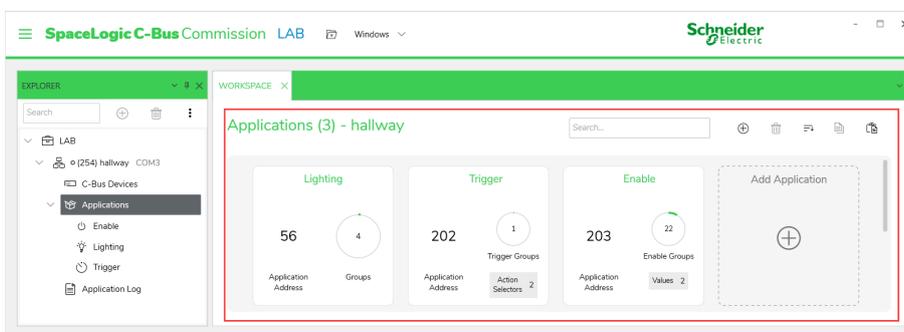
The *Applications* section allows the user to add an application to a network.

**Prerequisites:** A network must already be created in a network .

1. Select a network from the **Explorer** window



2. Click  Applications



**Step result:** The Application section is displayed in the **Workspace** window.

3. Click  Add Applications in the **Workspace** window

## 4. Fill in the Mandatory fields

**Add Application** [X]

Address: 48 [v]

Name: **Morning**  
(1 to 32 characters)

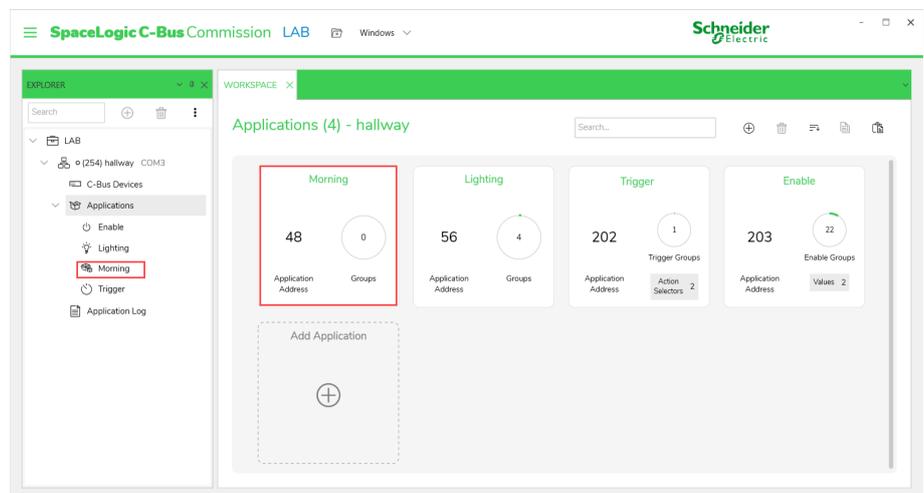
Description:

\* Required fields

[Create] [Cancel]

Click **Create**

An Application is created Successfully.

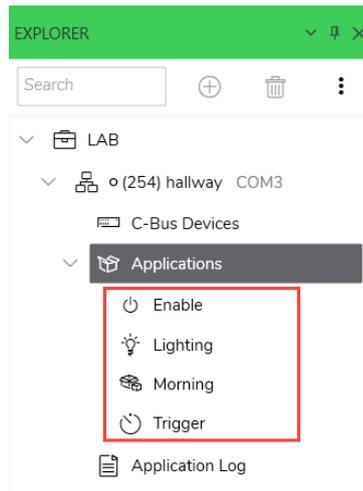


## View content of an Application

**Prerequisites:** A network must already be created in a network and application must be existing.

1. Select a network in the **EXPLORER** window.

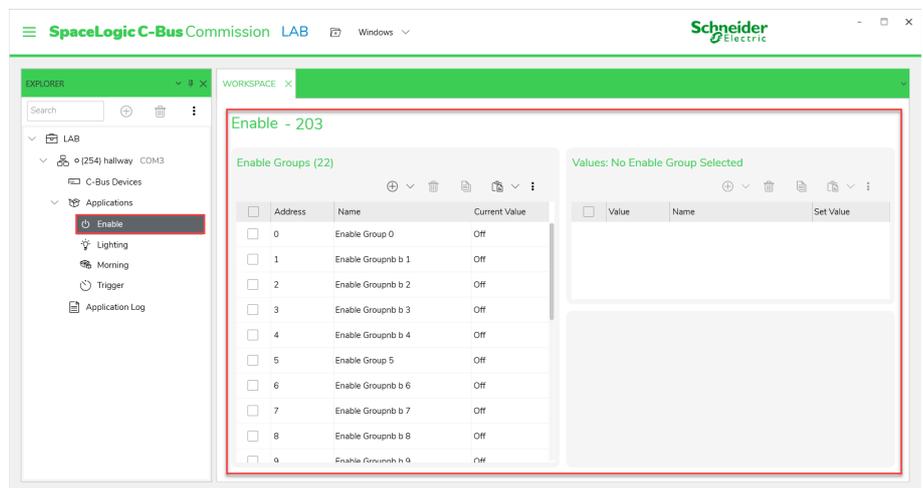
2. Click  drop-down.



All the applications in the network are displayed.

**NOTE:** By default Lighting, Enable and Trigger applications are listed.

3. Select the application to view content



The content of the **Applications** is displayed.

## Edit Application

**Prerequisites:** A network must already be created in a network and application must be existing.

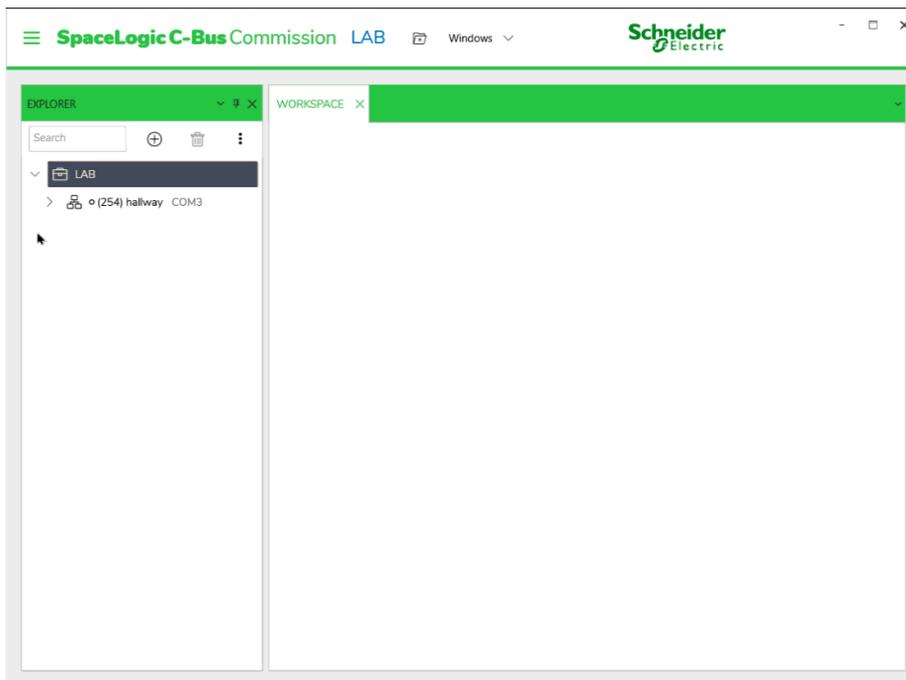
The edit application feature allows the user to modify the description of the application.

1. Select a network in the **EXPLORER** window.
2. Select an **Application**.

**NOTE:**

- The default applications cannot be edited.
- Only Name and Description of an application can be modified.

3. The process to edit an application is demonstrated below:



The application is modified.

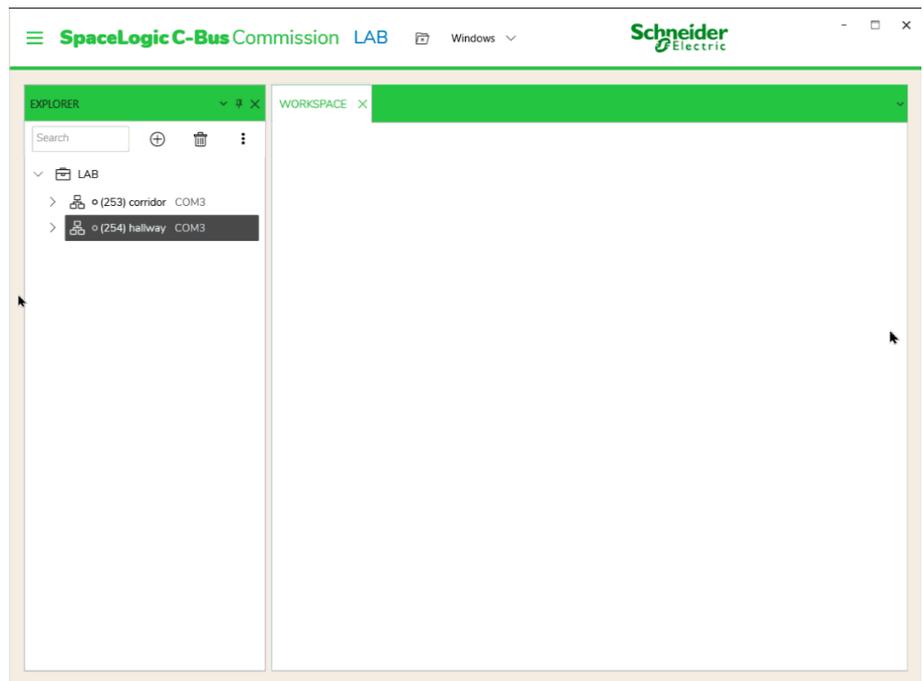
## Copy and Paste an Application

The SpaceLogic C-Bus Commission software allows the user to copy and paste the contents of an application from one network to another.

**Prerequisites:** A network must already be created in a network and an application must already be added in a network.

1. Select a network from the **EXPLORER** window (a network from which an application has to be copied).
2. Click . The process to copy and paste an application is demonstrated below:

3.



The content of the application is copied from one network and pasted in another network.

**NOTE:** Performing paste operations on reserved applications and modifying their names are not allowed. Attempting the function will display the **Resolve Conflict** window, where neither the address nor the name can be modified.

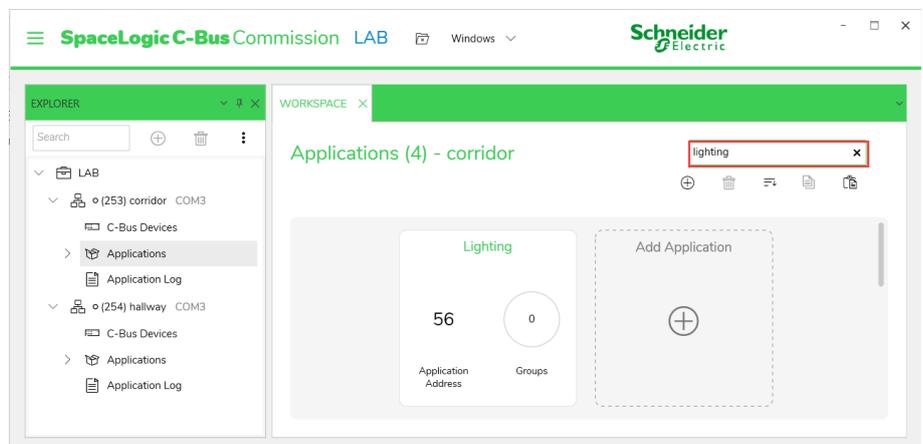
## Search an Application

The application section allows the user to search for an application or contents inside the application

**Prerequisites:** A network must already be created in a network and application must be existing.

1. Select a network in the **Explorer** window
2. Enter the application name in the search bar

**NOTE:** This feature can also be used to search group addresses inside an application.



If the search word includes the application name then the resulting applications that match will be displayed. If the search word includes a group address name then the resulting applications where that group address name exists will be displayed.

## Sort Applications

**Prerequisites:** A network must already be created in the project and more than one application must be existing in a network.

The existing applications can be sorted using 

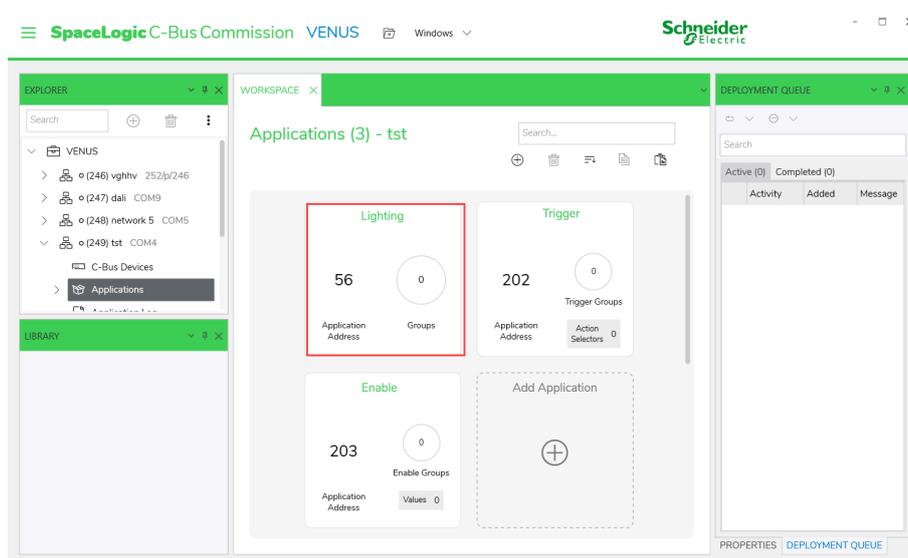
Choose an appropriate option.

## Delete an Application

The SpaceLogic C-Bus Commission software allows the user to delete an application in the network.

**Prerequisites:** A network must already be created in a network and application must be existing.

1. Select a network from the **Explorer** window
2. Click  Applications
3. Select an application from the **workspace** window to be deleted in the network



4. Click 

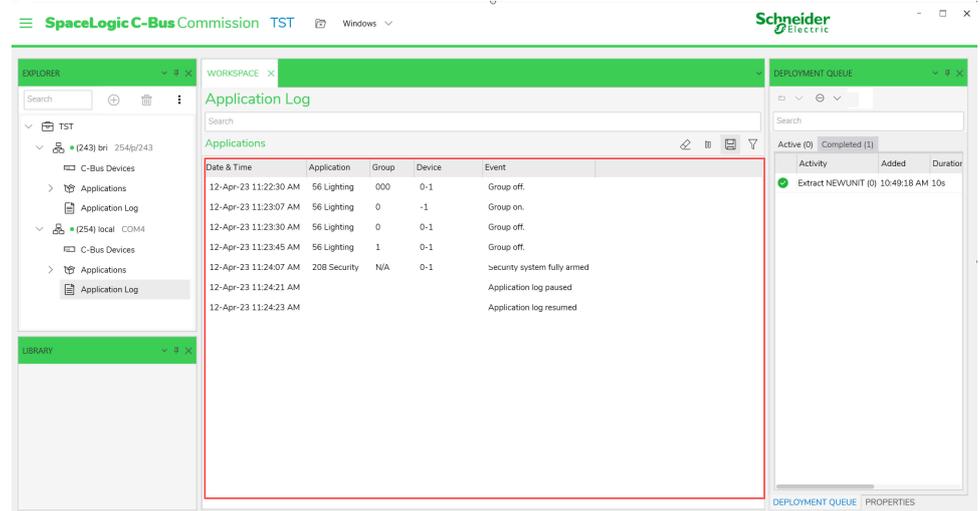
The application is deleted from the network.

# Application Log

**Prerequisites:** The network must already be created.

Application Log displays the communications performed in an open network. This window also allows searching for a device, by entering the device name, part number or description fully or partly in the search bar.

When a network is being used, applications and their devices generate log events which are displayed in the **Application Log**.



Fields	Description
Date & Time	This field refers to the date and time for the log entry.
Application	This field refers to the application type of the log.
Group	This field specifies the address of the application group that has generated the log entry.
Device	This field provides information about the unit that issued the message.
Event	This field provides information about the status or event which the entry is logging. The event information varies with the type of application.

Operation performed on application log:

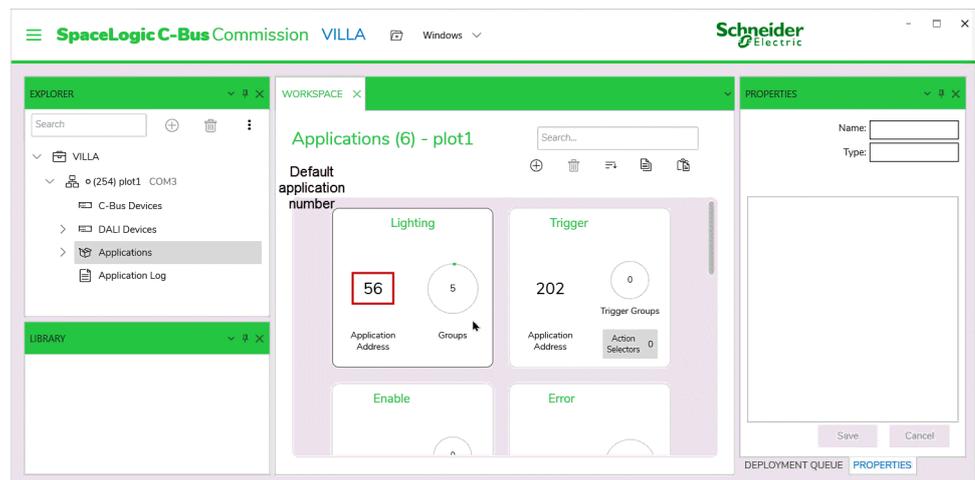
- Search Bar- Keyword search for the existing log entries..
- - Filter by application, group and device addresses.
- - Save the application log.
- - Pause/Play the application log.
- - Erase the application log events.

# Lighting Application

The lighting applications are responsible for controlling electrical loads for a wide range of automation operations.

The Lighting application contains functions for editing the application and related lighting compatible groups. Each of the Group and Level entries contains information in the fields.

When a network is created in project, the **Lighting** application is created by default with an application number 56 and ranges from 48 to 127 (applicable while creating new lighting application).



For more details, click:

- Groups, page 128
- Levels, page 133

## Groups

A Group Address is used to make associations between the key of an **Input Unit** and the channel of an **Output Unit**. They are assigned to output and input units to commission the devices for controlling the same object.

### NOTE:

- A number of C-Bus Output Unit channels can be controlled by a single key on a C-Bus switch (with the same Group Address).
- A number of keys on different Input Units can control the same load, by giving them all the same Group Address.

There are 255 Group Addresses (0 to 254) in an Application Address. SpaceLogic C-Bus allows the creation up to 255 different Group Addresses on each Application Address.

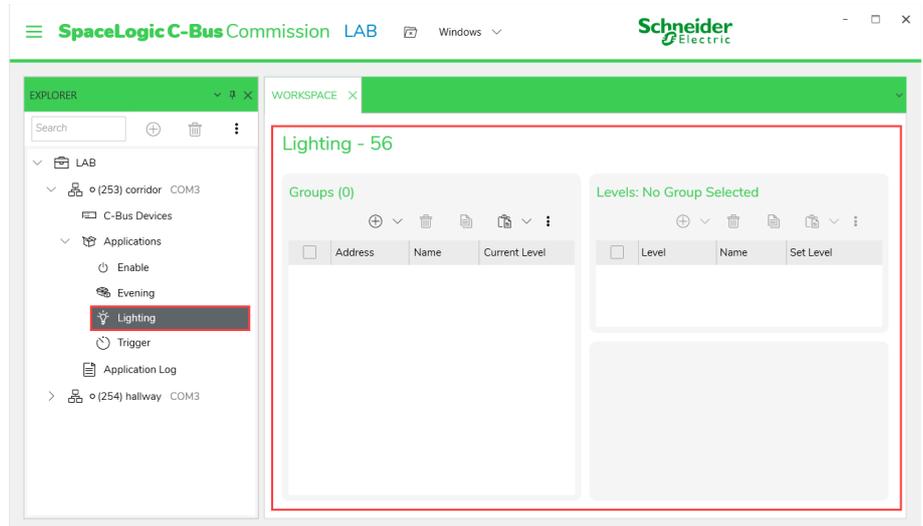
Operations performed on groups:

- Add groups, page 129
- Edit groups, page 132
- Copy groups, page 130
- Paste groups, page 130
- Sort groups, page 132
- Delete groups, page 133

## Add Groups

**Prerequisites:** The network must already be created in a project.

1. Select a network from the **Explorer** window
2. Click  Applications drop-down
3. Select *Lighting*

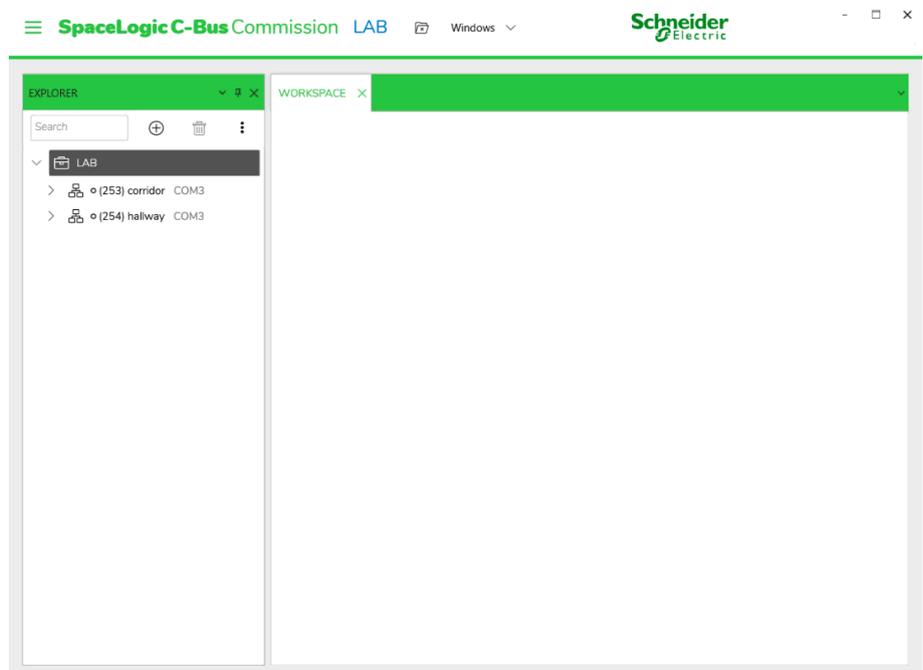


**Step result:** Respective Groups and levels section of Lighting is displayed in the **Workspace** window.

4. Click  in the Groups section.
5. Choose address

**Step result:** A Group is created.

**TIP:** Multiple groups can be created at a time as demonstrated below:



## Copy Groups

The Group Addresses in an application can be aligned/arranged with same addresses as in the other application.

**Pre requisites:** The Group Addresses must already be added in an application.

In a multi-network project the Group Addresses of an application on a network can communicate with Group addresses of an application on other network via a C-Bus bridge.

1. Click *Lighting* application.
2. Select the group check box to be copied in the *Groups* section .

**NOTE:**

- A single group can be chosen by selecting the check box of the required group, whereas all groups can be chosen by selecting the check box on the top.
- The copy  option will be disabled, if a group is not selected.

3. Click  in the *Groups* section of lighting application.

**NOTE:** To copy the complete application, click  in the application section.

**Step result:** The selected Group Addresses are copied.

## Paste Group

**Prerequisites:** The Group Address must be copied from an application to another network or to the same network.

The application Group Addresses copied from one network can be pasted to an another application in different network. The complete application copied from one network can also be pasted to an another network.

**NOTE:** The lighting application Group Address copied from one network can be pasted into the lighting application on another network only.

1. Open the **Groups** section of Lighting application.

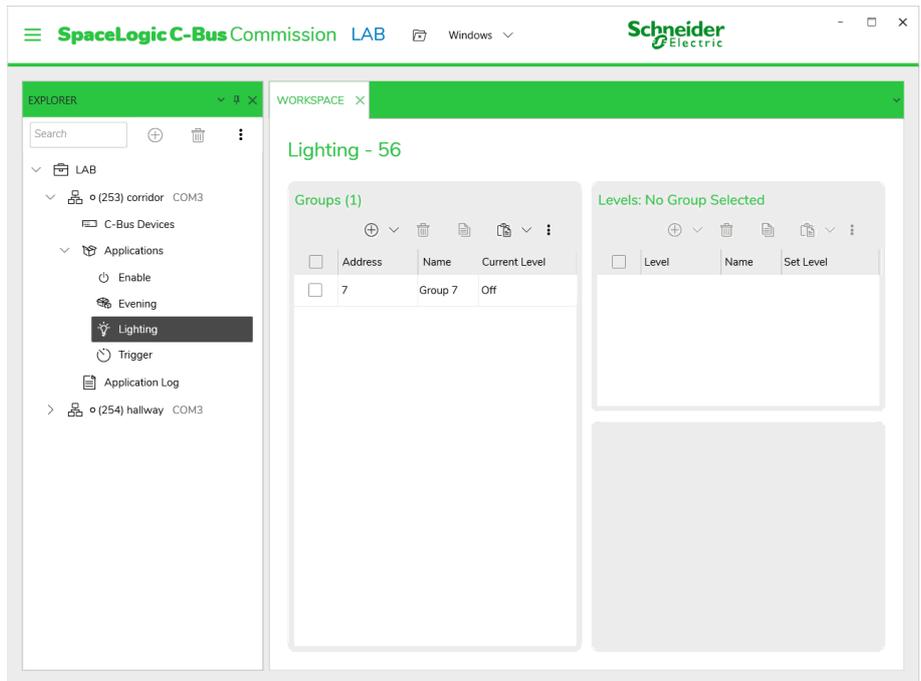
**NOTE:** Paste the Group Address in lighting application of an another network.

2. Click  in the **Group** section of a lighting application.

Groups (1)

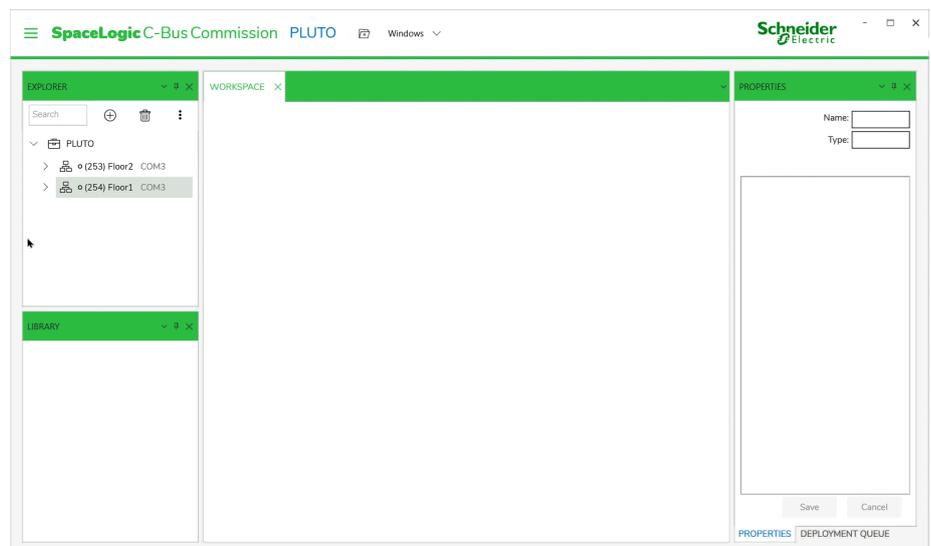
<input type="checkbox"/>	Address	Name	Current Level
<input type="checkbox"/>	7	Group 7	Off

**NOTE:** The process to Paste the **Group Address** from excel is as demonstrated below:



**IMPORTANT:** Paste conflict occurs when already existing group name and group address are been pasted.

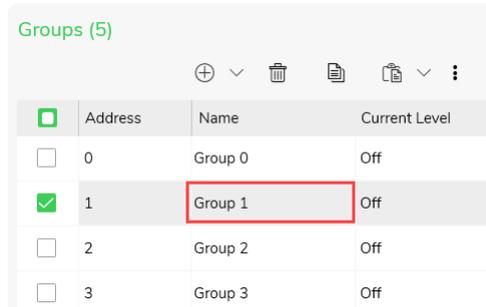
The process to **Resolve conflict** is as demonstrated below:



## Edit Groups

**Prerequisites:** Make sure you have selected *Lighting* application and group has been created.

1. Double-click on the group name that has to be edited/renamed



<input type="checkbox"/>	Address	Name	Current Level
<input type="checkbox"/>	0	Group 0	Off
<input checked="" type="checkbox"/>	1	Group 1	Off
<input type="checkbox"/>	2	Group 2	Off
<input type="checkbox"/>	3	Group 3	Off

**Step result:** Edit Group Dialog box is displayed.

2. Edit the Group name and click OK

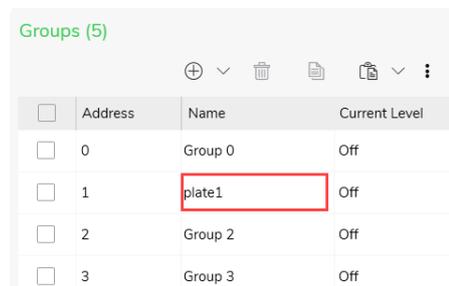


Group Address\* 1

Group Name\* plate1

\* Required fields

**NOTE:** Special characters except /, ", # and maximum of 32 characters in the group name is acceptable.



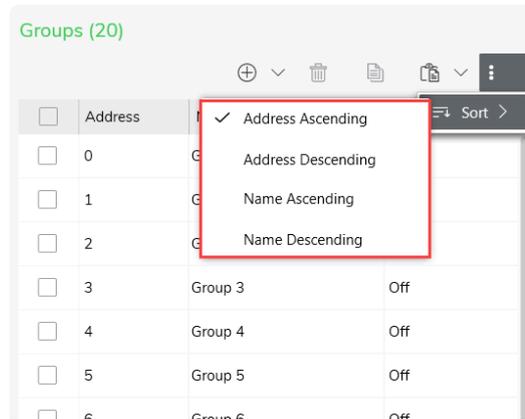
<input type="checkbox"/>	Address	Name	Current Level
<input type="checkbox"/>	0	Group 0	Off
<input type="checkbox"/>	1	plate1	Off
<input type="checkbox"/>	2	Group 2	Off
<input type="checkbox"/>	3	Group 3	Off

**Step result:** The Group name is updated.

## Sort Groups

**Prerequisites:** The groups must already been created in Lighting application.

The existing Groups in application can be sorted using  in the group section of lighting application.



Choose appropriate sort method.

## Delete Groups

The delete option allows the user to delete one or more *Group Addresses* from a Lighting application.

**Prerequisites:** The Groups must already be created in *Lighting* application.

1. Select the *Groups* check box

**NOTE:** One or more *Group Addresses* can be selected

2. Click  in the groups section
3. Confirm **Yes** in the **Confirmation** dialog box.

## Levels

The *Level* is the value of the *Group Address* network variable.

Every *Group Address* has 256 steps between OFF (0 and 0%) and ON (255 and 100%). These 256 steps are referred to as Levels.

Levels are referred differently in different *C-Bus Applications*.

When the *Group Address* is on the *Trigger Application* or *Enable Application*, the 256 steps in a *Group Address* are referred to as *Action Selectors* and *Values* respectively.

*Levels* and *Action Selectors* are most commonly used to trigger an event like a scene.

Operations performed on Levels are:

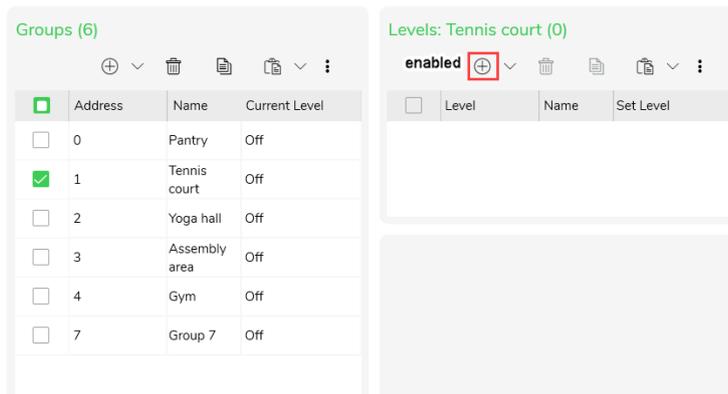
- Add levels, page 133
- Copy levels, page 135
- Paste levels, page 135
- Edit levels, page 137
- Sort levels, page 137
- Delete levels, page 138

## Add Levels

**Prerequisites:** The *Group* must already be created/added in the lighting application

1. Select a *Group* in the group section

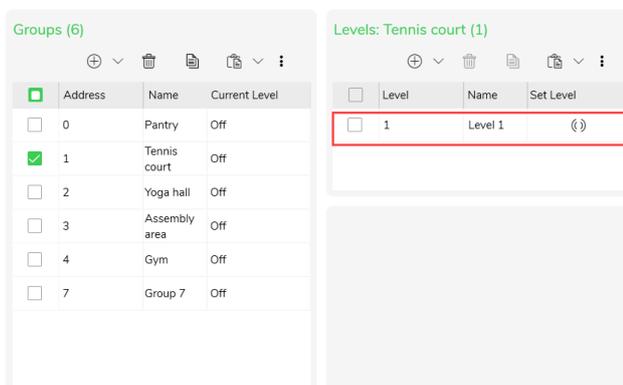
Lighting - 56



**NOTE:** If a group is not selected, the  $\oplus$  will be disabled.

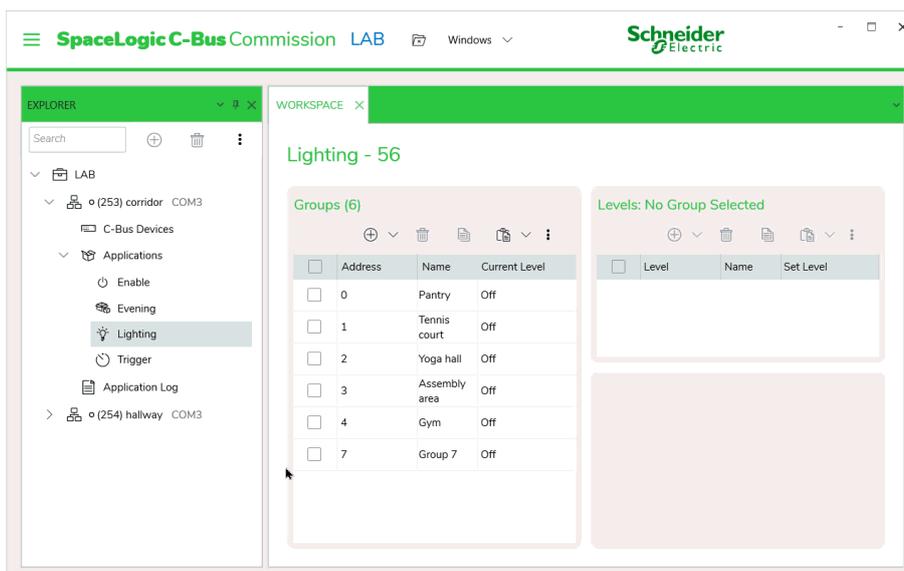
2. Click  $\oplus$  in Levels section

Lighting - 56



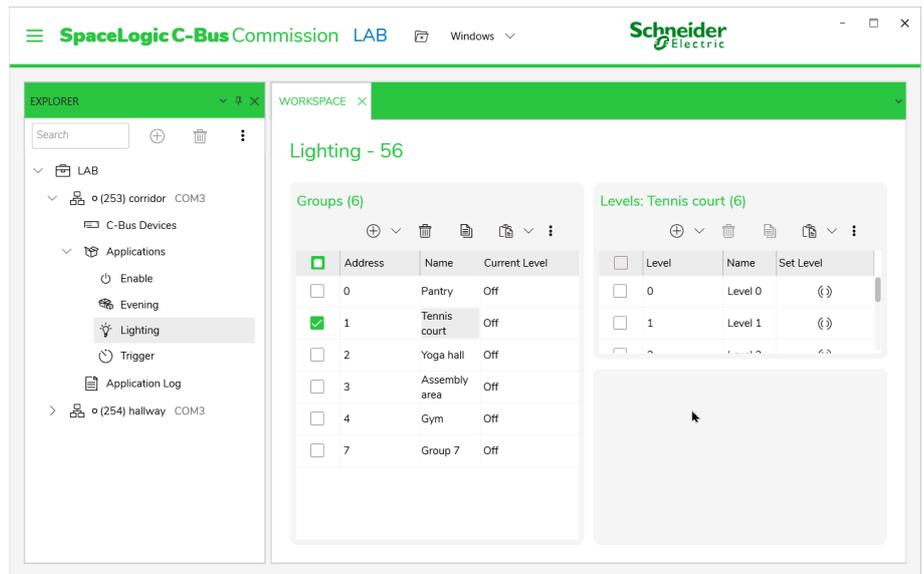
**Step result:** Single Level is added for a selected group.

3. The steps to Add Multiple Levels for a single group at a time is as demonstrated below:



**Step result:** Multiple Levels are created.

4. Level Name can be edited as demonstrated below:



**Step result:** Level Name is updated.

## Copy Levels

**Prerequisites:** The *Levels* must already be added in a *Group*.

The levels created in a group can be copied from the other group in the same lighting application on same network or from the lighting application from different network in the project.

1. Select the group

**Step result:** The *Levels* in the selected *Group* are displayed.

2. Select the required levels and click  of *Levels* section.

**Step result:** The selected levels are copied.

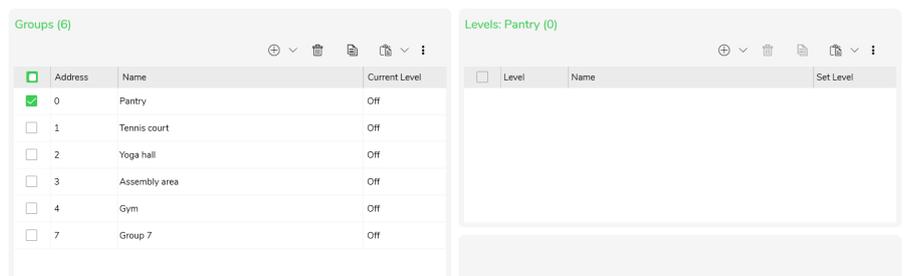
## Paste Levels

**Prerequisites:** The *Levels* must already be copied from a selected *Group*.

The Paste Level option allows the user to paste the Levels copied from one group into different group on the same network or into a *Group* on another network.

1. Select the *Group* in the group section of the network to be pasted in

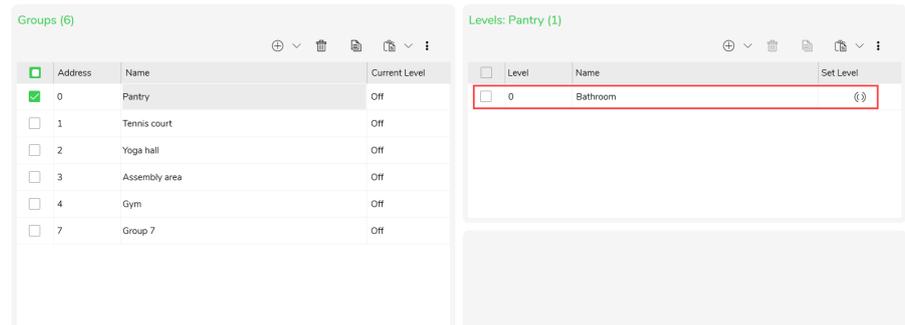
Lighting - 56



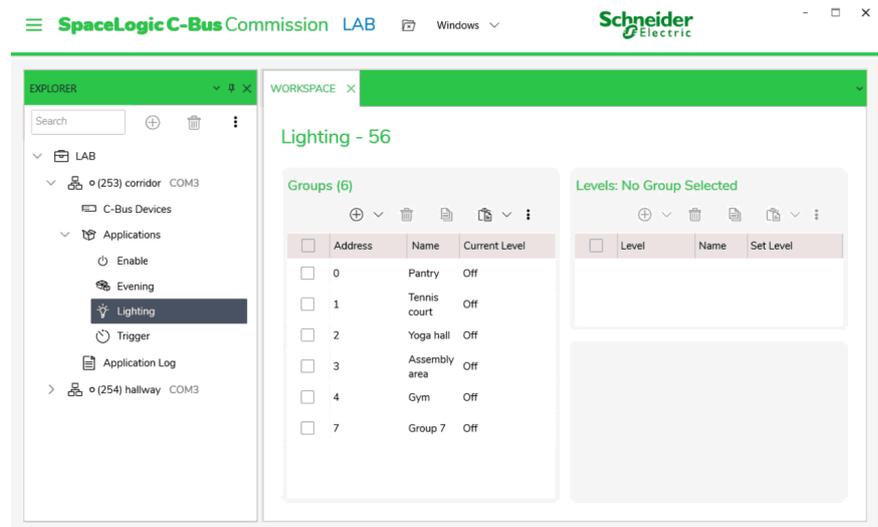
**NOTE:** **Levels** can either be pasted on same network or into a **Group** on another network.

2. Click  in the **Levels** section.

Lighting - 56



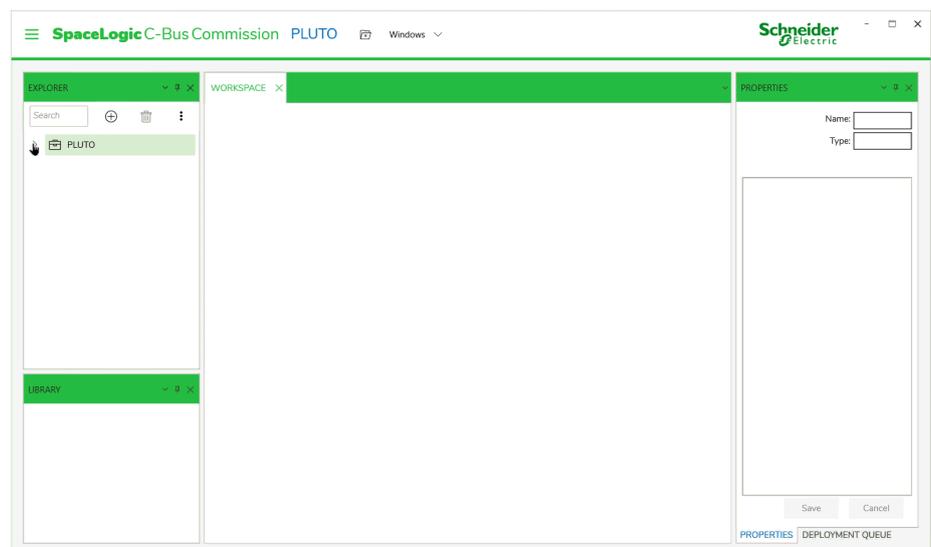
**NOTE:** The Process to Paste **Levels** from Excel is as demonstrated below:



**Step result:** The copied **Levels** are pasted.

**IMPORTANT:** Paste conflict occurs when already existing level name and level address are been pasted in lighting application of another network.

The process to **Resolve conflict** is as demonstrated below:



## Edit Levels

**Prerequisites:** The Levels must already be existing in the selected group of Lighting application.

1. Double-click on the level name that has to be edited/renamed

Level	Name	Set Level
0	Level 0	(↻)
1	Level 1	(↻)
2	Level 2	(↻)
3	Level 3	(↻)

**Step result:** Edit Group Dialog box is displayed.

2. Edit the Level name and click OK.

Level Address\* 0

Level Name\* room1

\* Required fields

OK Cancel

**NOTE:** Special characters except /, ", # and maximum of 32 characters in the group name is acceptable.

Level	Name	Set Level
0	room1	(↻)
1	Level 1	(↻)
2	Level 2	(↻)
3	Level 3	(↻)

**Step result:** The level name is updated.

## Sort Levels

**Prerequisites:** The created Group has to be selected in the Lighting application.

The existing Levels in application can be sorted using in the level section of lighting application.

Level	Name	Set Level
0	Level 0	(↻)
1	Level 1	(↻)
2	Level 2	(↻)
3	Level 3	(↻)

Sort >

- ✓ Level Ascending
- Level Descending
- Name Ascending
- Name Descending

Choose appropriate sort method.

## Delete Levels

The delete option allows the user to delete one or more levels added to a group address.

**Prerequisites:** The *Levels* must already be added in the *Group Address*.

1. Select a group address in *Groups* section

**NOTE:**  in *Levels* section will be disabled.

2. Select the *Levels* to be deleted and click  in the *Levels* section.
3. Confirm **Yes** in the **Confirmation** dialog box.

**Step result:** The selected levels are deleted.

# Trigger Application

The Trigger application is widely used across C-Bus to trigger actions or events such as C-Bus lighting scenes or to start an irrigation program.

The Trigger application contains functions for editing the application and related trigger compatible trigger groups. Each of the Trigger Group and Action selector entry contains information in the fields.

When a network is created in project, the *Trigger* application is created by default with an application number 202.

The *Trigger* application is widely used across C-Bus to trigger actions or events such as C-Bus lighting scenes or to start an irrigation program.

The Trigger application is viewed similar to lighting application, [click here](#)

For more details, click:

- [Trigger group, page 139](#)
- [Action selector, page 142](#)

## Trigger groups

A Trigger application within a network has 0 through 254 Trigger Groups available for C-Bus programming.

There are 255 Group Addresses (0 to 254) in an Application Address. SpaceLogic C-Bus allows the creation up to 255 different Group Addresses on each Application Address

Operations performed on Trigger groups:

- [Add Trigger group, page 139](#)
- [Copy Trigger group, page 140](#)
- [Paste Trigger group, page 141](#)
- [Edit Trigger group, page 141](#)
- [Sort Trigger group, page 141](#)
- [Delete Trigger group, page 142](#)

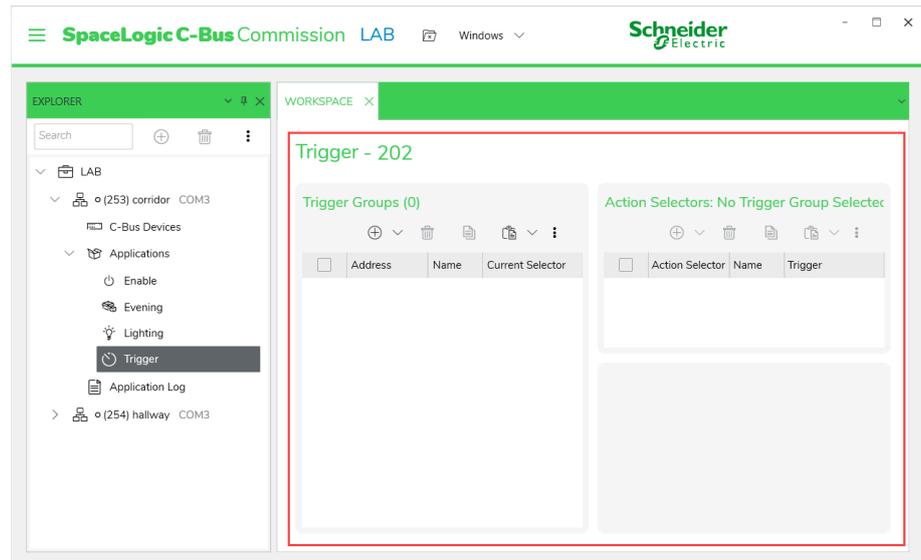
## Add Trigger Groups

The C-Bus Application section allows the user to add Trigger Groups to an Trigger Application.

**Prerequisites:** The Trigger application must be selected in a created network.

1. Select a network from the **Explorer** window
2. Click  Applications drop down

### 3. Select *Trigger*



**Step result:** Respective *Trigger Groups* and *Action Selectors* section of *Trigger* is displayed in the **Workspace** window.

4. Click  in the *Trigger Groups* section
5. Choose address

**Step result:** A Group is created.

The process to create multiple trigger groups at a time is similar to as demonstrated in lighting application, [click here](#)

## Copy Trigger Groups

In a multi-network project the *Trigger Group Addresses* of an *Trigger* application on a network can communicate with *Trigger Group addresses* of a *Trigger* application on another network via C-Bus bridge.

**Prerequisites:** The *Trigger Group Address* must be already created in an application.

The *Trigger Group Addresses* in the *Trigger* application can be aligned/arranged with same addresses as in the other *Trigger* application.

1. Click *Trigger* application
2. Select the group check box to be copied in the *Trigger Groups* section

**NOTE:**

- A single group can be chosen by selecting the check box of the required group, whereas all groups can be chosen by selecting the check box on the top.
- The copy  option will be disabled, if a group is not selected.

3. Click  in the *Trigger Groups* section of *Trigger* application

**NOTE:** To copy the complete application, click  in the application section.

**Step result:** The selected trigger groups are copied.

## Paste Trigger Groups

The *Trigger* application *Group Addresses* copied from one network are pasted either into another *Trigger* application in same network or in a different network.

**Prerequisites:** The Trigger Group Address must be already copied from an application.

**NOTE:** The *Trigger* application *Group Address* copied from one network must be pasted only into the trigger application on another network.

1. Select the *Trigger Groups* in the *Trigger* application of the network to be pasted in.
2. Click  in the *Trigger Group* section.

**NOTE:** The process to Paste the *Trigger Groups* from excel is similar to as demonstrated in lighting application, [click here](#)

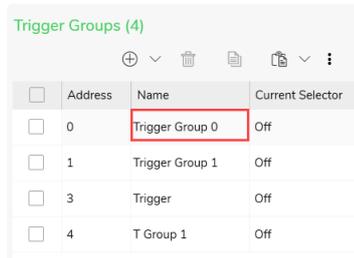
**IMPORTANT:** Paste conflict occurs when already existing trigger group address and group name are been pasted in trigger application of another network.

The process to **Resolve conflict** is similar to as demonstrated in lighting application, [click here](#)

## Edit Trigger Group

**Prerequisites:** Make sure you have selected *Trigger* application and trigger groups has been created.

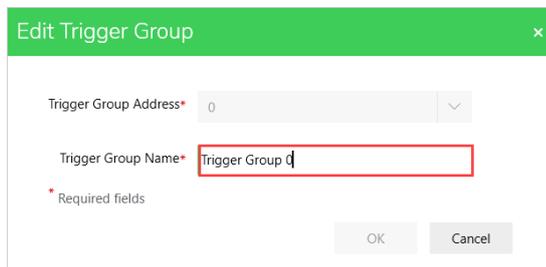
1. Double-click on the trigger group name that has to be edited/renamed



Trigger Groups (4)			
	Address	Name	Current Selector
<input type="checkbox"/>	0	Trigger Group 0	Off
<input type="checkbox"/>	1	Trigger Group 1	Off
<input type="checkbox"/>	3	Trigger	Off
<input type="checkbox"/>	4	T Group 1	Off

**Step result:** Edit Group Dialog box is displayed.

2. Edit the Trigger Group name and click OK



Trigger Group Address\* 0

Trigger Group Name\* Trigger Group 0

\* Required fields

OK Cancel

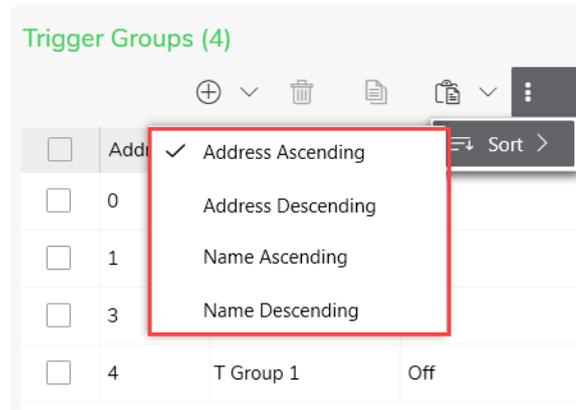
**NOTE:** Special characters /, ", # and maximum of 32 characters in the trigger group name are valid.

**Step result:** The Trigger group name is updated.

## Sort Trigger Groups

**Prerequisites:** The *Trigger Group Addresses* must already been created in *Trigger* application.

The existing Groups in application can be sorted using  in the trigger group section of Trigger application.



Choose appropriate sort method.

## Delete Trigger Groups

The Delete function allows the user to delete one or more *Group Addresses* from a *Trigger* application.

**Prerequisites:** The Trigger Group Address must already be created in the *Trigger* application.

1. Select the trigger groups check box

**NOTE:** One or more group addresses can be selected.

2. Click  in the *Groups* section

3. Confirm **Yes** in the **Confirmation** dialog box

**NOTE:** Trying to Delete the Trigger group with existing Action selector, displays a **Confirmation** dialog box to confirm the deletion of existing *Action selectors*.

## Action Selectors

Associated with each Trigger Group is an Action Selector which is used to select an action to perform. Setting a Trigger Group to a particular action selector can be used to trigger a scene.

The number of action selectors allowed is 256 (0 to 255).

Operation performed on Action Selectors are:

- Add Action selector, page 142
- Copy Action selector, page 143
- Paste Action selector, page 143
- Edit Action selector, page 144
- Sort Action selector, page 145
- Delete Action selector, page 145

## Add Action Selectors

The *Action Selector* is the value of the *Trigger Group* address.

**Prerequisites:** The Trigger Group must already be added in the application.

Each Trigger Group Address can create a maximum of 256 (0 to 255).

1. Select a trigger group in the *Trigger Group* section

<input checked="" type="checkbox"/>	Address	Name	Current Selector
<input checked="" type="checkbox"/>	0	flat1	Off
<input type="checkbox"/>	1	Trigger Group 1	Off
<input type="checkbox"/>	3	Trigger	Off
<input type="checkbox"/>	4	T Group 1	Off

<input type="checkbox"/>	Action Selector	Name	Trigger
<input type="checkbox"/>			

**NOTE:** If a group is not selected, the  $\oplus$  will be disabled.

2. Click  $\oplus$  in *Action Selector* section

<input checked="" type="checkbox"/>	Address	Name	Current Selector
<input checked="" type="checkbox"/>	0	flat1	Off
<input type="checkbox"/>	1	Trigger Group 1	Off
<input type="checkbox"/>	3	Trigger	Off
<input type="checkbox"/>	4	T Group 1	Off

<input type="checkbox"/>	Action Selector	Name	Trigger
<input type="checkbox"/>	0	Action Selector 0	(0)

**Step result:** Single Level is added for a selected group.

3. The steps to Add Multiple Action Selectors for a single Trigger group at a time is similar to as demonstrated in lighting application, [Step 3click here, page 134](#)

## Copy Action Selectors

The *Action Selectors* created in a group can be copied to another Trigger group in the same Trigger application on same network or from the *Trigger* application from a different network in the project.

**Prerequisites:** The *Action Selector* must already be copied from a *Trigger Group*.

1. Select the trigger group

**Step result:** The *Action Selectors* in the selected *Group* are displayed.

2. Select the required action selectors and click  in *Action selector* section.

**Step result:** The selected action selectors are copied.

## Paste Action Selectors

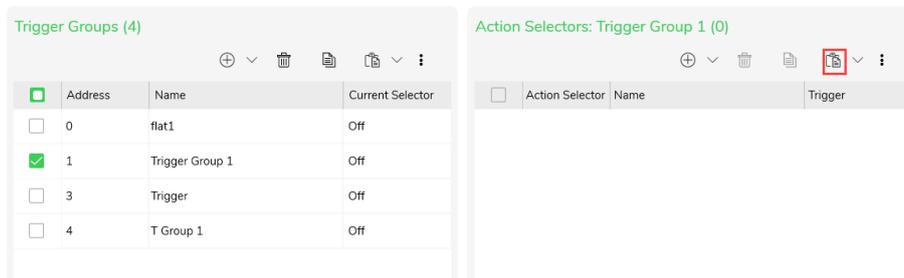
The paste option allows the user to paste the *Action Selectors* copied from one Trigger group into a different Trigger group on the same network or into a *Trigger Group* on another network, or in another project.

**Prerequisites:** The *Action selectors* must already be copied from a *Trigger Group*.

1. Select a trigger group in *Trigger groups* section.

**NOTE:** *Action selectors* can either be pasted on same network or into a *Trigger Group* on another network/project.

2. Click  in the *Action selectors* section.



**NOTE:** The Process to Paste *Action selectors* from Excel is similar to as demonstrated in lighting application, [click here](#)

**Step result:** The copied *Action selectors* are pasted.

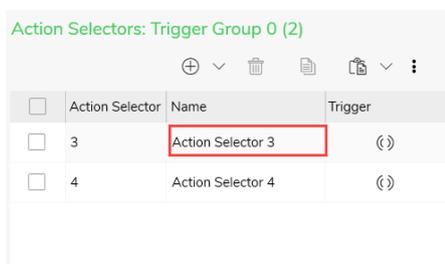
**IMPORTANT:** Paste conflict occurs when already existing Action selector name and Action selector address are been pasted in Trigger application.

The process to **Resolve conflict** is similar to as demonstrated in lighting application, [click here](#)

## Edit Action Selector

**Prerequisites:** The *Action selectors* must already be existing in the selected Trigger group of *Trigger* application.

1. Double-click on the Action selector I name that has to be edited/renamed



**Step result:** Edit Trigger Group dialog box is displayed.

2. Edit the *Action selector* name and click OK.

**NOTE:** Special characters /, ", # and maximum of 32 characters in the Action selector name is valid.

Action Selector	Name	Trigger
3	Selector 3	(i)
4	Action Selector 4	(i)

**Step result:** The *Action selector* name is updated.

## Sort Action Selectors

**Prerequisites:** The *Action selectors* must already be created in a selected *Trigger group* address.

The existing *Action selectors* in application can be sorted using  in the *Action selectors* section of *Trigger* application.

Action Selector	Name	Trigger
4		(i)
25		(i)
37		(i)

Choose appropriate sort method.

## Delete Action Selectors

The Delete option allows the user to delete one or more *Action Selectors* added to a *Trigger group* address.

**Prerequisites:** The *Action selectors* must already be created in a selected *Trigger group Address*.

1. Select a trigger group address

**NOTE:** When trigger group is selected,  will be disabled.

2. Choose the *Action Selector* to be deleted
3. Click  in the *Action Selectors* section

4. Confirm **Yes** in the **Confirmation** dialog box

**Step result:** The selected *Action selectors* are deleted.

# Enable Application

When a network is created in project, the *Enable* application is created by default with an application number 203.

The Enable application is viewed similar to lighting application, [click here](#)

For more details, click:

- [Enable group](#), page 147
- [Values](#), page 150

## Enable Group

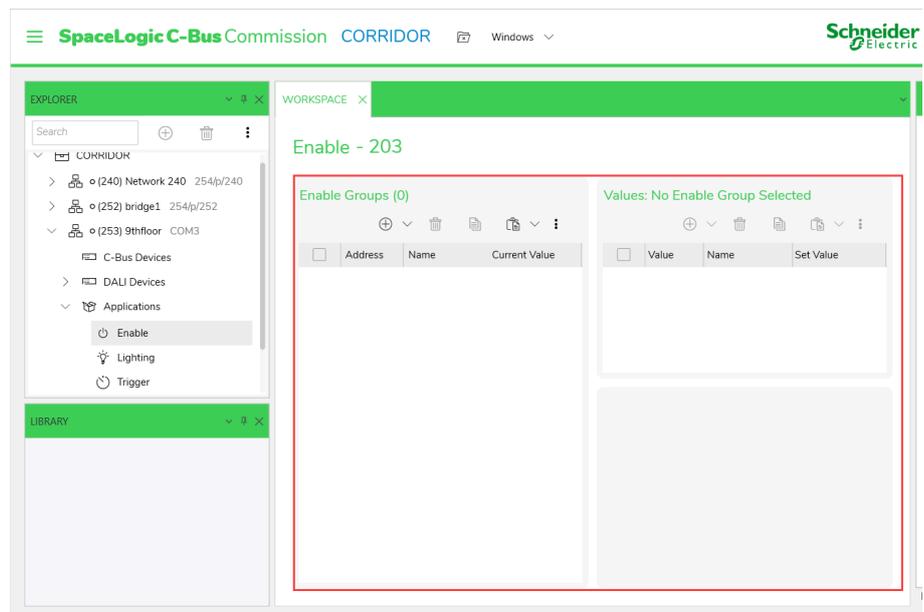
Operations performed on Enable groups are:

- [Add enable group](#), page 147
- [Copy enable group](#), page 148
- [Paste enable group](#), page 148
- [Edit enable group](#), page 148
- [Sort enable group](#), page 149
- [Delete enable group](#), page 150

## Add Enable Group

**Prerequisites:** The Enable application must be selected in the created network.

1. Select a network from the **EXPLORER** window.
2. Click  **Applications** drop-down.
3. Select **Enable**.



**Step result:** Respective **Enable Groups** and **Values** section of **Enable** is displayed in the **WORKSPACE** window.

4. Click  in the **Enable Groups** section.

5. Choose address.

**Step result:** A **Enable Group** is created.

The process to create multiple enable groups at a time is similar to as demonstrated in **Lighting Application** , [click here](#).

## Copy Enable Groups

In a multi-network project the *Group Addresses* of an *Enable* application on a network can communicate with *Group addresses* of a *Enable* application on another network via C-Bus bridge.

**Prerequisites:** The Enable Group Address must be already created in an application.

The *Enable Group Addresses* in the *Enable* application can be aligned/arranged with same addresses as in the other *Enable* application.

1. Click *Enable* application
2. Select the enable groups in the *Enable Groups* section

**NOTE:**

- A single group can be chosen by selecting the check box of the required group, whereas all groups can be chosen by selecting the check box on the top.
- The copy  option will be disabled, if a group is not selected.

3. Click  in the *Enable Groups* section of Enable application.

**NOTE:** To copy the complete application, click  in the application section.

**Step result:** The selected enable groups are copied.

## Paste Enable Groups

The *Enable* application *Group Addresses* copied from one network are pasted either into another *Enable* application in same network or in a different network, or in different project.

**Prerequisites:** The Enable Group Address must be copied from an application to another network or to the same network.

**NOTE:** The *Enable* application *Group Address* copied from one network must be pasted only into the Enable application on another network.

1. Select the Enable application of the network to be pasted in
2. Click  in the *Enable Group* section

**NOTE:** The process to Paste the *Enable Groups* from excel is similar to as demonstrated in lighting application, [click here](#)

**IMPORTANT:** Paste conflict occurs when already existing Enable group address and group name are been pasted.

The process to **Resolve conflict** is similar to as demonstrated in lighting application, [click here](#)

## Edit Enable Group

**Prerequisites:** Make sure you have selected *Enable* application and enable groups has been created.

1. Double-click on the enable group name that has to be edited/renamed

	Address	Name	Current Value
<input type="checkbox"/>	0	Enable Group 0	Off
<input type="checkbox"/>	1	Enable Group 1	Off
<input type="checkbox"/>	2	Enable Group 2	Off
<input type="checkbox"/>	3	Enable Group 3	Off

**Step result:** Edit Enable Group Dialog box is displayed.

2. Edit the Enable Group name and click **OK**

**Edit Enable Group** [X]

Enable Group Address\* 0

Enable Group Name\* Enable Group 0

\* Required fields

OK Cancel

**NOTE:** Special characters except / , “,# and maximum of 32 characters in the Enable group name are valid.

	Address	Name	Current Value
<input type="checkbox"/>	0	Group 901	Off
<input type="checkbox"/>	1	Enable Group 1	Off
<input type="checkbox"/>	2	Enable Group 2	Off
<input type="checkbox"/>	3	Enable Group 3	Off

**Step result:** The Enable group name is updated.

## Sort Enable Group

**Prerequisites:** The *Enable Group Addresses* must already been created in *Enable* application.

The existing Enable Groups in application can be sorted using  in the Enable Group section of Enable application.

	Address	Name	Current Value
<input type="checkbox"/>	0	Group 901	Off
<input type="checkbox"/>	1	Enable Group 1	Off
<input type="checkbox"/>	2	Enable Group 2	Off
<input type="checkbox"/>	3	Enable Group 3	Off
<input type="checkbox"/>	4	Enable Group 4	Off

Sort >

- ✓ Address Ascending
- Address Descending
- Name Ascending
- Name Descending

Choose appropriate sort method.

## Delete Enable Group

The delete group allows the user to delete one or more *Group Addresses* from a *Enable* application.

**Prerequisites:** The Enable group Address must already be created in the *Enable* application

1. Select the *Enable groups*

**NOTE:** One or more *Group Addresses* can be selected.

2. Click  in the *Enable Groups* section

3. Confirm **Yes** in the **Confirmation** dialog box.

**NOTE:** Trying to Delete the *Enable group* with existing *Values*, displays a **Confirmation** dialog box to confirm the deletion of existing *Values*

## Values

Each of the *Enable Network Variables* are assigned with values from 0 through 255.

1. Add values, page 150
2. Copy values, page 151
3. Paste values, page 151
4. Edit values, page 151
5. Sort values, page 152
6. Delete values, page 152

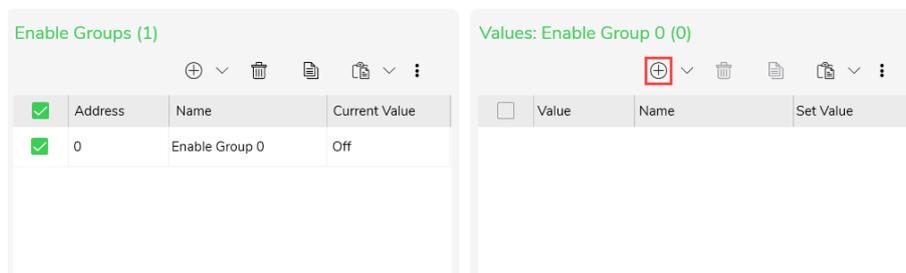
## Add values

The *Values* is the value of the *Enable* address.

**Prerequisites:** The *Enable Group* must already be created in the *Enable* application.

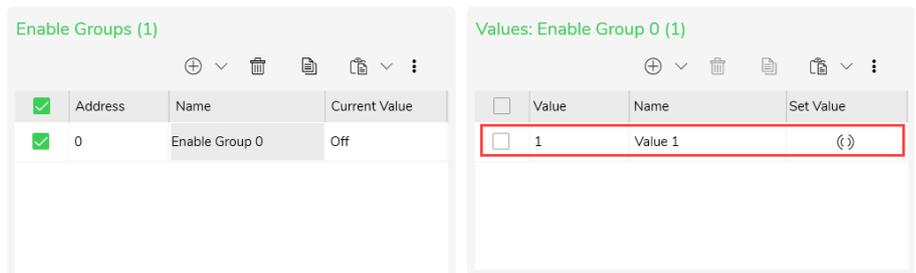
Each Enable group Address can create a maximum of 256 (0 to 255).

1. Select a *Enable group* in the enable group section



**NOTE:** If a group is not selected, the  will be disabled.

2. Click  and choose address in *values* section



**Step result:** Single Value is added for a selected Enable group.

3. The steps to Add Multiple values for a single Enable group at a time is similar to as demonstrated in lighting application, [Step 3click here, page 134](#)

## Copy Values

The *Values* created in a *Enable Group* can be copied from another Enable Network Variable in the same *Enable* application on same network or from the *Enable* application from a different network in the project.

**Prerequisites:** The *Values* must already be copied from a *Enable Group*.

1. Select the *Enable Group*

**Step result:** The *Values* in the selected *Enable Group* are displayed.

2. Select the required *Values* and click  of *Values* section.

**Step result:** The selected values are copied.

## Paste Values

The paste option allows the user to paste the *Values* copied from one *Enable Group* into different *Enable Group* on the same network or into a *Enable Group* on another network.

**Prerequisites:** The *Values* must already be copied from a *Enable Group*.

1. Select a Enable Group in *Enable Group* section

**NOTE:** *Values* can either be pasted on same network or into a *Enable Group* on another network/project.

2. Click  in the *Values* section.

**NOTE:** The Process to Paste *Values* from Excel is similar to as demonstrated in lighting application, [click here](#)

**Step result:** The copied *Values* are pasted.

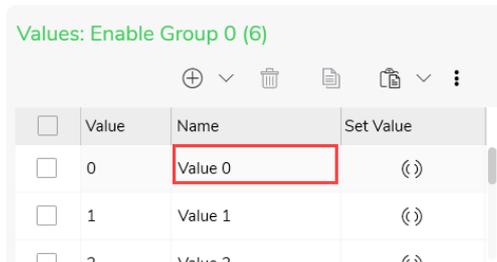
**IMPORTANT:** Paste conflict occurs when already existing *Values* name and *Values* address are been pasted in *Enable* application.

The process to **Resolve conflict** is similar to as demonstrated in lighting application, [click here](#)

## Edit Values

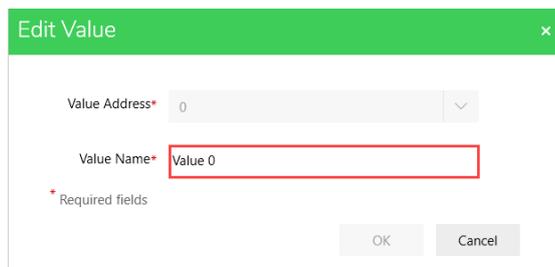
**Prerequisites:** The *Values* must already be existing in the selected Enable group of *Enable* application.

1. Double-click on the value name that has to be edited.

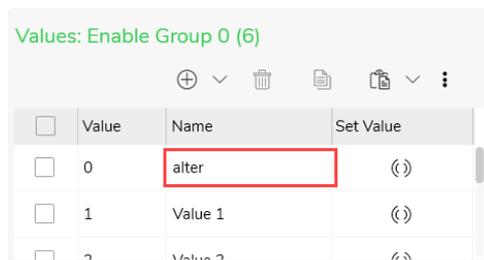


**Step result:** Edit Value dialog box is displayed.

2. Edit the Value name and click OK.



**NOTE:** Special characters except /, ", # and maximum of 32 characters in the Values name are valid.

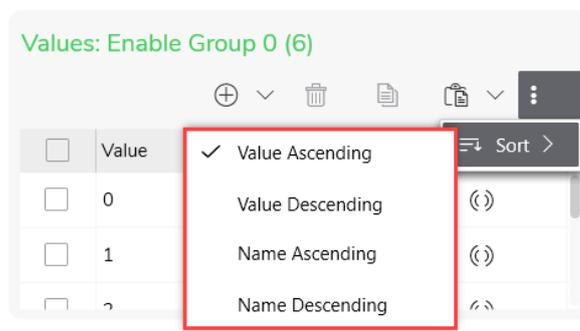


**Step result:** The Value name is updated.

## Sort values

**Prerequisites:** The Values must already be created in a selected Enable Group address.

The existing Values in application can be sorted using  in the Values section of Enable application.



Choose appropriate sort method.

## Delete Values

The delete function allows to delete one or more values added to a Enable Group.

**Prerequisites:** The *Values* must already be created in a selected *Enable group Address*.

1. Select a *Enable Group Address*
2. Select the *Values* to be deleted
3. Click  in the *Values* section
4. Confirm **Yes** in the **Confirmation** dialog box.

**Step result:** The selected *Values* are deleted.

# Error Application

**Prerequisites:** The network must have already been created in the project .

SpaceLogic C-Bus units monitor and detect error conditions, and report those conditions using the C-Bus error application. The C-Bus error application is used to report error information detected or generated by C-Bus units over the C-Bus network.

Error reports are screened on the error application. The data transmitted across this application can be used by SpaceLogic C-Bus units which accept error messages.

The reports contain information on the source, severity and nature of the error or fault condition. Events may be reported as OK if the monitored event is operating normally.

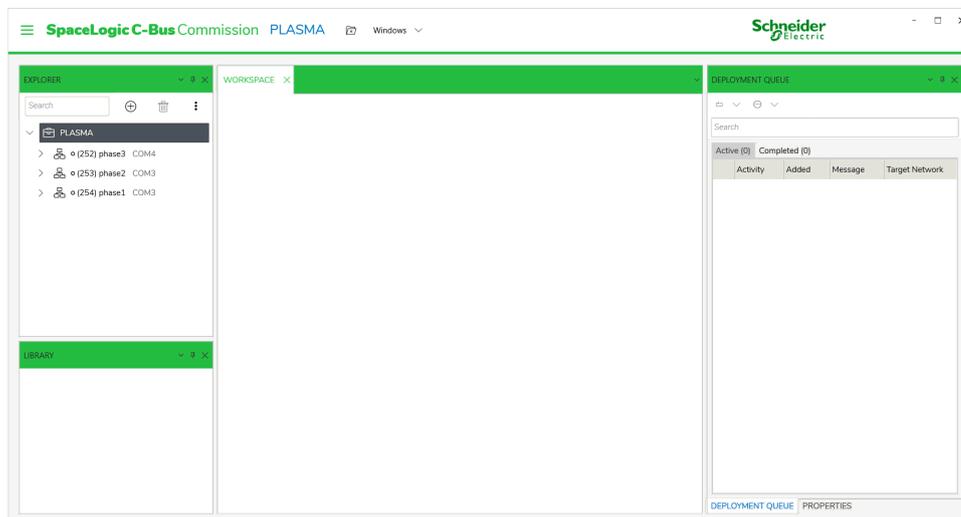
Devices that receive error messages take appropriate action in response to the information. This may include publishing information for a user, logging errors or sounding alarms.

Error application is created using a reserved application number 206.

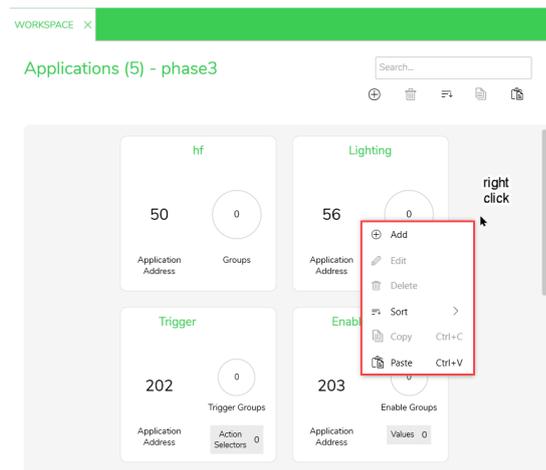
SpaceLogic C-Bus units which support error application are:

- DALI/DSI
- Digital Dimmer
- TE Dimmer
- LE Dimmer
- Universal Dimmer
- Modular Dimmer
- Relay
- Key Unit
- Telecommand and Remote Entry
- Temperature Sensor
- PSU
- BMS Reporting
- PWM/LED Dimmer
- Sinewave Dimmer
- Device Controller
- A/C System

The procedure to create an error application is as demonstrated below:



**TIP:** Alternate method to create error application is shown below:



Operations performed in Error application:

- Add Error object, page 156
- Sort Error object, page 160
- Delete Error object, page 160

An error message consists of the following additional fields:

- **The error severity**

The severity of an error reflects how critical the error is. The error severity categorized in the order of severity are:

1. **Unknown:** The current error severity is unknown (no messages have been received)
2. **All OK:** An Error Severity of All OK is a shortcut used to indicate that all monitored events watched by an error monitoring C-Bus unit are OK.
3. **OK:** An Error Severity of OK is used to indicate that the status of an individual monitored event being watched by an error monitoring C-Bus unit is currently within normal operating conditions
4. **Minor Failure:** An error severity of Minor Failure is used to indicate a warning or low priority error for an individual monitored event being watched by an error monitoring C-Bus unit
5. **General Failure:** An error severity of General Failure is used to indicate an error for an individual monitored event being watched by an error monitoring C-Bus unit
6. **Extreme Failure:** An error severity of Extreme Failure is used to indicate errors (such as 240 V presence on a DALI Line reporting a Line error, Over Current Protection shutting down a channel on C-Bus Dimmer, C-Bus Product failure etc.) for an individual monitored event being watched by an error monitoring C-Bus unit

- **Whether the error is latched**

Error messages can be current or latched. Current error messages reflect the current status of the error condition. Latched error messages reflect the most severe error which has existed since the condition was last cleared. A latched error can be cleared upon receipt of a C-Bus network command from a C-Bus error receiving unit or software.

- **Whether the error has been acknowledged**

An error can be acknowledged by an error receiving unit. The acknowledgement is transmitted onto the C-Bus for use by the appropriate C-Bus event monitoring unit, such as the DALI gateway.

- **Additional error data**

The data accompanying an error status message depends on the C-Bus unit type. Example, when lighting ballasts fail, the event monitoring unit such as the C-Bus Universal dimmer sends details of the dimmer channel where the error event occurred and the nature of the error.

### Monitored event

A monitored event is an event or value that is watched to determine the presence or absence of failure. Example, a DALI gateway can be configured to watch for ballast failure on single or set of DALI lighting units on a DALI network.

### Event monitoring units

Event monitoring C-Bus units are units which watch monitored events and transmit the error status onto the C-Bus network. The DALI gateway and the C-Bus Universal dimmer are event monitoring units.

An event monitoring unit can:

- Monitor the error status of multiple internal or external events
- Transmit error messages whenever a monitored event changes status
- Refresh error status of monitored events at regular intervals across C-Bus
- When requested, provide a complete error status update of all monitored events
- Store (latch) and transmit the most severe previous error states of a monitored event in order to catch transient errors
- Accept C-Bus command messages to acknowledge errors
- Accept C-Bus command messages to clear latched errors

### Error status units or software

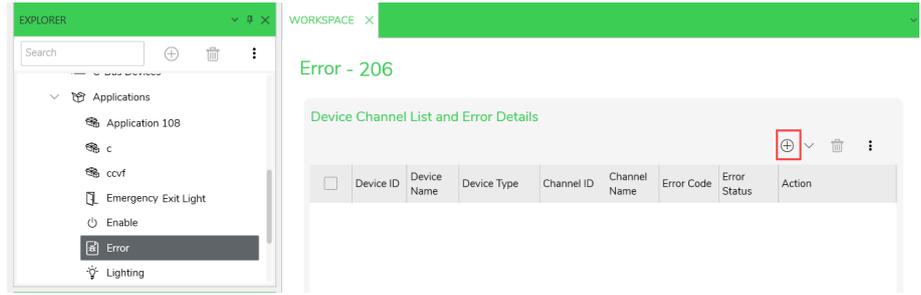
An error status unit or software utility accepts error messages from a C-Bus network, but does not watch events directly. Example, the Schedule Plus software receives error messages and is capable of carrying out other operations such as clearing latched errors.

## Add Error Object

**Prerequisites:** The Error application must already be created in a network.

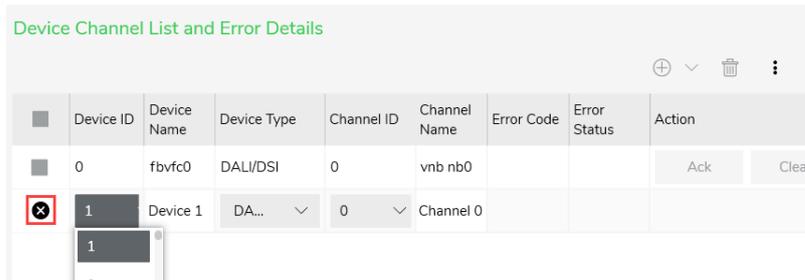
1. Click *Applications* drop-down in the **Explorer** window
2. Click *Error*

3. Click 



**NOTE:**

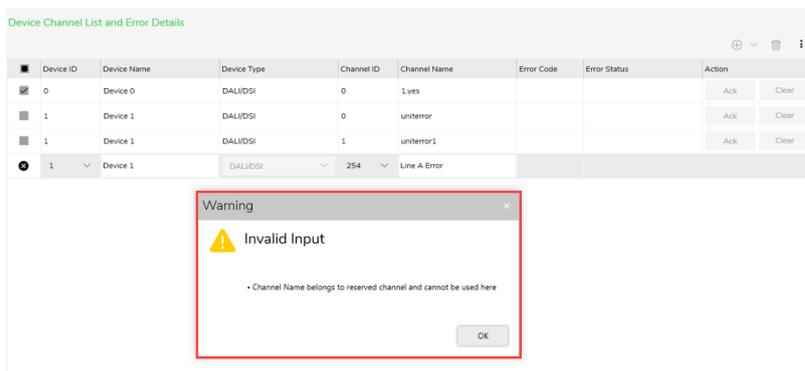
- The error object can be deleted during creation/adding itself using “x” as shown below:



- The Channel and Device name of the error object can be modified. Double-click on the channel/device name, edit the device name to match your device and channel name to match the channel that is been monitored on the device, then click enter (or on the empty space of the section) to update the change
- Warning** dialog box is displayed while attempting to use an reserved channel name



- Invalid Input** message is displayed when attempting to use the channel name which is already belonging to a reserved channel



The field informations of error application is as explained below:

Field	Meaning
Device ID	Unique Device ID is a reference to identify a specific C-Bus unit for error reporting purposes. The error <i>Device ID</i> drop down list allows the ability to select a value from 0- 254
Device Name	Specifies the name of the device
Device Type	Specifies the type of the device
Channel ID	Object Id assigned to the device <b>IMPORTANT:</b> Reserved channel Id's have default channel names: <ul style="list-style-type: none"> <li>Channel Id 254: "Unit Error"</li> <li>Channel Id 253: "Line B Error"</li> <li>Channel Id 252: "Line A Error"</li> <li>Channel Id 251: "Channel Aggregate Error"</li> </ul>
Channel Name	Specifies the name of the channel <b>NOTE:</b> The channel names of reserved channel Id's cannot be modified.
Error Code	Generated error code

Error Status	Description of the error status
Action	Action to be performed based on error: <b>ACK:</b> Acknowledge the error object <b>Clear:</b> Clears the error object

Different Devices have an Channel ID references as explained below:

DALI 2 Gateway	0-63 DALI line A Object ID's 63-127 DALI line B Object ID's
Dimmers	8 Channel - 0-7 4 Channel - 0-3 <b>NOTE:</b> Each channel Id represents the respective Channel

**NOTE:**

- While adding new device, the device type can be selected using drop-down option
- Click **Ack**, to acknowledge the particular error

Device ID	Device Name	Device Type	Channel ID	Channel Name	Error Code	Error Status	Action
<input type="checkbox"/> 0	Device 0	Key unit	0	Channel 0			Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	0	Channel 0	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	1	Channel 1	010	Most Recent, Minor Failure	<b>Ack</b> Clear

- Click **Clear**, to clear the error code and status

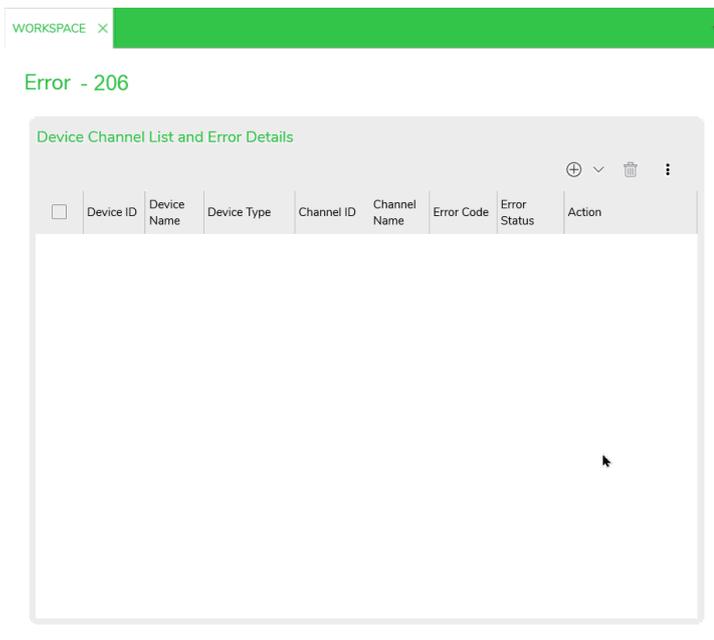
Device ID	Device Name	Device Type	Channel ID	Channel Name	Error Code	Error Status	Action
<input type="checkbox"/> 1	Device 1	Digital Dimmer	0	Channel 0	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	3	Channel 3			Ack <b>Clear</b>

**Step result:** A Error object is added.

**IMPORTANT:** Error code and error message for each device are read from the live network devices and will be displayed on error table against corresponding device and channel ID.

Device ID	Device Name	Device Type	Channel ID	Channel Name	Error Code	Error Status	Action
<input type="checkbox"/> 1	Device 1	Digital Dimmer	0	Channel 0	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	3	Channel 3	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	4	Channel 4	110	Most Recent, General Failure	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	5	Channel 5	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	6	Channel 6	000	Most Recent, OK	Ack Clear
<input type="checkbox"/> 1	Device 1	Digital Dimmer	7	Channel 7	000	Most Recent, OK	Ack Clear

**TIP:** A single Device ID can have multiple Channel ID. The procedure to add multiple error object for the same Device ID is as demonstrated below (maximum of 255 devices can be added at one go):

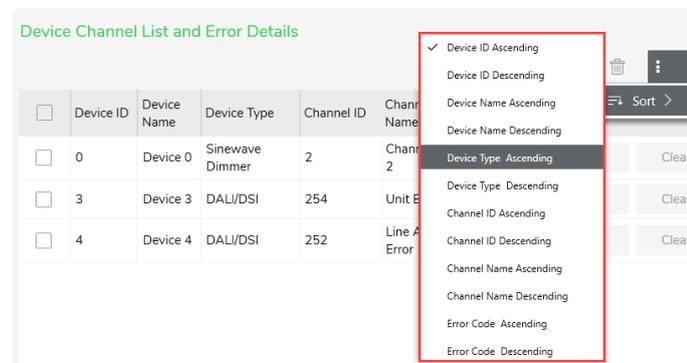


## Sort Error Objects

**Prerequisites:** The *Error* objects must already have been created in *Error* application.

The existing *Error* objects in application can be sorted using  in the *Device Channel list and Error Status* section of *Error* application.

### Error Reporting - 206



Choose appropriate sort method.

## Delete Error Object

**Prerequisites:** Error application must already have been created in network and error object must have been added.

1. Select *Error object*
2. Click  in the *Error* section
3. Confirm **Yes** in the **Confirmation** dialog box

**NOTE:** On selecting **No**, the delete operation will not be performed.

**TIP:** Alternate method to delete selected error objects is, right-click on the selected **Device > Delete**

# Measurement Application

**Prerequisites:** The network must have already been created in the project .

The Measurement application receives raw data in the form of voltage, current and resistance. This information is converted, scaled and then transmitted across the C-Bus to accurately represent physical measurement units such as temperature, liquid level, light level, etc. The measurement data transmitted across the C-Bus is utilized by C-Bus unit such as temperature, liquid level, light level, etc., which can process measurement application messages.

Measurement application is created using a reserved application address 228.

SpaceLogic C-Bus units which support measurement application.

- General input unit
- current measurement unit
- 5104DTSI temperature sensor
- Color C-Touch Screen
- PAC module
- Schedule Plus +
- HomeGate
- eDLT key input unit
- DALI Gateway
- 8 Channel Switchable Power Supply Dimmer
- 4 Channel Switchable Power Supply Dimmer
- DALI-2 Gateway

The procedure to create an measurement application is similar to creating error application with a reserved address 228.

The field informations of measurement application is as explained below:

Field	Meaning
Device ID	Unique Device ID is a reference to identify a specific C-Bus unit for measurement report. The measurement <i>Device ID</i> drop down list allows the ability to select a value from 0- 254.
Device Name	The Device name specifies the name of the device. The drop-down list allows the selection of a unique ID between 1 - 254.
Channel ID	The Channel ID is used to specify the channel of the device from which the Measurement application data is received. The channel ID drop-down list allows the ability to select a value from 0- 255. <b>NOTE:</b> Channel ID starts at the next available address based on the device ID.
Channel name	The Channel name specifies the name of the channel.
Timeout Period	Time out value that is used by the Controller to monitor the object (0–2880 minutes). <ul style="list-style-type: none"> <li>• If no timeout value is added, it is considered as invalid with blank.</li> <li>• If the timeout is 0, then the value are read and updated normally.</li> </ul>
Unit Type	The Unit type displays the unit type of the value read. The below table explains the standard units that are used in measurement application.
Current Value	The Current value displays the current read value.

### Standard Measurement Units

The table below contains a list of measurement units which are available to select when converting input data into measurement data for transmission across the C-Bus system.

Unit Code	Units	Typical Use
\$00	°C	Temperature
\$01	Amps	Current
\$02	Angle (degrees)	Angular displacement
\$03	Coulomb	(Electric charge)
\$04	False=0	
True otherwise	Boolean stuff	
\$05	Farads	Capacitance
\$06	Henrys	Inductance
\$07	Hertz	Frequency
\$08	Joules	Energy
\$09	Katal	Rate of catalytic activity
\$0A	Kg/m <sup>3</sup>	Density
\$0B	Kilograms	Mass
\$0C	Liters	Volume
\$0D	Liters per hour	Very slow flow rate
\$0E	Liters per minute	Slow flow rate
\$0F	Liters per second	Flow rate
\$10	Lux	Light Level
\$11	Metres	Distance
\$12	Metres per minute	Slow speed
\$13	Metres per second	Speed
\$14	Metres/s <sup>2</sup>	Acceleration
\$15	Mole	Quantity of substance
\$16	Newton metre	Torque
\$17	Newtons	Force
\$18	Ohms	Resistance
\$19	Pascal	Pressure

#### Operations performed in Measurement application

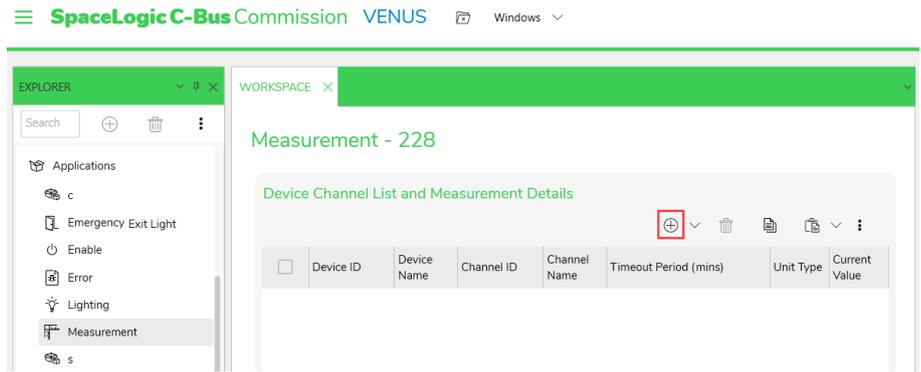
- ADD Measurement data, page 162
- Sort Measurement data, page 164
- Delete Measurement data, page 164

## Add Measurement Data

**Prerequisites:** The Measurement application must already be created in a network.

1. Click **Applications** drop-down in the **EXPLORER** window.
2. Click **Measurement**

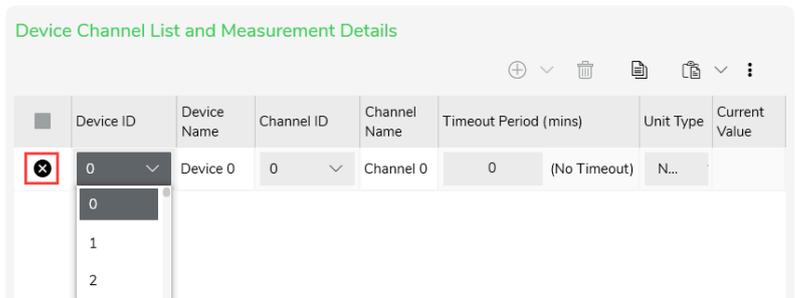
3. Click 



**Step result:** A Measurement detail is added.

**NOTE:**

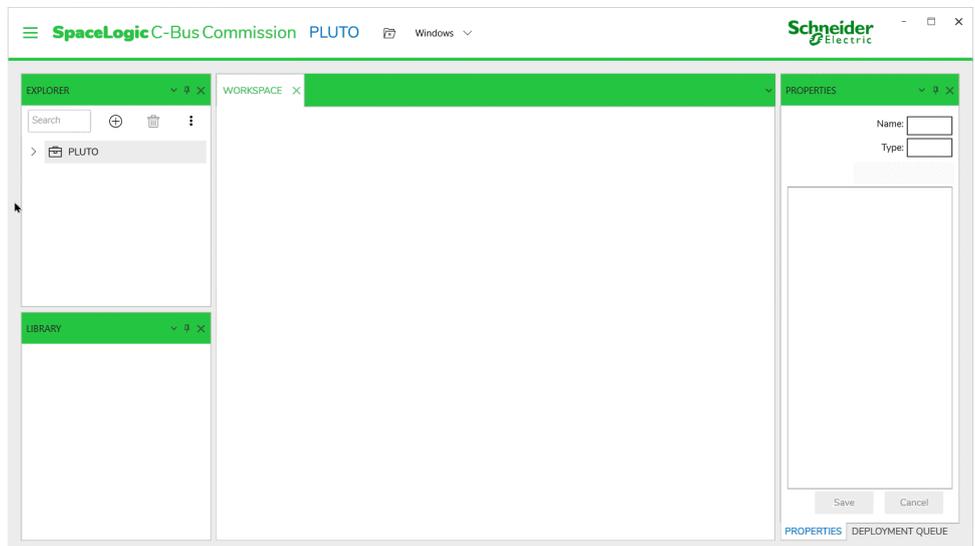
- A Measurement detail can be deleted during creation/adding itself using "x" as shown below:



4. The Channel and Device name of the measurement data can be modified. Double-click on the channel/device name, edit the device name to match your device and channel name to match the channel that is being monitored on the device, then click enter (or on the empty space of the section) to update the change.

**NOTE:** Device ID and Device name combination is unique. A Device ID can only belong to the same device name. Modifying the Device Name for One Device ID will update for all the Channels with same Device ID. A Device ID is unique on the network. But there can be multiple device channels on the same device.

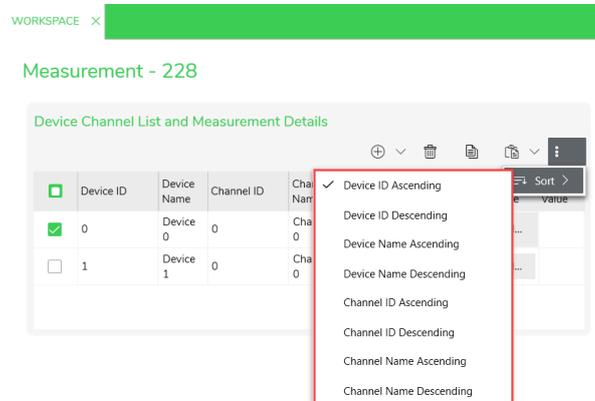
**TIP:** A single Device ID can have multiple Channel ID. The procedure to add multiple measurement data for the same Device ID is as demonstrated below:



## Sort Measurement Data

**Prerequisites:** The *Measurement* details must already have been created in *Measurement* application.

The existing *Measurement* details in application can be sorted using  in the *Device Channel list and Measurement details* section of *Measurement* application.



Choose appropriate sort method.

## Delete Measurement Data

**Prerequisites:** *Measurement* application must already have been created in network and *measurement details* must have been added.

1. Select *Measurement detail*
2. Click  in the *Measurement details* section
3. Confirm **Yes** in the **Confirmation** dialog box

**NOTE:** On selecting **No**, the delete operation will not be performed.

**TIP:** Alternate method to delete selected *measurement details* is, right-click on **selected device** > **Delete**

# Emergency Exit Light Application

**Prerequisites:** The network must have already been created in the project .

Emergency Exit Light application is created using a reserved application address 238.

SpaceLogic C-Bus units which supports Emergency Exit Light application are:

- DALI ECG DT 1 (Generic): Emergency or Exit Light (Generic)
- DALI ECG DT1 A: Emergency or Exit Light (Switched Maintained Dimmable)
- DALI ECG DT1 B: Emergency or Exit Light (Switched Maintained Non-Dimmable)
- DALI ECG DT1 C: Emergency or Exit Light (Maintained)
- DALI ECG DT1 D: Emergency or Exit Light (Non-Maintained)

The procedure to create an emergency exit light application is similar to other applications with a reserved address 238.

For more details:

- Test Groups, page 165
- Devices, page 168

## Test Groups

The field information of the test group section are as explained below:

Fields	Meaning
Address	Displays the address of test group created
Name	Displays the name of the group
Duration Test Timeout	Displays the set duration time.

Operations performed on test group section are:

- Add Test Group, page 165
- Copy Test Group, page 166
- Paste Test Group, page 167
- Edit Test Group, page 167
- Sort Test Group, page 168
- Delete Test Group, page 168

## Add Test Groups

**Prerequisites:** The Emergency Exit Light application must be selected in a created network.

1. Click *Applications* drop-down in the **Explorer** window
2. Click *Emergency Exit Light*

3. Click  on test group section

#### Emergency Exit Light - 238



**Step result:** A test group object is added.

**NOTE:**

- The test group object can be deleted during creation/adding itself using “x” as shown below:

#### Emergency Exit Light - 238



- The Channel and Device name of the test group object can be modified. Double-click on the channel/device name, edit the device name to match your device and channel name to match the channel that is been monitored on the device, then click enter ( or on the empty space of the section ) to update the change.
4. The process to create multiple test group objects at a time is similar to as demonstrated in lighting application, see [Add multiple test group](#)
- Step result:** Multiple test groups are created.

## Copy Test Groups

**Prerequisites:** The Test Group Addresses must be already created in an application.

The *Test Group Addresses* in the *Emergency Exit Light* application can be aligned/arranged with same addresses as in the other *Emergency Exit Light* application.

- Click *Emergency Exit Light* application
- Select the test groups in the *Test Groups* section

**NOTE:**

- A single test group can be chosen by selecting the check box of the required group, whereas all test groups can be chosen by selecting the check box on the top
- The copy  option will be disabled, if a group is not selected

- Click  in the *Test Groups* section of *Emergency Exit Light* application

**NOTE:** To copy the complete application, click  in the application section.

**Step result:** The selected *Test Groups* are copied.

## Paste Test Groups

The *Emergency Exit Light* application *Test Group Addresses* copied from one network are pasted either into another *Emergency Exit Light* application of a different network.

**Prerequisites:** The Test Group Address must be already copied from an application.

**NOTE:** The *Emergency Exit Light* application *Test Group Address* copied from one network must be pasted only into the *Emergency Exit Light* application on another network.

1. Select the *Emergency Exit Light* application of the network to be pasted in
2. Click  in the *Test Group* section

**NOTE:** The process to Paste the *Test Groups* from excel is similar to as demonstrated in lighting application, [click here](#)

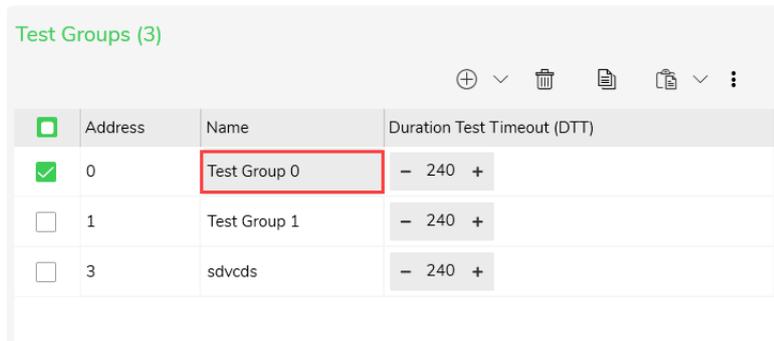
**IMPORTANT:** Paste conflict occurs when already existing test group address and test group name are been pasted in emergency exit application of another network.

The process to **Resolve conflict** is similar to as demonstrated in lighting application, [click here](#)

## Edit Test Groups

**Prerequisites:** Make sure you have selected *Emergency Exit Light* application and test groups has been created.

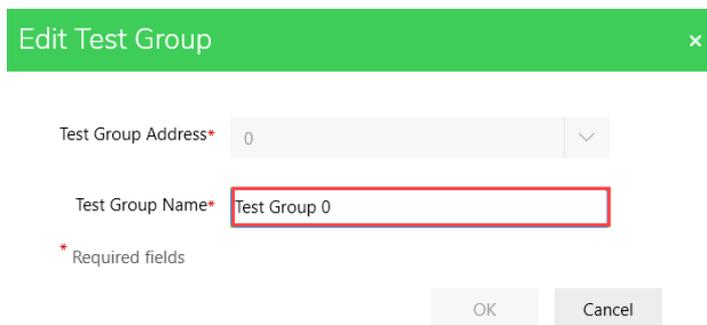
1. Double-click on the trigger group name that has to be edited/renamed



<input type="checkbox"/>	Address	Name	Duration Test Timeout (DTT)
<input checked="" type="checkbox"/>	0	Test Group 0	- 240 +
<input type="checkbox"/>	1	Test Group 1	- 240 +
<input type="checkbox"/>	3	sdvcds	- 240 +

**Step result:** Edit Test Group Dialog box is displayed.

2. Edit the Test Group name and click **OK**



**Edit Test Group** ✕

Test Group Address\*  ▼

Test Group Name\*

\* Required fields

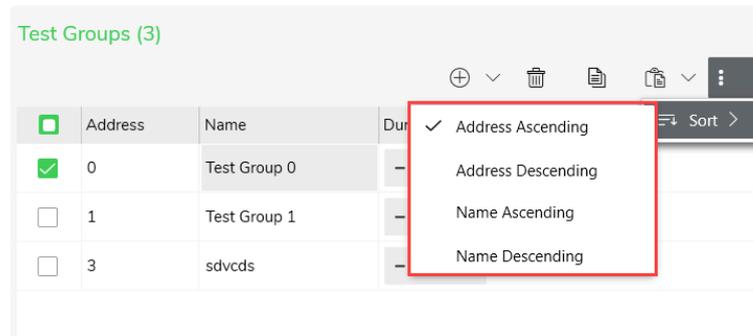
**NOTE:** Special characters /, ", # and maximum of 32 characters in the test group name are valid.

**Step result:** The Test group name is updated.

## Sort Test Groups

**Prerequisites:** The *Test Group Addresses* must already been created in *Emergency Exit Light* application.

The existing Test Groups in application can be sorted using  in the test group section of *Emergency Exit Light* application.



Choose appropriate sort method.

## Delete Test Groups

The Delete function allows the user to delete one or more *Test Group Addresses* from a *Emergency Exit Light* application.

**Prerequisites:** The Test Group Address must already be created in the *Emergency Exit Light* application.

1. Select the *Emergency Exit Light* check box

**NOTE:** One or more *Test Group Addresses* can be selected.

2. Click  in the test groups section
3. Confirm **Yes** in the **Confirmation** dialog box

**NOTE:** Trying to Delete the test group with existing devices associated to test group, displays a **Confirmation** dialog box to confirm the deletion of existing *Test Group*.

## Devices

Devices section allows to assign devices for particular test group created.

The field information of the device section are as explained below:

Fields	Meaning
CDG Address	Displays the C-Bus DALI-2 Gateway Address
CDG Name	Displays the C-Bus DALI-2 Gateway name
Line A/B	Displays the selected line for device
Line Name	Displays the line name
Object ID	Displays the Object ID of the device
EEL Name	Displays Emergency Exit Light name
Light Source Life	Displays how long the device is been running for (in days)
Test Group	Displays the assigned test group

**NOTE:**

- The devices created must match the *Emergency and Exit* device details on the target DALI-2 Gateway on the network
- All assigned devices to the deleted test group will be unassigned

Operations performed on Devices section are:

- Add test devices, page 169
- Edit test devices, page 170
- Sort test devices, page 171
- Delete test devices, page 171

## Add Test Devices

The *Devices* section allows to add test devices which further is assigned to particular test groups created.

1. In *Devices* section, click 



## 2. A pop-up is displayed

CDG Address: 1

CDG Name: DALI-2 Gateway  
Preview: DALI-2 Gateway 1

Line: A  
Line Name Prefix: Line  
Preview: Line A

Add Multiple Object ID: - 20 +

Start from Object ID: 0

EEL Name Prefix: DALI\_ECG\_DT1  
Preview: DALI\_ECG\_DT1\_0

Light Source Life (Days): - 1825 +

Test Group: Unassigned

Add Devices

- Select the CDG address (0–254)
- Define the CDG name, or use the default name
- Select the DALI line (A/B)
- Define the Line name, or use the default name
- Type the number of multiple object ID's to be added (maximum 64 can be added at a time)
- Select the start of Object ID
- Define the EEL name, or use the default name
- Select the Light Source Life value (400 - 7300) in days  
**NOTE:** Value can be modified once the device is added.
- Assign the test group for the device  
**NOTE:** By default, it will be unassigned and can be modified once the device is added.

Click **Add Devices**

## Edit Test Devices

**Prerequisites:** The test devices must already be existing in the *Emergency Exit Light* application.

1. Double-click on either CDG name, Line name, or EEL name that has to be edited.

Devices (All)

<input checked="" type="checkbox"/>	CDG Address	CDG Name	Line A/B	Line Name	Object Id	EEL Name	Light Source Life	Test Group
<input checked="" type="checkbox"/>	1	DALI-2 Gateway 1	A	Line A	0	DALI_ECG_DT1_0	1825	Unassigned
<input type="checkbox"/>	0	DALI-2 Gateway 0	A	Line A	15	DALI_ECG_DT1_15	1825	Unassigned
<input type="checkbox"/>	0	DALI-2 Gateway 0	A	Line A	8	DALI_ECG_DT1_8	1825	Unassigned

**Step result:** Edit Value dialog box is displayed.

2. Edit the new name and click **OK**

Edit Device
✕

CDG Address :\*

\* CDG Name :\*   
(1 to 32 characters)

Line :\*

Line Name :   
(1 to 32 characters)

Object Id :\*

EEL Name :   
(1 to 32 characters)

\* Required fields

**NOTE:** Special characters except /, ", # and maximum of 32 characters in the Values name are valid.

**Step result:** The device name is updated.

## Sort Test Devices

**Prerequisites:** The *Test Devices* must already be added in *Devices* section.

The existing *Devices* in application can be sorted using in the *Devices* section of *Emergency Exit Light* application.

The screenshot shows the 'Emergency Exit Light - 238' application interface. It features two main sections: 'Test Groups (3)' and 'Devices (All)'. The 'Test Groups' section contains a table with columns for Address, Name, and Duration Test Timeout (DTT). The 'Devices (All)' section contains a table with columns for CDG Address, CDG Name, Line A/B, Line Name, Object Id, EEL Name, Light Source Life, and Test. A sort dropdown menu is open over the 'Devices (All)' table, listing various sorting options such as 'CDG Address Ascending', 'CDG Name Ascending', 'Line Ascending', etc. The 'Sort' button is visible at the bottom right of the table.

Choose appropriate sort method.

## Delete Test Devices

The Delete function allows to delete one or more devices added to a *Devices* section.

**Prerequisites:** The *Devices* must already be created in a selected *Devices* section.

1. Select the devices in *Devices* section
2. Click  in the *Devices* section.
3. Confirm **Yes** in the **Confirmation** dialog box.

**Step result:** The selected *Devices* are deleted.

# Audio Application

The Audio Control application control the audio levels such as volume, bass, and treble as well as the selection of audio sources for zones.

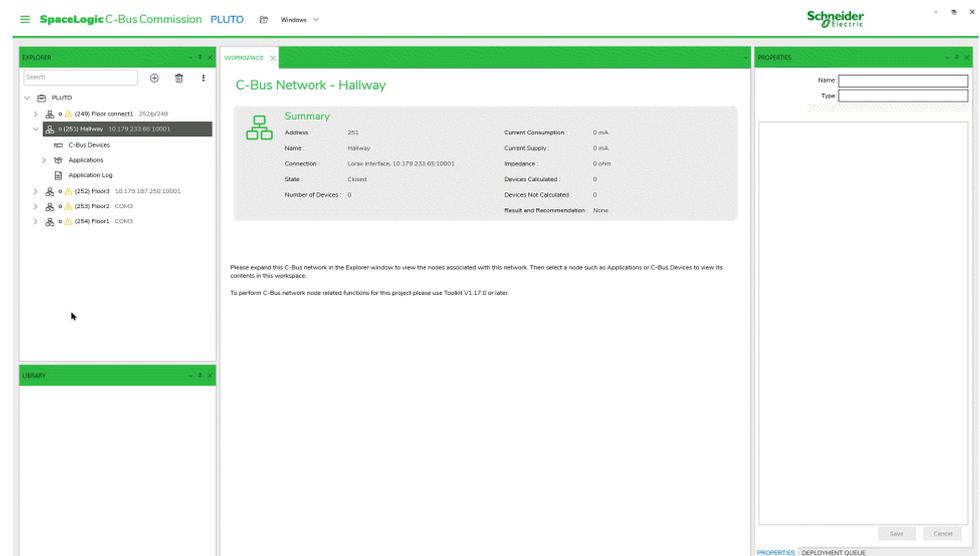
The Audio application is responsible for the control of audio levels such as volume, bass, and treble as well as for the selection of audio sources for Audio Zones as defined within the Audio application.

Audio application is created using a reserved application number 205.

Audio Zones and control options for the Audio application can be configured in C-Bus devices such as:

- The new generation C-Bus wall plate devices (key input units).
- The C-Bus eDLT key input unit.
- The C-Bus Multi Room system (Matrix Switches and Amplifiers).
- The C-Bus Home Controller.
- The C-Bus Automation and Application Controllers (for control of third party audio systems).

The procedure to create a audio application is as demonstrated below:



**NOTE:** To resolve the paste conflict of an application click [here](#)

Operations performed in Audio application

- Add zones, page 173
- Sort zones, page 176
- Delete zones, page 176

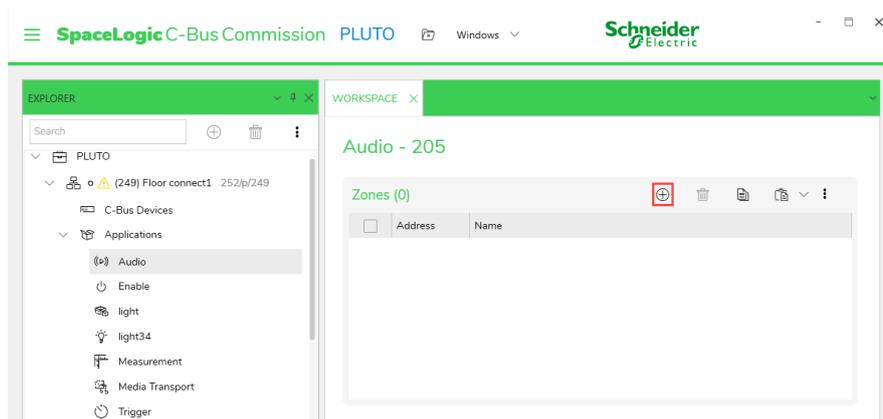
## Add Zones

**Prerequisites:** The Audio application must already be created in a network.

Audio application allows to create a maximum number 24 zones.

1. Click *Applications* drop-down in the **Explorer** window.
2. Click *Audio*.

3. Click 



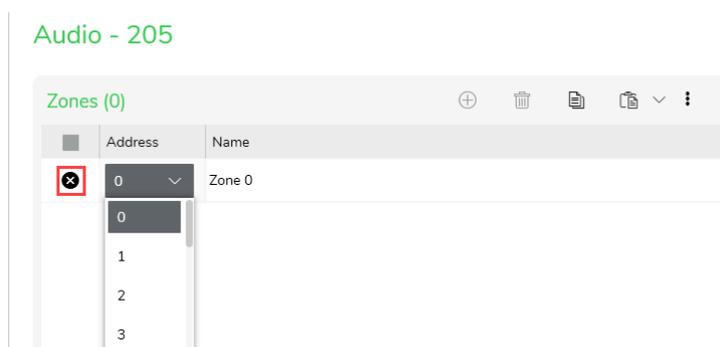
**Step result:** A individual Zone is added.

The audio zone table:

- displays the total number of zones created.
- can have maximum of 24 zones can be added (0–23).
- by default, the zone name is 'Zone X' ('X' is the number of the zone).
- cannot add multiple zones at a time.

**IMPORTANT:**

- A zone can be deleted during creation/adding itself using “x” as shown below:



4. The zone name can be modified. Double-click on the zone name, edit the zone name and click enter (or on the empty space of the section) to update the change.

Along with the zone section, the audio application workspace consists of functions of each selected zone and the respective levels of the zone function.

### Audio - 205

Zones (1) ⊕ 🗑️ ⋮

<input checked="" type="checkbox"/>	Address	Name
<input checked="" type="checkbox"/>	1	Zone 1

Functions: Zone 1 (11)

Function
Volume
Balance
Bass
Treble
Mute
Source Number
D1 Dynamic Label
D2 Dynamic Label
Source Descriptor
Zone Descriptor
MRA Command

Levels: Source Number (8) ⊕ ▾ 🗑️ ⋮

<input type="checkbox"/>	Level	Name
<input type="checkbox"/>	0	Source 1
<input type="checkbox"/>	1	Source 2
<input type="checkbox"/>	2	Source 3
<input type="checkbox"/>	3	Source 4
<input type="checkbox"/>	4	Source 5
<input type="checkbox"/>	5	Source 6

The levels for the zone functions are as below

**NOTE:** The levels for function are applicable only for below functions.

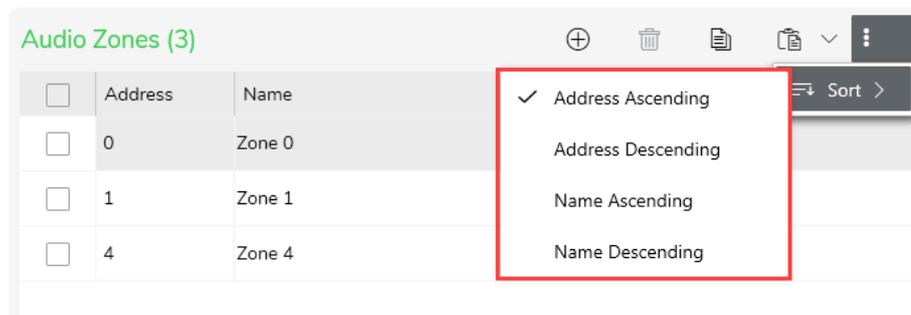
Zones	Level	Name
Balance	128	Mid Point
Bass		
Treble		
Mute	2	Amp on, Vol normal, speakers off
	5	Amp on, Vol preset, speakers off
	7	Amp on, Vol preset, speakers on
	255	Amp on, Vol normal, speakers on
Source Number	0	Source 1
	1	Source 2
	2	Source 3
	3	Source 4
	4	Source 5
	5	Source 6
	6	Source 7
	7	Source 8

## Sort Audio Zones

**Prerequisites:** The *Audio Zones* must already have been created in *Audio* application.

The existing *Audio Zones* in application can be sorted using  in the *Audio Zones* section of *Audio* application.

### Audio - 205



Choose appropriate sort method.

## Delete Audio Zone

**Prerequisites:** *Audio* application are already created in network and *Audio zones* are added.

1. Select *Audio zone*.
2. Click  in the *Audio Zones* section
3. Confirm **Yes** in the **Confirmation** dialog box.

**NOTE:** On selecting **No**, the delete operation will not be performed.

**TIP:** Alternate method to delete selected measurement details is, right-click on **selected device > Delete**

# Media Transport Application

The Media Transport Control application is designed to transmit control signals for audio and video equipment used with C-Bus units.

Media Transport application is created using an reserved application number 192.

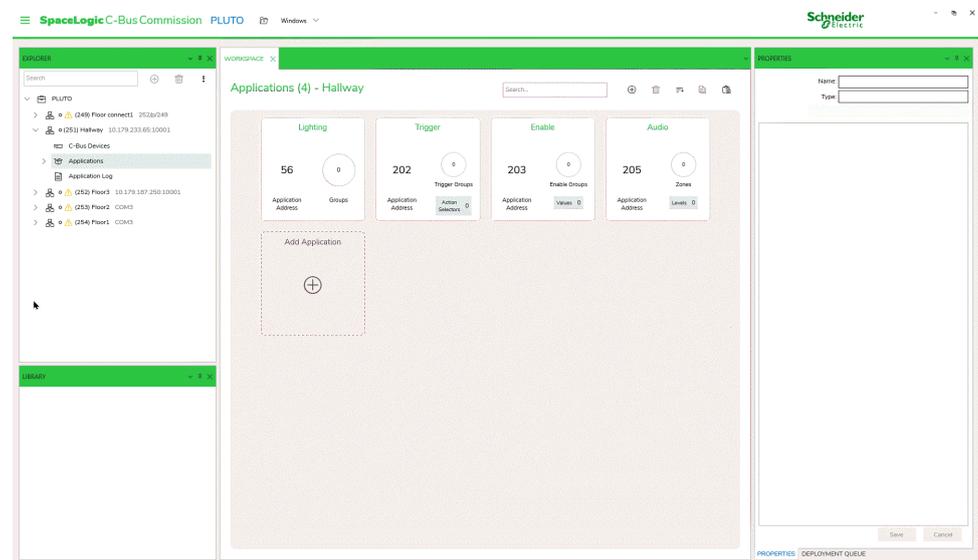
SpaceLogic C-Bus units which support audio application are:

- CD and DVD recorders and players
- Audio tuners
- Personal video recorders (PVRs)
- Media centres
- MP3 streamers

These C-Bus units has a C-Bus interface to be controlled by Media Transport commands or have a converter which translates Media Transport commands into a form which is understood by C-Bus units.

The software packages that supports to handle Media Transport is C-Bus Ripple® audio streaming software.

The procedure to create a media application is as demonstrated below:



**NOTE:** To resolve the paste conflict of an application click [here](#)

Operations performed in Media application

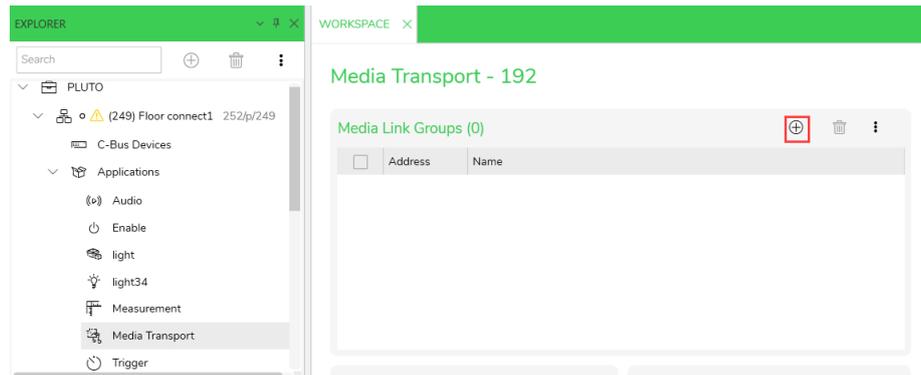
- Add media link group, page 177
- Sort media link group, page 180
- Delete media link group, page 180

## Add Media Link Groups

**Prerequisites:** The Media Transport application must already be created in a network.

Media Transport application allows to create a maximum number of 255 media link groups.

1. Click *Applications* drop-down in the **Explorer** window.
2. Click *Media Transport*.

3. Click 

**Step result:** A individual media link group is added.

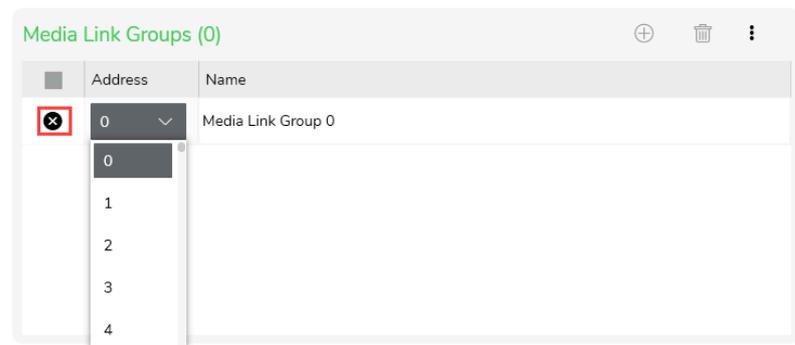
The media link group table:

- displays the total number of media link groups created.
- can have maximum of 255 media link groups.
- by default, the media link group name is 'Media Link Group X' ('X' is the number of the media link group).
- cannot add multiple media link groups at a time.

**IMPORTANT:**

- A media link group can be deleted during creation/adding itself using "x" as shown below:

## Media Transport - 192



- The media link group name can be modified. Double-click on the media link group name, edit the media link group name and click enter (or on the empty space of the section) to update the change.

Along with the media link group section, the media transport application workspace consists of functions of each selected media link group and the respective levels of the media link group function.

### Audio - 205

Zones (1) ⊕ 🗑️ ⋮

	Address	Name
✓	1	Zone 1

Functions: Zone 1 (11)

Function
Volume
Balance
Bass
Treble
Mute
Source Number
D1 Dynamic Label
D2 Dynamic Label
Source Descriptor
Zone Descriptor
MRA Command

Levels: Source Number (8) ⊕ ∨ 🗑️ ⋮

	Level	Name
<input type="checkbox"/>	0	Source 1
<input type="checkbox"/>	1	Source 2
<input type="checkbox"/>	2	Source 3
<input type="checkbox"/>	3	Source 4
<input type="checkbox"/>	4	Source 5
<input type="checkbox"/>	5	Source 6

The levels for the media link group functions are as below

**NOTE:** The levels for function are applicable only for below media link group functions.

Functions	Level	Name
Play/Stop	0	Stop
	1	Play
Pause/Resume	0	Pause
	255	Resume
Shuffle	0	Shuffle off
	255	Shuffle on
Repeat	0	Repeat off
	1	Repeat current
	255	Repeat all
Forward and Rewind	0	Normal speed
	2	2x speed
	4	4x speed
	6	8x speed
	8	16x speed
	10	32x speed
	12	64x speed

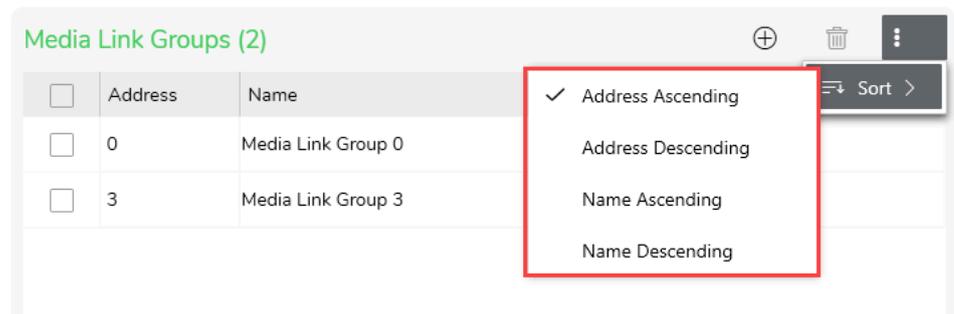
Source Power Control	0	Source power off
	255	Source power on

## Sort Media Link Groups

**Prerequisites:** The *Media link groups* must already have been created in *Media Transport* application.

The existing media link groups in application can be sorted using  in the *Media link groups* section of Media transport application.

### Media Transport - 192



Choose appropriate sort method.

## Delete Media Link Groups

**Prerequisites:** Media Transport application are already created in network and media link groups are added.

1. Select *Media Link Group*.
2. Click  in the *Media link group* section
3. Confirm **Yes** in the **Confirmation** dialog box.

**NOTE:** On selecting **No**, the delete operation will not be performed.

**TIP:** Alternate method to delete selected media link group is, right-click on **selected device > Delete**

# Input Unit

The input units allow users to interact with the system or get input from the environment by means of sensing devices.

- Wall switches have input keys which allow users to utilize short press/release and long press/release actions to affect lighting control.
- Sensors, on the other hand, are units which convert data from sensing devices into C-Bus messages.
- General input units receive analog or digital measurements from channels and convert the signals into event and broadcast measurement messages via the C-Bus.

Input units can be used to:

- Control lighting conditions by manual switching or as a response to changes in lighting levels.
- Control air conditioning according to ambient temperature.
- Control security and access systems by responding to human presence or predetermined codes.
- Convert measurement data into C-Bus event messaging.

C-Bus input units respond to certain stimuli - human touch, ambient light conditions, temperature and infrared radiation - and then send messages to appropriate output units in a predetermined way.

The devices under Input unit category are as listed below:

- Wall Plates/Key Input Unit, page 181

## Wall Plates/Key Input Unit

SpaceLogic C-Bus provides a range of Key Input units.

- Saturn
- Saturn Zen

To upgrade Wall Plates/Key Input Unit firmware, .

### Unit Types

Category		Catalog Number	Unit Type	Description
Saturn	'A' Series	5082680	KEYB2A	2 Gang Saturn Key Input Unit
		5082GF		
		5082J80		
		5082PW		
		5084680	KEYB4A	4 Gang Saturn Key Input Unit
		5084GF		
		5084J80		
		5084PW		
	5086680	KEYB6A	6 Gang Saturn Key Input Unit	
	5086GF			
	5086J80			
	5086PW			
	'E' Series	E5082680	KEYB2A	2 Gang Saturn Key Input Unit
E5082GF				
E5082PW				

		E5084680	KEYB4A	4 Gang Saturn Key Input Unit
		E5084GF		
		E5084PW		
		E5086680	KEYB6A	
		E5086GF		
		E5086PW		
Saturn Zen	'A' Series	R5041ZB	KEYH1A	1 Gang Saturn Zen Key Input Unit
		R5041ZW		
		R5042ZB	KEYH2A	
		R5042ZW		
		R5043ZB	KEYH3A	
		R5043ZW		
		R5044ZB	KEYH4A	
		R5044ZW		
	'E' Series	ER5041ZB	KEYH1A	1 Gang Saturn Zen Key Input Unit
		ER5041ZW		
		ER5042ZB	KEYH2A	
		ER5042ZW		
		ER5043ZB	KEYH3A	
		ER5043ZW		
ER5044ZB		KEYH4A		
ER5044ZW				

To Upgrade Key Input Unit firmware, [click here](#), page 35.

The field informations to configure SpaceLogic C-Bus Saturn and Saturn Zen series are described as below:

<b>Applications</b>	This section displays the lighting applications supported by the Saturn and Saturn Zen series. Up to four lighting applications can be defined and then used throughout the configuration of the Saturn and Saturn Zen series each.		
<b>Keys</b> Depending on the input unit selected, the number of keys will vary	<b>Profiles Enable Group</b> Allows to create a new enable group. By default, <unused> is selected. Click  to create a new enable group. Click <b>OK</b> once the profiles are edited.	<b>Profiles Enable Group</b>	By default, <unused> enable group is selected. Click  to edit the enable group name. Click  to create a new enable group.
		<b>Profiles Selection</b>	Once the enable group is selected, one or all profile can be selected (profile 2, profile 3, profile 4). Profile 1 is selected by default and remains along with other profile selection.
		<b>Disable All Keys</b>	Select the check box to disable all the keys. No key functions will be working if set.
		<b>Profile Name</b>	Profile 1 is selected by default along with the chosen profiles. To edit the profile name, select the profile name and type the new one.
		<b>Power Recovery</b>	By default, profile 1 name will be selected.
	<b>Profile</b>	Allows the keys to change their behavior when triggered. Up to four profiles can be used. Profiles utilize different widgets to define alternate (or same) key behavior for each profile. All the profiles will be available. By default, profile 1 will be selected.	
<b>Key</b>	<b>Widget</b>	<ul style="list-style-type: none"> <li>Widget: Can choose widgets ranging from 1–16.</li> </ul>	

	Each keys can have max of 16 widgets created in it.	Displays the selected widget and application for a particular key.  Depending on the application chosen the key property differs.	<ul style="list-style-type: none"> <li>Click drop-down next to the widget to select the application.</li> <li>Click  to add new widget.</li> <li>Click  to remove the widget.</li> </ul>	
		<b>Function</b>	Click here for more details.	
		<b>Group</b>	Select any existing group or create new using  , or edit group name using  .  Across all widgets in a group, the group address remains the same.	
		<b>Ramp Rate</b>	Ramp rate can be set from instant to max 17 minutes.	
		<b>Indicator</b>	<b>Indicator Assignment</b>	Any of the 16 widget can be assigned to the indicator.
			<b>Indicator On Color</b>	Indicator color can be set to: <ul style="list-style-type: none"> <li>Off</li> <li>8 different colors</li> <li>2 User-defined</li> <li>Dynamic (using C-Bus group to control)</li> </ul> <b>NOTE:</b>  is enabled only for user defined and dynamic changes.
<b>Indicator Off Color</b>	Indicator color can be set to: <ul style="list-style-type: none"> <li>Off</li> <li>8 different colors</li> <li>2 User-defined</li> <li>5 Dynamic (using C-Bus group to control)</li> </ul> <b>NOTE:</b>  is enabled only for user defined and dynamic changes.			

The table below explains the details of widgets selected with its functions.

<b>Lighting</b>	<b>Function</b>	Select one of the below lighting functions:
		<ul style="list-style-type: none"> <li>Toggle</li> <li>On</li> <li>Off</li> <li>Preset</li> <li>Toggle Dimmer</li> <li>Toggle Dimmer Down</li> <li>Toggle Dimmer Up</li> <li>Memory Toggle Dimmer</li> <li>Memory Toggle Dimmer Down</li> <li>Memory Toggle Dimmer Up</li> <li>Dimmer Down</li> <li>Dimmer Up</li> <li>Down</li> <li>Up</li> <li>Soft Down</li> <li>Soft Up</li> <li>Nudge Down</li> <li>Nudge Up</li> <li>Bell Press</li> <li>Custom 1</li> <li>Custom 2</li> <li>Custom 3</li> <li>Custom 4</li> </ul>
		If custom function is selected, files can be imported and exported to software using  and  respectively.
	<b>Group</b>	Select any existing group or create new using  , or edit group name using  .

		Across all widgets in a group, the group address remains the same.
	<b>Ramp Rate</b>	Ramp rate can be set from instant to max 17 minutes.
	<b>Restore Level</b>	By default, restore level is set to 0%.
<b>Timer</b>	<b>Function</b> Allows to select different function available for selected application.	Select one of the below timer functions: <ul style="list-style-type: none"> <li>• Retrigger Timer</li> <li>• Toggle Timer</li> <li>• Delay Timer</li> <li>• Pulse Timer</li> </ul>
	<b>Timer Level</b>	Allows to adjust timer level to a max of 100% (255) to min of 1% (1).
	<b>Ramp Rate</b>	Allows to set ramp rate between 4 sec to 17min.
	<b>Duration</b>	Set the duration for the timer.
	<b>Expiry Level</b>	By default, set to 0%. Expiry level value varies from 0 - 100%.
	<b>Expiry Ramp Rate</b>	By default, expiry ramp rate is set to <b>instant</b> . The values vary from 4 seconds to 17 minutes.
	<b>Enable Timer Flash</b>	Select the check box to enable indicator status. By default, it is enabled.
	<b>Restore Level</b>	Assigned restore level is common across widgets with the same group which varies from 0 to 100%.
<b>Shutter Relay</b>	One of the following shutter relay functions can be selected: <ul style="list-style-type: none"> <li>• Shutter Toggle</li> <li>• Shutter Open/Stop</li> <li>• Shutter Close/Stop</li> <li>• Shutter Open</li> <li>• Shutter Close</li> <li>• Shutter Stop</li> </ul>	
<b>Enable</b>	One of the following enable functions can be selected: <ul style="list-style-type: none"> <li>• Unused (Default)</li> <li>• Toggle</li> <li>• On</li> <li>• Off</li> <li>• Preset <ul style="list-style-type: none"> <li>◦ Preset Level: Allows to set the preset level between 0 - 100 %</li> </ul> </li> </ul>	
	<b>Enable Group</b>	Select any existing group or create new using  , or edit group name using  .
	<b>Restore Level</b>	Assigned restore level is common across widgets with the same group which varies from 0 to 100%.
<b>Fan Cycle</b>	<b>Trigger Group</b>	Select any existing group or create new using  , or edit group name using  .
	<b>Action Selector</b>	Select any existing action selector or create new using  , or edit action selector name using  .
<b>Scene</b>	One of the following scene functions can be selected: <ul style="list-style-type: none"> <li>• Scene Toggle (Default)</li> <li>• Scene Set</li> <li>• Scene Off</li> <li>• Scene Off/Down</li> <li>• Scene On/Up</li> </ul>	
	<b>Scene Label</b>	Select the scenes between 1 - 8. Click  for scene manager, page 194.
	<b>Ramp Rate</b>	Allows to set ramp rate between 4 sec to 17min. This parameter is applicable only for scene functions Scene Off/Down and Scene On/Up.

	<b>Trigger Group</b>	Select any existing group or create new using  , or edit group name using  .	
	<b>Action Selector</b>	Select any existing action selector or create new using  , or edit action selector name using  .	
	<b>Enable Scene Repair</b>	Enable the scene repair by checking the check box. Enabling the scene repair will maintain the scene status if all the items in the scene, match the current live state.	
<b>Sequence</b>	One of the following scene functions can be selected: <ul style="list-style-type: none"> <li>• Sequence Toggle (Default)</li> <li>• Sequence Start</li> <li>• Sequence Off</li> <li>• Sequence Reverse Toggle</li> <li>• Sequence Reverse Off</li> <li>• Sequence Stop</li> </ul>		
	<b>Sequence Label</b>	Select the sequence between 1 - 8. Click  for sequence manager, page 195.	
	<b>Trigger Group</b>	Select any existing group or create new using  , or edit group name using  .	
	<b>Action Selector</b>	Select any existing action selector or create new using  , or edit action selector name using  .	
	<b>Use Delay For Off</b>	Check the check box to enable delay off.	
<b>Audio</b>	<b>Function</b>	Select one of the below audio functions: <ul style="list-style-type: none"> <li>• Volume Up</li> <li>• Volume Down</li> <li>• Volume Cycle</li> <li>• Treble Up</li> <li>• Treble Down</li> <li>• Treble Cycle</li> <li>• Bass Up</li> <li>• Bass Down</li> <li>• Bass Cycle</li> <li>• Balance Left</li> <li>• Balance Right</li> <li>• Balance Cycle</li> <li>• Next Source</li> <li>• Previous Source</li> <li>• Preset Source</li> <li>• Dynamic 1</li> <li>• Dynamic 2</li> </ul>	
	<b>Parameters</b>	<ul style="list-style-type: none"> <li>• Zone Zones available in the range of 0 to 23.</li> <li>• Ramp Rate. Ramp rate ranges from Instant, 4 sec to 17 mins.</li> </ul>	These parameters are applicable for below functions: <ul style="list-style-type: none"> <li>• Volume Up</li> <li>• Volume Down</li> <li>• Volume Cycle</li> <li>• Treble Up</li> <li>• Treble Down</li> <li>• Treble Cycle</li> <li>• Bass Up</li> <li>• Bass Down</li> <li>• Bass Cycle</li> <li>• Balance Left</li> <li>• Balance Right</li> <li>• Balance Cycle</li> </ul>
		<ul style="list-style-type: none"> <li>• Zone Zones available in the range of 0 to 23.</li> </ul>	These parameters are applicable for below functions: <ul style="list-style-type: none"> <li>• Next Source</li> <li>• Previous Source</li> <li>• Dynamic 1</li> <li>• Dynamic 2</li> </ul>
		<ul style="list-style-type: none"> <li>• Zone Zones available in the range of 0 to 23.</li> <li>• Source Zones with available levels ranging from 0 to 7.</li> </ul>	These parameters are applicable for below functions: <ul style="list-style-type: none"> <li>• Preset Source</li> </ul>
<b>Multi-Toggle</b>	Allows to toggle multiple groups in an application.		
	Application Each key can have 4 applications	By default, Lighting application is selected.	

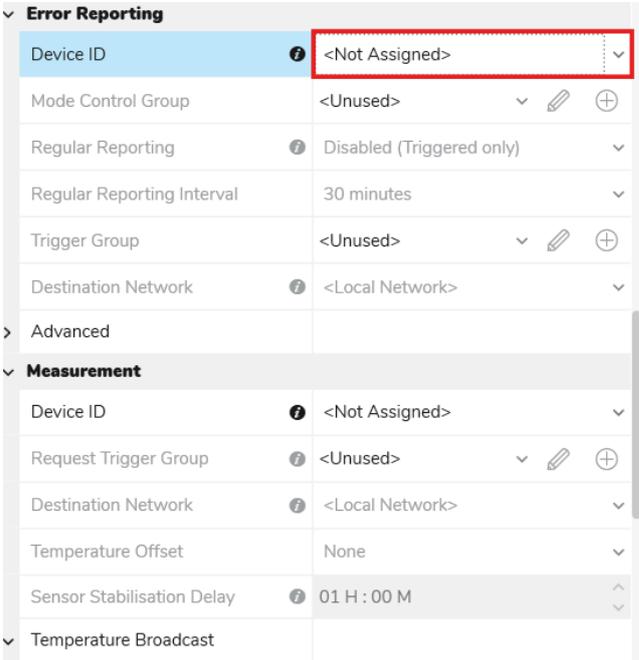
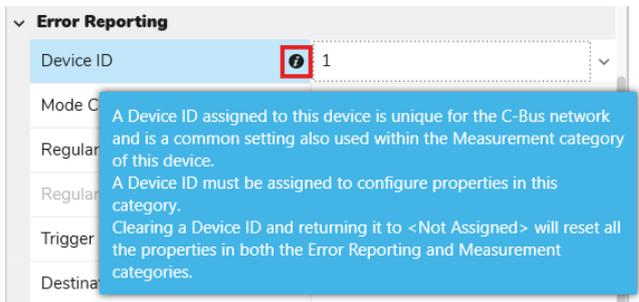
	<p>Groups</p> <p>Each key has 8 Groups</p>	<p>Allows to select available groups in selected lighting application.</p> <p>Allows to select available groups in selected enable application.</p>
<p><b>Linked</b></p>	<p>Allows add conditional logic behavior to a button press of a key.</p> <p><b>IMPORTANT:</b></p> <p>Linked widget will be disabled/hidden in the list when:</p> <ul style="list-style-type: none"> <li>• a linked widget cannot be selected/defined for the first /main widget of a key.</li> <li>• selecting a widget which is already defined as a Linked widget.</li> <li>• selecting a widget number which is already configured as a linked widget type and is assigned to any other Key.</li> </ul> <p>Linked widget will be enabled in the list when:</p> <ul style="list-style-type: none"> <li>• an additional (second or more) widget added to the key (must add another widget to the key to use linked widget).</li> <li>• any widget number is already configured as a linked widget type and is not assigned in any other key.</li> </ul> <p><b>NOTE:</b> An additional (second or more) widget added to the key, widget already assigned to a key cannot be changed/modified to a linked widget. It can only configure a widget which is not assigned.</p> <p>Once the linked widget is selected in a key, the widget number or widget type cannot be modified. The linked widget must be removed from the key and then added again.</p> <hr/> <p><b>Control Widget</b></p> <ul style="list-style-type: none"> <li>• Widgets that are already configured/assigned to the current key are displayed and allowed for selection.</li> <li>• While adding an additional widget to a key, and if the widget number selected is a control widget for an existing linked widget, then the associated linked widget also appears in the (to be added) key.</li> <li>• Removing the first/main widget in a key which is configured as a control widget for a linked widget in the same key displays a confirmation dialogue to confirm the action. On selecting <b>YES</b>, both the control and linked widgets are removed from the key.</li> </ul> <div data-bbox="715 1003 1437 1198" style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p style="background-color: #4caf50; color: white; padding: 2px 5px; display: inline-block;">Confirmation <span style="float: right; font-size: 0.8em;">×</span></p> <div style="text-align: center; margin-top: 10px;"> <span style="color: #ffc107; font-size: 1.5em; margin-right: 5px;">?</span> Delete widget?  <small>This widget is configured as a Control widget in a Linked widget for this key. Deleting this widget will also delete the related Linked widget. Are you sure you want to proceed?</small> </div> <div style="text-align: right; margin-top: 10px;"> <input type="button" value="Yes"/> <input type="button" value="No"/> </div> </div> <p>Click <b>Yes</b> to save the changes in widget and to delete linked widget.          Click <b>No</b> to cancel the operation.</p> <ul style="list-style-type: none"> <li>• Selecting an existing linked widget for a key, the control widget property updates to reflect the first/main widget for that key.</li> <li>• The linked relationship between the linked widget and the control widget in all the keys and across all the profiles are maintained and displayed when:             <ul style="list-style-type: none"> <li>◦ A linked widget is added to a key.</li> <li>◦ A widget is changed/modified to a control widget.</li> </ul> </li> </ul> <p><b>NOTE:</b> Once a control widget is selected, the control selection cannot be modified. The linked widget must be removed from the key and then added again.</p> <hr/> <p><b>Linked Event</b></p> <p>Linked Event options include:</p> <ul style="list-style-type: none"> <li>• Control Widget Turns On</li> <li>• Control Widget Turns Off</li> <li>• Control Widget Timer Expiry</li> </ul> <hr/> <p><b>Linked Action</b></p> <p>Linked Action options include:</p> <ul style="list-style-type: none"> <li>• Turn On</li> <li>• Turn Off</li> <li>• Preset</li> <li>• Turn On and Start Timer</li> <li>• Turn Off and Start Timer</li> <li>• Start Timer</li> <li>• Trigger Event</li> <li>• Enable Event</li> </ul> <hr/> <p><b>Group</b></p> <p>Allows to select among existing groups.</p> <hr/> <p><b>Level/Expiry Level</b></p> <p>Allows to set a level between 1 to 100%.</p> <hr/> <p><b>Ramp Rate/Expiry Ramp Rate</b></p> <p>Allows to set ramp rate between 4 sec to 17 min, by default its instant.</p> <hr/> <p><b>Duration</b></p> <p>Allows to set the duration in hh:mm:ss.</p>	

	<p><b>Disable link in this Profile</b></p>	<p>This property is applicable for all the linked widgets in the current profile. By default it is unchecked.</p> <p>Checking <b>Disable link in this profile</b> will disable the linked widget in the current key.</p> <p>The control widget continues to operate maintaining the linked widget relationship.</p> <p>Property is disabled when profiles are not in use.</p> <p><b>IMPORTANT:</b></p> <ul style="list-style-type: none"> <li>The <b>Disable link in this Profile</b> property can be set only while using more than one profile in the device.</li> </ul>
	<p><b>Indicator</b></p> <p>Indicator Assignment</p> <ul style="list-style-type: none"> <li>The indicator assignment property for the key is displayed only in an enabled state widgets that are not configured as a linked widget for user selection. Linked Widgets are disabled (appear in a disabled state).</li> <li>If a valid widget is already defined for the Indicator Assignment property, then upon modification of the widget type, for that widget to a linked widget type, the Indicator Assignment property updates and selects automatically the first/main widget for the key.</li> </ul> <p>Indicator On Color</p> <p>Allows to set the indicator <b>On</b> color.</p> <p>Indicator Off Color.</p> <p>Allows to set the indicator <b>Off</b> color.</p>	

<p><b>Indicators</b></p>	<p><b>Indicator Application</b></p>	<p>Allows to select among the defined Active Brightness control group and Idle Brightness control group.</p>		
	<p><b>Active Brightness</b></p>	<p>The Active Brightness can be equal to or greater than the Standby Brightness. By default set to 100%.</p> <p>If a group is assigned to the Active Brightness Control Group, then the start up level for that group is the value set here.</p>		
	<p><b>Active Brightness Control Group</b></p>	<p>To control the active brightness, select the group</p> <p>By default, &lt;unused&gt; is selected. Click  to edit the group and  to create new group.</p>		
	<p><b>Standby Timeout</b></p>	<p>The minimum value of 0 sec disables the Standby Timeout for this device.</p>		
	<p><b>Standby Brightness</b></p>	<p>The Standby Brightness can be equal to or less than the Active Brightness. By default set to 100%.</p> <p>If a group is assigned to the Standby Brightness Control Group, then the start up level for that group is the value set here.</p>		
	<p><b>Standby Brightness Control Group</b></p>	<p>To control the idle brightness, select the group</p> <p>By default, &lt;unused&gt; is selected. Click  to edit the group and  to create new group.</p>		
	<p><b>Nightlight Options</b></p>	<p><b>Profile</b></p>	<p>Allows the keys to change their behavior when triggered. Up to four profiles can be used.</p> <p>Profiles utilize different widgets to define alternate (or same) key behavior for each profile.</p> <p>All the profiles will be available. By default, profile 1 will be selected.</p>	
		<p><b>Enable Nightlight</b></p>	<p>Check the check box to enable nightlight.</p>	
<p><b>Ignore First Key Press</b></p>		<p>This field is enabled only when <b>Enable Nightlight</b> is checked.</p>		

	<b>Nightlight Indicator Color</b>	Nightlight Indicator color can be set to: <ul style="list-style-type: none"> <li>• Off</li> <li>• 8 different colors</li> <li>• 2 user defined</li> <li>• 5 Dynamic (using C-Bus group to control)</li> </ul> <p><b>NOTE:</b>  is enabled only for user and dynamic changes</p>
	<b>Nightlight Color Control Group</b> Uses a C-Bus group to control the nightlight. <ul style="list-style-type: none"> <li>• Level 0: Group is off</li> <li>• Above Level 0: Group is on</li> </ul>	By default, <unused> is selected. Click  to edit the group and  to create new group.

<b>Corridor Linking</b>	<b>Application</b>	Select the application to be applicable for corridor linking.
	<b>Link Group</b>	A common group address is assigned to all units sharing the same common area.  By default, <unused> is selected. Click  to edit the group and click  to create new group.
	<b>Corridor Group</b>	The group address that is used for the common area that is adjacent to the office.  By default, <unused> is selected. Click  to edit the group and click  to create new group.
	<b>Office Group</b>	The group address that is used for the Office which is adjacent to the common area.  By default, <unused> is selected. Click  to edit the group and click  to create new group.
	<b>Corridor Timer</b>	Allows to set the timer for corridor timeout. By default, 00H: 05Min: 00s.

<p><b>Error Reporting</b></p>	<p><b>Device ID</b></p>	<p>This field displays the unique Device ID for the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same for measurement.</p> <p>When you assign a Device ID, and then if you set the <b>Device ID to Not Assigned</b>, then all properties in both the <b>Error Reporting and Measurement</b> section are reverted to their default settings and disabled (grey out state).</p>  <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p> 
	<p><b>Mode Control Group</b></p>	<p>This field allows to add an enable group (0–254).</p> <p>If you assign a group, <b>Regular Reporting Interval</b> drop-down is enabled.</p>
	<p><b>Regular Reporting</b></p>	<p>This field configures the Error Reporting mode of the Dimmers into one of modes:</p> <ul style="list-style-type: none"> <li>• Disabled (Triggered only)</li> <li>• All Errors, most recent and most severe</li> <li>• All Errors, most recent only</li> <li>• Minimum Errors, most recent only</li> <li>• Minimum Errors, most recent and most severe</li> </ul> <p>Mouse over on the <b>Regular Reporting</b> info icon to view the tooltip message.</p>
	<p><b>Regular Reporting Interval</b></p>	<p>This drop-down is used to select the time interval period between the completion of a regular report and beginning of the next report in Always On, Most recent only and Always On, Most recent and most severe modes. By default, the interval is 30 minutes</p> <p>Regular reporting interval is enabled for all others except the Trigger Only mode.</p>
	<p><b>Trigger Group</b></p>	<p>This field contains a Trigger Group to trigger an error reporting event for any of the three error reporting modes. When a Trigger group is created, resend and acknowledge action selector are displayed.</p>

		<p>The Resend Action Selector is set to send all errors and Acknowledge Action selector is set to acknowledge all errors.</p>	
	<p><b>Destination Network</b></p>	<p>This field contains the destination C-Bus network to which the key units routes the error reporting messages. This allows the error messages to be sent to a remote C-Bus network for central monitoring if it's not the local network</p> <p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>	
	<p><b>Advanced</b></p>	<p><b>C-Bus Voltage Warning Set Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>C-Bus Voltage Warning Clear Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Clear Threshold</b> value to (current C-Bus Voltage Warning Set Threshold value + 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Warning Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be greater than the <b>C-Bus Voltage Warning Set Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Set Threshold</b> value to (current C-Bus Voltage Warning Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Set Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>C-Bus Voltage Critical Clear Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Critical Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Clear Threshold</b> value to (current C-Bus Voltage Critical Set Threshold value + 1 V).</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> has a value set (other than <b>Disabled</b>), then the value selected must be less than current C-Bus Voltage Warning Set Threshold value.</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Set Threshold</b> info icon to view the tooltip message.</p>

	<b>C-Bus Voltage Critical Clear Threshold</b>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Voltage Critical Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Voltage Critical Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Set Threshold</b> value to current C-Bus Voltage Critical Clear Threshold value - 1 V.</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Clear Threshold</b> info icon to view the tooltip message.</p>
	<b>Unit Over Temperature Set Threshold</b>	<p>This field is a combo box which is by default set to 70 °C.</p> <p>The <b>Unit Over Temperature Set Threshold</b> property increments by 1 °C with a range of 1 °C - 80 °C.</p> <p>Mouse over on the <b>Unit Over Temperature Set Threshold</b> info icon to view the tooltip message.</p>
	<b>Unit Over Temperature Clear Threshold</b>	<p>This field is a combo box which is by default set to 65 °C.</p> <p>The <b>Unit Over Temperature Clear Threshold</b> property increments by 1 °C with a range of 0 °C - 79 °C.</p> <p>Mouse over on the <b>Unit Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>

<b>Measurement</b>	<b>Device ID</b>	<p>This field displays the unique device ID for the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same Error.</p> <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p>
	<b>Request Trigger Group</b>	<p>Select the trigger group for measurement application.</p> <p>By default, &lt;unused&gt; is selected. Click  to edit the group and  to create new group.</p> <p>Mouse over on the <b>Request Trigger Group</b> info icon to view the tooltip message.</p>
	<b>Destination Network</b>	<p>This field contains the destination C-Bus Network to which the key units routes the error reporting messages. This allows the error messages to be sent to a remote C-Bus Network for central monitoring if it's not the local network.</p> <p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>
	<b>Temperature Offset</b>	<p>Allows to set the device to offset between 25 °C to 25 °C.</p>
	<b>Sensor Stabilization Delay</b>	<p>The <b>Sensor Stabilization Delay</b> is applicable to both the onboard temperature and humidity sensors only upon device power up.</p> <p>The device will not send any Measurement data or raise any alarms until the delay time period has elapsed.</p> <p><b>Sensor Stabilization Delay</b> is set in H:M with 1 hour increment for hours and 1 minute increment for minutes. Maximum delay value that can set is 4:14.</p> <p>Mouse over on the <b>Sensor Stabilization Delay</b> info icon to view the tooltip message.</p>

	<b>Temperature Broadcast</b>	<b>Broadcast Interval</b> Allows to set the interval to broadcast temperature	By default <b>Do Not Broadcast</b> is selected.  Broadcast interval can be set between 10 seconds to 40 minutes.
		<b>Broadcast on Change Threshold</b>	By default <b>Disabled</b> is selected.  Broadcasts if the unit crosses the set threshold.
	<b>Humidity Broadcast</b>	<b>Broadcast Interval</b>	By default <b>Do Not Broadcast</b> is selected.  Broadcast interval can be set between 10 seconds to 60 minutes.
		<b>Broadcast on Change Threshold</b>	By default <b>Disabled</b> is selected.  Broadcasts if the unit crosses the set threshold
		<b>Profile</b>	Allows the keys to change their behavior when triggered. Up to four profiles can be used.  Profiles utilize different widgets to define alternate (or same) key behavior for each profile.  All the profiles will be available. By default, profile 1 will be selected.
		<b>Alarm Application</b>	Select the application for alarm.
	<b>Temperature Alarms</b>	<b>Enable High Temperature Alarm</b>	Select the check box to enable alarm on unit's high temperature.
		<b>Alarm Group</b>	Select the group for alarm.  By default, <unused> is selected. Click  to edit the group and  to create new group.
		<b>Enable Group</b>	Select the enable group .  By default, <unused> is selected. Click  to edit the group and click  to create new group.
		<b>Enable Group Restore</b>	This field is enabled only when <b>Enable group</b> is been selected.  Enable group can be restored in one of the following modes: <ul style="list-style-type: none"> <li>• All events disabled (Default)</li> <li>• Only On events enabled</li> <li>• Only Off events enabled</li> <li>• All events enabled</li> </ul>
		<b>Alarm Set Threshold</b>	Set the alarm set threshold between 46 - 60 °C
		<b>Alarm Clear Threshold</b>	Set the alarm clear threshold between 0 - 49 °C
		<b>Enable Low Temperature Alarm</b>	Select the check box to enable alarm on unit's low temperature .
		<b>Alarm Group</b>	Select the group for alarm  By default, <unused> is selected. Click  to edit the

			group and click  to create new group.
		<b>Enable Group</b>	Select the enable group By default, <unused> is selected. Click  to edit the group and click  to create new group.
		<b>Enable Group Restore</b>	This field is enabled only when <b>Enable group</b> is selected. Enable group can be restored in one of the following modes: <ul style="list-style-type: none"> <li>• All events disabled (Default)</li> <li>• Only On events enabled</li> <li>• Only Off events enabled</li> <li>• All events enabled</li> </ul>
		<b>Alarm Set Threshold</b>	Set the alarm set threshold between 0 - 14 °C.
		<b>Alarm Clear Threshold</b>	Set the alarm clear threshold between 11 - 60 °C.
	<b>Humidity Alarms</b>	<b>Enable High Humidity Alarm</b>	Select the check box to enable alarm on unit's high humidity.
		<b>Alarm Group</b>	Select the group for alarm. By default, <unused> is selected. Click  to edit the group and click  to create new group.
		<b>Enable Group</b>	Select the enable group By default, <unused> is selected. Click  to edit the group and click  to create new group.
		<b>Enable Group Restore</b>	This field is enabled only when <b>Enable group</b> is been selected. Enable group can be restored in one of the following modes: <ul style="list-style-type: none"> <li>• All events disabled (Default)</li> <li>• Only On events enabled</li> <li>• Only Off events enabled</li> <li>• All events enabled</li> </ul>
		<b>Alarm Set Threshold</b>	Set the alarm set threshold between 85 - 100 %RH.
		<b>Alarm Clear Threshold</b>	Set the alarm clear threshold between 0 - 85 %RH.
		<b>Enable Low Humidity Alarm</b>	Select the check box to enable alarm on unit's low humidity.
		<b>Alarm Group</b>	Select the group for alarm. By default, <unused> is selected. Click  to edit the group and click  to create new group.
		<b>Enable Group</b>	Select the enable group By default, <unused> is selected. Click  to edit the

			group and click  to create new group.
		<b>Enable Group Restore</b>	This field is enabled only when <b>Enable group</b> is selected.  Enable group can be restored in one of the following modes: <ul style="list-style-type: none"> <li>• All events disabled (Default)</li> <li>• Only On events enabled</li> <li>• Only Off events enabled</li> <li>• All events enabled</li> </ul>
		<b>Alarm Set Threshold</b>	Set the alarm set threshold between 0 - 10 %RH.
		<b>Alarm Clear Threshold</b>	Set the alarm clear threshold between 15 - 100 %RH.
<b>Global</b>	<b>Unit Parameters</b>	Status Request Interval	Allows to set minutes and seconds for status request interval.
		Device Idle Time out	Allows to set minutes and seconds for status request interval.
	<b>Device Scenes</b>	Displays the number of scenes used Scene Manager., page 194	
	<b>Device Sequences</b>	Displays the number of sequence used Sequence Manager, page 195.	
	<b>Device Key Assignments</b>	Key Assignment Overview., page 197	
<b>Unit Identification</b>	<b>Unit Type</b>	This field contains the unit type of the device.	
	<b>Catalogue Number</b>	This field contains the catalog number related to the unit type.	
	<b>Firmware Version</b>	This field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database	
	<b>Part Name</b>	This field contains the part name which is stored in the unit hardware, that can be modified.	
	<b>Unit Address</b>	This field displays the unit address assigned to the device.	
	<b>Serial Number</b>	This field contains the serial number which exists on the physical unit.	
	<b>Tag Name</b>	This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.	
	<b>Notes</b>	This field contains a location to add notes about the unit which is stored in the project database only.	
<b>Status</b>  Status will be displayed only when the unit is live	<b>C-Bus Voltage (V)</b>	Displays the C-Bus Voltage.	
	<b>Unit Humidity (% RH)</b>	Displays unit's humidity.	
	<b>Unit Temperature (°C)</b>	Displays unit's temperature only when the Sensor Stabilization Delay time period is elapsed.	

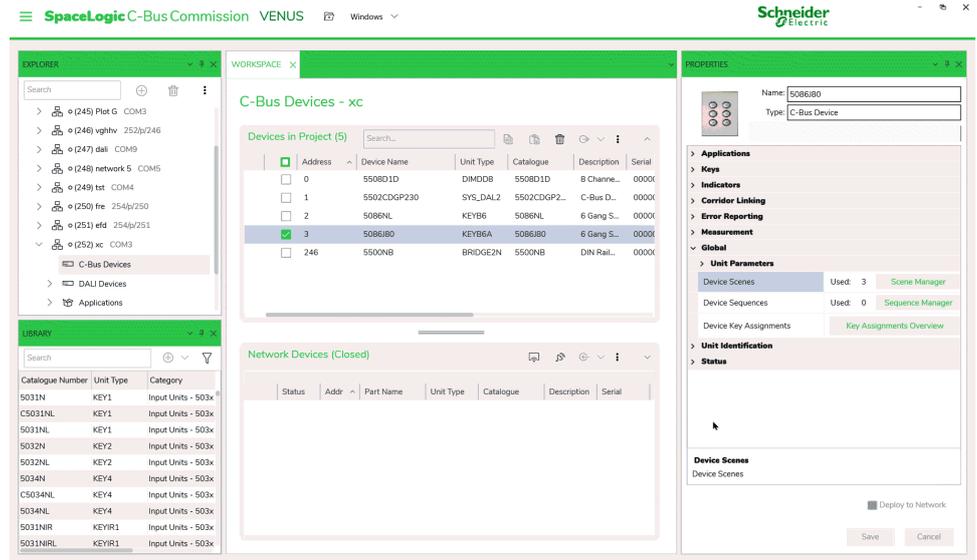
Once configuring relays are completed, click **Save** to save the changes.

## Scene Manager

The **Scene Manager** allows to create, edit and manage scenes for selected C-Bus Device.

New scene items can be added to scenes using any of the available C-Bus group applications 1 to 4 defined for this device.

Some of the functions of scene manager is as demonstrated as below:



**To edit the group name:**

1. Select the group and click **Edit Group**.
2. Enter the new group name.

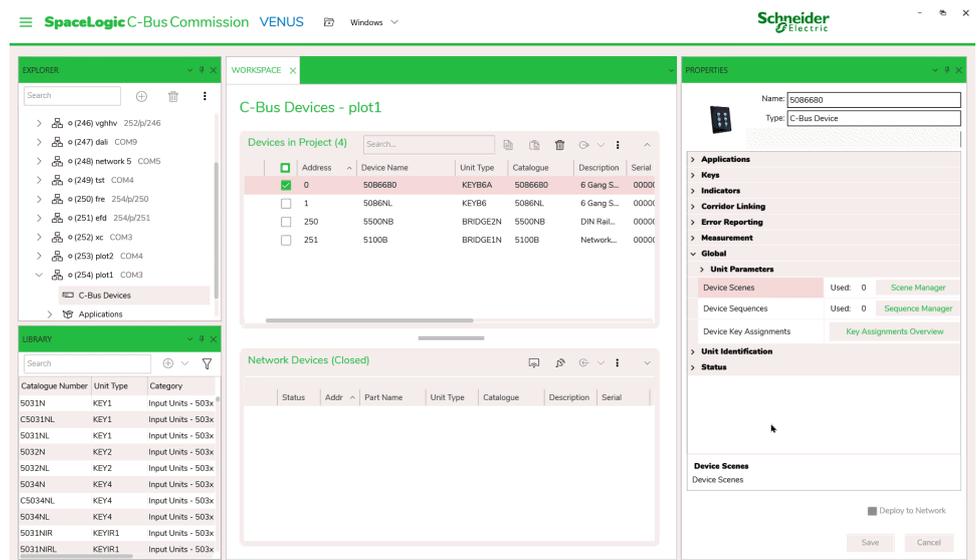
**Clear Scene:** Clear Scene clears all the scene items in the list irrespective of being selected.

**Remove Scene:** Remove Scene removes only the selected scene items from the list back to the group list. (can also remove scene by selecting scene and clicking ▶)

## Sequence Manager

The **Sequence Manager** can create, edit and manage sequences for the selected C-Bus Device. New sequence items can be added to sequences using the available Action types and configured separately.

Some of the functions of **Sequence Manager** is as demonstrated as below:



**Clear Sequence:** Clear sequence clears all the scene items in the list irrespective of being selected.

**Remove Sequence:** Remove sequence removes only the selected scene items from the list (can also remove scene by selecting scene and clicking ▶)

Action Types	Sequence Items				
<b>Delay</b>	Time: Allows to set the delay in M:S				
<b>Lighting</b>	Group: Allows to select from defined application.	Level: Allows to set the level value  Setting the Level value will automatically update the Percentage value.	Percentage:  Setting the Percentage value will automatically update the Level value.	Ramp Rate: Allows to set the ramp rate between 4-17 min. By default it is instant.	
<b>Trigger</b>	Trigger Group: Allows to select from available Trigger groups in Application.	Action Selector: Allows to select from available Action Selectors in selected Trigger group.	—		
<b>Enable</b>	Enable Group: Allows to select from available Enable groups in Application.	Value: Allows to select from available Enable Values in selected Enable group.			
<b>Security</b>	Arm Mode The different arm modes are: <ul style="list-style-type: none"> <li>• Away mode</li> <li>• Night (home) mode</li> <li>• Day mode</li> <li>• Vacation mode</li> <li>• Highest possible</li> </ul>				
<b>Lighting Label</b>		Groups: Allows to select from defined application.	—		
<b>Scene Trigger Label</b>	Label: Allows to define max. 8 labels, edit label name and duplicate the labels.	Trigger Group: Allows to select from predefined Trigger Group, or add a new by editing the name.	Action Selector: Allows to select from predefined Action Selector, or add a new by editing the name.	Language: English (By default and the only language).	Variant: By default has value 1, and ranges from 1 to 4.
<b>Audio</b>	Zone: Zones available in the range of 0 to 23.	Action: Allows to choose action between:	Set Volume to Level Provided.	Volume: Allows to set volume between 0 – 100%.	Ramp Rate: Ramp rate ranges from Instant, 4 sec to 17 mins.
			Set Source to source Provided.	Source: Zones with available levels ranging from 0 to 7.	

<p><b>Media Transport</b></p>	<p>Media Link Group: Address selection range limited to 0 to 31.</p>	<p>Action: Allows to choose action between:</p> <ul style="list-style-type: none"> <li>• Set Power</li> <li>• Set Shuffle</li> <li>• Set Repeat</li> <li>• Set Motion</li> <li>• Set Category: Value ranges from 0 - 127. By default, value is 0.</li> <li>• Set Selection: Value ranges from 0 - 32767. By default, value is 0.</li> <li>• Set Track: Value ranges from 0 - 16777215. By default, value is 0.</li> </ul>	<p>To: Allows to choose operation for selected action from the below options:</p> <ul style="list-style-type: none"> <li>• Power Off</li> <li>• Power On</li> <li>• Shuffle Off</li> <li>• Shuffle On</li> <li>• Repeat Current</li> <li>• Repeat Off</li> <li>• Repeat Track</li> <li>• Stop</li> <li>• Play</li> <li>• Pause</li> <li>• Resume</li> </ul>
-------------------------------	--	---	---

## Key Assignment Overview

The **Key Assignment Overview** window displays a high-level view of the Widget/Function to key mapping per **Profile**.

- Window allows to select each profile as desired (1 to 4).
- The key layout of the window displays the list of keys in the order of 1 to 6 from left to right, and then top to bottom.

Key Assignment Overview
✕

The table below displays the functions and groups assigned to keys for each profile.

**Profile**     Profile 1     Profile 2     Profile 3     Profile 4

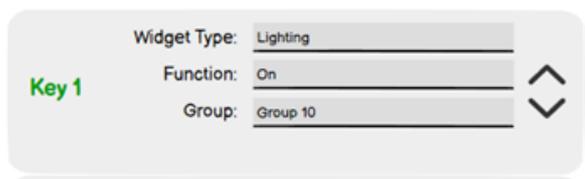
<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 1</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 1)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>	<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 2</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 2)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>
<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 3</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 3)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>	<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 4</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 4)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>
<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 5</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 5)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>	<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Key 6</b>    Widget Type: <u>Lighting</u></p> <p>(Widget 6)    Function: <u>Toggle dimmer</u></p> <p>Group: <u>&lt;Unused&gt;</u></p> </div>

Close

**NOTE:** Each key has a list of widget summary depending on the widget type.

Widget Type	Functions	Properties	Content
Lighting	All	<ul style="list-style-type: none"> <li>Widget Type</li> <li>Function</li> <li>Group</li> </ul>	<ul style="list-style-type: none"> <li>Name of Widget Type</li> <li>Name of Function (All Functions)</li> <li>Group as configured in Widget (by name)</li> </ul>
Timer			
Shutter Relay			
Enable			
Fan Cycle			
Audio			
Linked			
Multi Toggle			
Scene	All	<ul style="list-style-type: none"> <li>Widget Type</li> <li>Function</li> <li>Trigger Group</li> <li>Action Selector</li> </ul>	<ul style="list-style-type: none"> <li>Name of Widget Type</li> <li>Name of Function (All Widget Functions)</li> <li>Trigger Group as configured in Widget (by name)</li> <li>Action Selector as configured in Widget (by name)</li> </ul>
Sequence			

If a key is configured with more than one widget, the key displays UP/DOWN arrows for the user to cycle through all the widgets configured to the key.



The widget configuration for all keys across all profiles is visible. By default, (if a key is not configured) the Key displays the **Lighting** widget type and <Unused> function with the following default properties:

- Widget Type – <Unused>
- Function – <Unused>
- Group – <Unused>

The data/information displayed in the **Key Assignment Overview** dialogue window is read-only.

# Output Units

The output units control the electrical power going to lighting or other electrical devices such as fans and motors. These units fall into categories that are strongly related to the electrical devices which they power, such as relays and dimmers. Relays are designed to control fluorescent bulbs and other non-dimming electrical devices. Dimmers are designed to accommodate electrical devices which use dimming.

The Devices under Output unit category is as listed below:

- Dimmers, page 199
- Relays, page 224

## Dimmers

SpaceLogic C-Bus provides a range of dimming capabilities for Digital dimmers.

To configure digital dimmers, [click here](#), page 199

## Digital Dimmers

The SpaceLogic C-Bus Digital Dimmers are new-generation lighting control dimmers that helps to allow full customization for elegant control of dimmable LED lights and other light sources. The C-Bus dimmer is compatible with a range of load types.

- Trailing edge for incandescent and capacitive input electronic transformer based LV lighting.
- Leading edge for iron-core transformer based LV or neon lighting and other inductive loads.

### Unit Types

- DIMDD8 (5508D1D, 8 Channel 1A DIN Digital Dimmer with switchable C-Bus Power Supply)
- DIMDD4 (5504D2D, 4 Channel 2A DIN Digital Dimmer with switchable C-Bus Power Supply)
- DIMDH4 (5504DHD, 4 Channel High Power DIN Digital Dimmer with switchable C-Bus Power Supply)

To convert old dimmers to new dimmers, [click here](#), page 220.

To upgrade Digital Dimmer firmware, [click here](#), page 35.

To confirm channel dimming mode via live networks, [click here](#), page 223.

To enable/disable **Inbuilt C-Bus Power Supply** function for the Digital Dimmers, [click here](#), page 218.

### **⚠ WARNING**

Dangerous voltages may be present on the output of dimmer channels even though the dimming level is set to zero.

Avoid the risk of electrical shock that could result in death or serious injury by disconnecting the unit from mains power before accessing the output terminals or any connected wiring. This condition is found on many dimming products.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

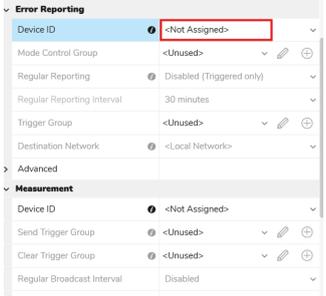
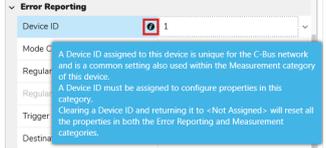
The field information to configure SpaceLogic C-Bus Dimmers is as explained below:

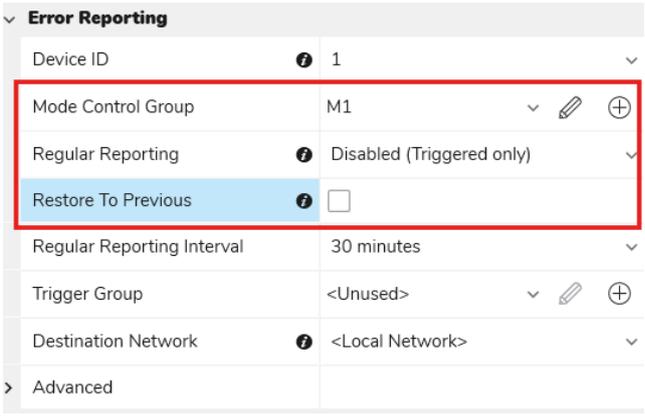
<b>Name</b>	This field allows to modify the Dimmer device name.
<b>Type</b>	This field displays the default device type.
<b>Applications</b>	This section displays the lighting applications supported by the dimmers. Up to four lighting applications can be defined and then used throughout the configuration of the dimmers.
<b>NOTE:</b> Name, and Type are database properties only and not stored in device.	

<b>Channels</b>  <b>NOTE :</b> <ul style="list-style-type: none"> <li>DIMDD8 will have 8 channels</li> <li>DIMDD4 will have 4 channels</li> </ul>	<b>Group</b> This field allows to program group addresses associated with dimmer channels. You can: <ul style="list-style-type: none"> <li>Select group address using drop-down list.</li> <li>Modify group address using .</li> <li>Add group address using .</li> <li>Create a new group name which takes the next available address (it's a fast commissioning option).</li> </ul>		
	<b>Dimming Mode</b>	This field allows to select type of the <b>Dimming Mode: Trailing Edge (TE) or Leading Edge (LE)</b> .	
	<b>Channel Name</b>	This field allows to define the channel name of the dimmer.	
	<b>Channel Location</b>	This field allows to define the channel location of the dimmer.	
	<b>Advanced</b>	<b>Min Level</b>	This field allows to set the minimum level in percentage.
		<b>Max Level</b>	This field allows to set the maximum level in percentage.
		<b>Warn Before off Time</b>	This field allows to set the warn before off time. By default, it is <b>Not enabled</b> .
		<b>Load Profile</b>	Load profile feature allows to set the dimming channel to operate on specific load. By default, the inbuilt load profile is connected to the dimming mode selected.  Maximum of 4 custom profiles can be selected using drop-down list. Custom load profile can be modified using  . For more details, <a href="#">click here, page 207</a>  For more details on custom profile live testing, <a href="#">click here, page 212</a> .
		<b>Dimming Curve</b>	For more details, <a href="#">click here, page 216</a> .
		<b>Power Recovery</b>	This field allows to set the power recovery percentage. By default, it is Restore To Previous.
<b>Power On Delay</b>		This field allows to set the <b>Power On Delay</b> in hours: seconds format.	
<b>Logic</b>	<b>Type</b>	This field allows to select the type of the logic group.	
	<b>Logic Group</b>	This field allows to program logic group addresses associated with dimmer channels.  You can: <ul style="list-style-type: none"> <li>Select group address using drop-down list.</li> <li>Modify group address using .</li> <li>Add group address using .</li> <li>Have maximum 4 logic groups.</li> </ul>	

<p><b>Warn Before off</b></p> <p>This section indicates warning off before the group address is turned off (1–15 minutes) based on the timings set.</p>	<p><b>Warn Before off Enable Group</b></p> <p>It also allows to create a new group name which takes the next available address.</p> <p>In this section, you can :</p> <ul style="list-style-type: none"> <li>• Create a enable group using </li> <li>• Modify existing group using </li> </ul> <p>By default, it is unused. If enable group is created, <b>Restore To Previous</b> is enabled.</p> <p>By typing new name in &lt;unused&gt; space allows you to create a new group name which takes the next available address.</p>	<p><b>Restore To Previous</b></p> <p>If <b>Restore To Previous</b> is unchecked, recovery level is enabled to set. By default, <b>Restore To Previous</b> is checked.</p> <hr/> <p><b>Recovery Level</b></p> <p>Recovery level percentage can be from 0 – 100%</p>
---	--	--

<p><b>Remote On/Off</b></p>	<p>This field allows to choose the combinations of Remote On and Off for each individual channels.</p> <p><b>NOTE :</b></p> <ul style="list-style-type: none"> <li>• DIMDD8 will have 8 channels</li> <li>• DIMDD4 will have 4 channels</li> </ul>
-----------------------------	--

<p><b>Error Reporting</b></p>	<p><b>Firmware Version</b></p>	<p><b>Applicable for firmware version below 1.1.0</b></p>	<p><b>Applicable for firmware version above 1.1.0</b></p>
<p>This section displays the fields for error reporting</p>	<p><b>Device ID</b></p>	<p>This field displays the unit address of the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Measurement</b> section.</p>	<p>This field displays the unit address of the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Measurement</b>.</p> <p>When you assign a Device ID, and then if you set the <b>Device ID</b> to <b>Not Assigned</b>, then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).</p>  <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p> 
	<p><b>Mode Control Group</b></p>	<p>This field allows to add an enable group (0–254).</p> <p>If you assign a group, <b>Restore To Previous</b> field is displayed and <b>Regular Reporting Interval</b> drop-down is enabled.</p> <p>If you uncheck <b>Restore To Previous</b> check box, <b>Regular Reporting</b> field will be enabled.</p> <p>If you check <b>Restore To Previous</b> check box, <b>Regular Reporting</b> will be disabled.</p>	

		
	<p><b>Regular Reporting</b></p>	<p>This field configures the Error Reporting mode of the Dimmers into one of three modes:</p> <ul style="list-style-type: none"> <li>• <b>Triggered only:</b> Errors are reported only when triggered by the assigned Trigger Group.</li> <li>• <b>Always ON, most recent only:</b> The most recent errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>Always ON, most recent and most severe:</b> The most recent and most severe (or latched) errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> </ul> <p>This field configures the Error Reporting mode of the Dimmers into one of the modes:</p> <ul style="list-style-type: none"> <li>• <b>Disabled (Triggered only)</b></li> <li>• <b>All Errors, Most Recent only:</b></li> <li>• <b>All Errors, Most Recent and Most Severe (Mode 2)</b></li> <li>• <b>Minimum Errors, Most Recent only (Mode 3)</b></li> <li>• <b>Minimum Errors, Most Recent and Most Severe (Mode 4)</b></li> </ul> <p>All the modes can be set with the regular reporting interval set to <b>No regular reports</b>, which allows live reporting of errors without the regular reports.</p> <p>Mouse over on the <b>Regular Reporting</b> info icon to view the tooltip message.</p>
	<p><b>Restore to Previous</b></p> <p>If selected, this field restores the data on power failure.</p>	<p>When you click <b>Save</b> with the below conditions:</p> <ul style="list-style-type: none"> <li>• <b>Mode Control Group</b> — Assigned</li> <li>• <b>Restore to Previous</b> — Checked</li> <li>• <b>Regular Reporting</b> — Disabled state</li> </ul> <p>The <b>Regular Reporting</b> displays the last saved value.</p> <p>Mouse over on the <b>Restore to Previous</b> info icon to view the tooltip message.</p> 
	<p><b>Regular Reporting Interval</b></p>	<p>This field is used to select the time interval period between the completion of a regular report and beginning of the next report in Always On, Most recent only and Always On, Most recent and most severe modes. By default, the interval is 30 minutes.</p> <p>Regular reporting interval is enabled for <b>Trigger only</b> mode.</p>
	<p><b>Trigger Group</b></p>	<p>This field contains a Trigger Group to trigger an error reporting event for any of the three error reporting modes. When a Trigger group is created, resend and acknowledge action selector are displayed.</p> <p>The <b>Resend Action Selector</b> is set to send all errors and <b>Acknowledge Action selector</b> is set to acknowledge all errors.</p>
	<p><b>Destination Network</b></p>	<p>This field contains the destination C-Bus network to which the Dimmers routes the error reporting messages. This allows the error messages to be sent to a remote C-Bus network for central monitoring if it's not the local network.</p>

	<p><b>Advanced</b></p>	<p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>	
		<p><b>C-Bus Voltage Warning Set Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected</li> <li>The value selected must be less than the <b>C-Bus Voltage Warning Clear Threshold</b> value selected.</li> <li>If the <b>C-Bus Voltage Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Clear Threshold</b> value to (current C-Bus Voltage Warning Set Threshold value + 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Warning Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Voltage Warning Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Voltage Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Set Threshold</b> value to (current C-Bus Voltage Warning Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Set Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be less than the <b>C-Bus Voltage Critical Clear Threshold</b> value selected.</li> <li>If the <b>C-Bus Voltage Critical Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Clear Threshold</b> value to (current C-Bus Voltage Critical Set Threshold value + 1 V).</li> <li>If the <b>C-Bus Voltage Warning Set Threshold</b> has a value set (other than <b>Disabled</b>), then the value selected must be less than (current C-Bus Voltage Warning Set Threshold value).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Voltage Critical Set Threshold</b> value selected.</li> </ul>

			<ul style="list-style-type: none"> <li>If the <b>C-Bus Voltage Critical Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Set Threshold</b> value to (current C-Bus Voltage Critical Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Power Supply Warning Set Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Power Supply Warning Clear Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Clear Threshold</b> value to (current C-Bus Power Supply Warning Set Threshold value - 10 mA)</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Power Supply Warning Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be less than the <b>C-Bus Power Supply Warning Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Set Threshold</b> value to (current C-Bus Power Supply Warning Clear Threshold value + 10 mA).</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Unit Over Temperature Set Threshold</b></p>	<p>This field is a combo box which is by default set to 70° C .</p> <p>The <b>Unit Over Temperature Set Threshold</b> property increments by 1° C with a range of 1° C - 80° C.</p> <p>Mouse over on the <b>Unit Over Temperature Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Unit Over Temperature Clear Threshold</b></p>	<p>This field is a combo box which is by default set to 65° C .</p> <p>The <b>Unit Over Temperature Clear Threshold</b> property increments by 1° C with a range of 0° C - 79° C.</p> <p>Mouse over on the <b>Unit Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>

	Firmware Version	Applicable for firmware version below 1.1.0	Applicable for firmware version above 1.1.0			
<b>Measurement</b>	<b>Device ID</b>	This field displays the unit address of the device <b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Error Reporting</b> section.	This field displays the unit address of the device. <b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Error Reporting</b> section.  When you assign a Device ID, and then if you set the <b>Device ID</b> to <b>Not Assigned</b> , then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).  Mouse over on the <b>Device ID</b> info icon to view the tooltip message.			
	<b>Send Trigger Group</b>	This field contains a trigger group to request the Dimmers to send its stored measurement data. Mouse over on the <b>Send Trigger Group</b> info icon to view the tooltip message.				
	<b>Clear Trigger Group</b>	This field contains a trigger group to clear the stored measurement data in the dimmers. Mouse over on the <b>Clear Trigger Group</b> info icon to view the tooltip message.				
	<b>Regular Broadcast Interval</b>	NA	Disabled by default. Can set the intervals between 1 min to 4 hours.			
	<b>Regular Broadcast Option</b>	NA	<b>All</b>	Enabled by default		
			<b>Lamp Hours</b>	Selected and Disabled by default		
			<b>Channel Temperature</b>	Selected and Disabled by default		
			<b>Power Supply Current</b>	Selected and Disabled by default		
			<b>C-Bus Voltage</b>	Selected and Disabled by default		
			<b>Unit temperature</b>	Selected and Disabled by default		
<b>NOTE:</b> Deselecting all will enable each of the individual check box options.						
<b>Destination Network</b>	This field contains the destination C-Bus network to which the dimmer routes measurement application messages. Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.					
The action selector for trigger groups is as explained below:	<b>Virtual Channel Number</b>	<b>Property</b>	<b>Units</b>	<b>Reset</b>	<b>Notes</b>	
	0 – 15	Lamp Running Time	Hours	Yes	NA	
	16 – 31	Channel Voltage	Volts	No	Units with power metering only	
	32 – 47	Channel Current	Amperes	No		
	48 – 63	Channel Power	Watts	No		
	64 – 79	Channel Energy	Watt-hours	Yes		
	80 – 95	Channel Lifetime Energy	Watt-hours	No		
	128 – 143	Channel Temperature	Celsius	No	Dimmers only	

	252	C-Bus Power Supply Output Current	Amperes	No	NA
	253	C-Bus Voltage	Volts	No	NA
	254	Unit Temperature	Celsius	NA	NA
<p>Measurement Application supports various operational parameters for triggered request.</p> <p>Measurement Request Trigger Group defines the Trigger Group for the request. A trigger's Action Selector determines which measured parameter is requested.</p> <p><b>NOTE:</b> Action Selector 0xFF requests all measurements (in which they are sent 2 at a time with an interval of 2 seconds). Other Action Selector values can be used to request individual measured properties corresponding to the virtual channel number as per the above table.</p> <p>The DEVICE ID for the Measurements is defined by the Device ID parameter, the same Device ID is used for Error Reporting. The Device ID will be unique per network to differentiate measurements from different devices. The devices monitoring the Measurement messages should keep track of the source network to differentiate if Device IDs are reused across multiple C-Bus networks.</p> <p>If the Device ID parameter is left at its default value of 0xFF then the Unit Address is used as the Device ID in the Measurement Application messages, which ensures uniqueness. However, if the device is readdressed then any monitoring devices will also need to be updated to match the new Device ID (It is recommended to leave the Device ID as the default value).</p>					

<b>Logic Groups</b>  Dimmers can have maximum 4 logic groups each group having respective channels (8 or 4)	<b>Group</b>  This section will allow to create a enable group using  and modify existing group using  .  By default, it is unused. If enable group is created, <b>Restore To Previous</b> is enabled.
	<b>Power Recovery</b>  This field allows to set the power recovery percentage. By default, it is Restore to previous.
	<b>Channel</b>  <b>NOTE :</b> <ul style="list-style-type: none"> <li>• DIMDD8 will have 8 channels</li> <li>• DIMDD4 will have 4 channels</li> </ul>

<b>Global</b>  This section displays the project properties set by the user at the time of creation of the project.	<b>C-Bus Clock</b>  If checked, allows you to enable the C-Bus clock for the dimmers.
	<b>Disable Local Toggle</b>  If checked, disables the local toggle.
	<b>Network Hardware Burden</b>  If checked, the physical hardware burden is plugged into the device.  By default, it is unchecked.
	<b>Inbuilt C-Bus Power Supply</b>  If checked, the power supply is enabled/active.  By default, it is unchecked.
	<b>Disable Dimmer Mode Change</b>  If checked, disables the dimmer mode change.
	<b>Disable Power Supply Toggle</b>  If checked, disables the power supply toggle.
	<b>Disable C-Bus Priority</b>  If checked, disables the C-Bus priority.
	<b>Disable Clock Generator Toggle</b>  If checked, disables the clock generator toggle.

<b>Unit Identification</b>  This section display the fields for identification of the unit.	<b>Unit Type</b>  This field contains the unit type and unit description of the device.
	<b>Catalog Number</b>  This field contains the catalog number related to the unit type.
	<b>Firmware Version</b>  This field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
	<b>Part Name</b>  This field contains the part name which is stored in the unit hardware, which can be modified.
	<b>Unit Address</b>  This field displays the unit address assigned to the device.

	<b>Serial Number</b>	This field contains the serial number which exists on the physical network.
	<b>Tag Name</b>	This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
	<b>Notes</b>	This field contains a location to add notes about the unit which is stored in the project database only.

<p><b>Status</b></p> <p>The Status section contains information about the C-Bus network related functions located on the unit.</p>	<p><b>Device Status</b></p> <p>This section displays the details of hardware.</p>	<b>Hardware Version</b>	This field displays the hardware version of the device.
		<b>Firmware Version</b>	This field displays the firmware version of the device.
		<b>C-Bus Clock Active</b>	This field indicates whether the C-Bus internal clock is currently enabled on the Dimmers on the network.
		<b>C-Bus Voltage (V)</b>	This field displays the C-Bus voltage of the device.
		<b>Inbuilt C-Bus Power Supply Active</b>	This field displays whether the Inbuilt C-Bus Power Supply Active is On or Off.
		<b>Power Supply Load</b>	This field displays the load of the power supply (mA).
		<b>Power Supply Output Voltage</b>	This field displays the power supply output voltage (mV) of the device.
		<b>Load Power</b>	This field displays the load power (mW) of the device.
		<b>Unit Temperature</b>	This field displays the unit temperature (°C) of the device.
	<p><b>Channel Status</b></p> <p>Each channel will have these channel status.</p> <p><b>NOTE :</b></p> <ul style="list-style-type: none"> <li>DIMDD8 will have 8 channels</li> <li>DIMDD4 will have 4 channels</li> </ul>	<b>Load Compatibility</b>	This field displays the status of load incompatibility (Yes/No).
		<b>Dimming Mode</b>	This field displays type of the dimming mode.
		<b>Offline</b>	This field displays the status of the device (Yes/No).
		<b>Dimming Mode Error</b>	This field displays the status of dimming mode error (Yes/No).
		<b>Temperature Wind Back</b>	This field displays the status of temperature wind back (Yes/No).
		<b>Temperature Shut Down</b>	This field displays the status of temperature shut down (Yes/No).
		<b>Over Current</b>	This field displays the status of over current (Yes/No).
		<b>Operating Temperature</b>	This field displays the value of the temperature.
		<b>Mains Frequency</b>	This field displays the value of the mains frequency.

Once configuring dimmers is completed save the changes.

## Load Profile

By adjusting settings within each dimmer channel, a Load Profile tailors dimming behavior for better end-to-end performance.

Inbuilt Load Profiles and the Inbuilt Dimming Curve have the pre configured settings which cannot be modified. If the acceptable results cannot be utilized with the load being used, the settings are customized and applied to a dimmer channel.

A Custom file can also be saved and used within other channels of the dimmer and also shared across other compatible dimmer devices.

Default Dimmer Channel Profile is selected to be the most universal. There are 4 user-configurable dimmer channel profiles. Each channel can be assigned to any one of these 5 profiles. In each case there is a improvement for the light source behavior during dimming, the load profile can be adjusted by the SpaceLogic C-Bus Commission Software.

**NOTE:** The Load Brand, Load Model, Load Quantity, Custom Notes, Load Type and Mains Frequency fields are saved as project settings only. Furthermore, the Load Type and Mains Frequency selections determine the values presented in the Custom Load Profile section.

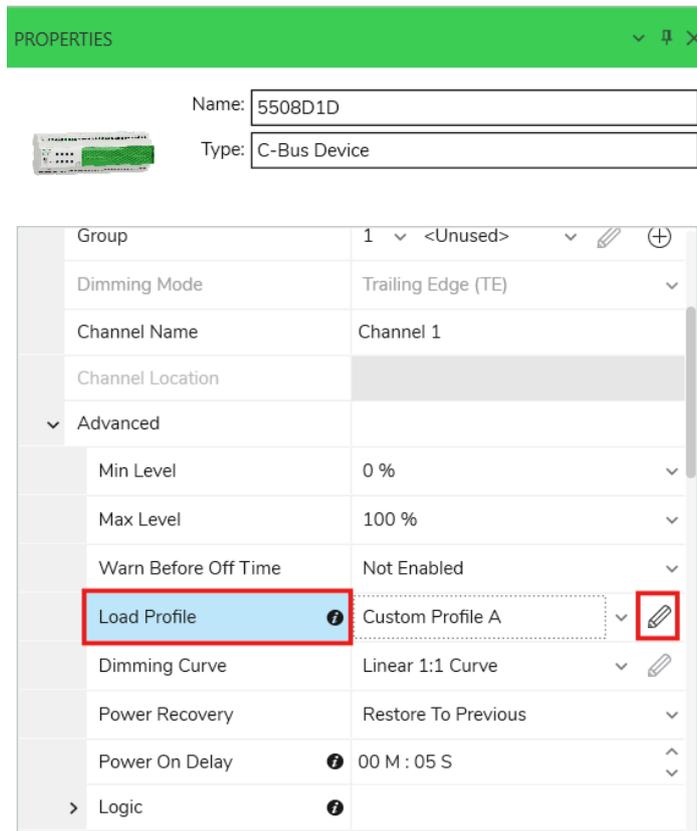
The SpaceLogic C-Bus Commission software allows:

- The customizing of the load profiles per channel.
- 4 user configurable profile per channel/device.
- Saving and sharing of endless load profiles for future project uses.
- Different load types:
  - LED Lighting (TE Dimmable)
  - LED Lighting (LE Dimmable)
  - Electronic Transformer (TE Dimmable)
  - Electronic Transformer (LE Dimmable)
  - Incandescent Lighting (TE Preferred)
  - Incandescent Lighting (LE)
  - Iron Core Transformer (LE)
  - Sweep Fan (LE)
  - Exhaust Fan (LE)
  - Other (LE)
  - Other (TE)

To create a customized load profile:

1. Under **Advanced** section of Channels, select any **Custom Profile** option from **Load Profile** drop-down.

2. Click .



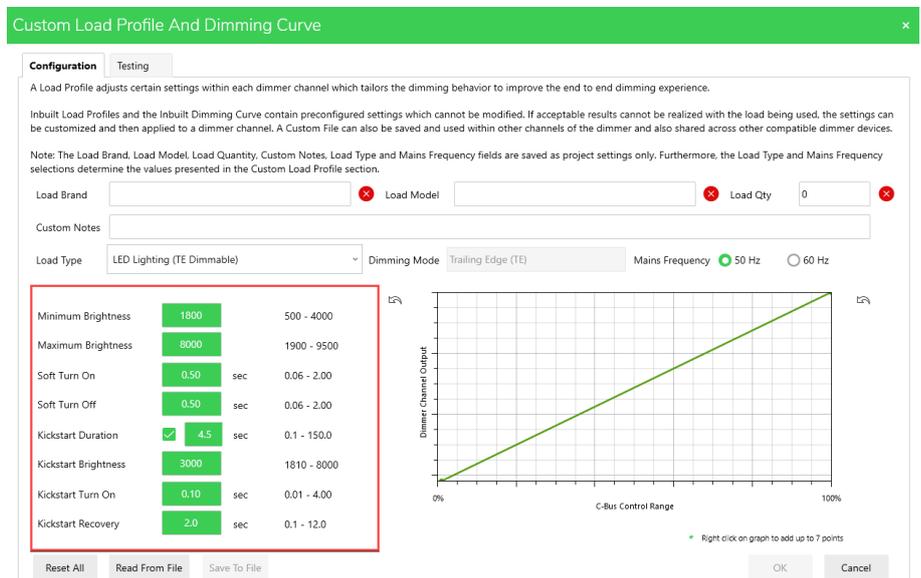
**PROPERTIES**

Name: 5508D1D  
 Type: C-Bus Device

Group	1 <Unused>
Dimming Mode	Trailing Edge (TE)
Channel Name	Channel 1
Channel Location	
Advanced	
Min Level	0 %
Max Level	100 %
Warn Before Off Time	Not Enabled
Load Profile	Custom Profile A 
Dimming Curve	Linear 1:1 Curve 
Power Recovery	Restore To Previous
Power On Delay	00 M : 05 S
Logic	

**Custom Load Profile and Dimming Curve** window is displayed. The load profile customizing is done in **Configuration** tab.

**For 50 Hz**



**Custom Load Profile And Dimming Curve**

**Configuration** | Testing

A Load Profile adjusts certain settings within each dimmer channel which tailors the dimming behavior to improve the end to end dimming experience.

Inbuilt Load Profiles and the Inbuilt Dimming Curve contain preconfigured settings which cannot be modified. If acceptable results cannot be realized with the load being used, the settings can be customized and then applied to a dimmer channel. A Custom File can also be saved and used within other channels of the dimmer and also shared across other compatible dimmer devices.

Note: The Load Brand, Load Model, Load Quantity, Custom Notes, Load Type and Mains Frequency fields are saved as project settings only. Furthermore, the Load Type and Mains Frequency selections determine the values presented in the Custom Load Profile section.

Load Brand:  Load Model:  Load Qty: 0

Custom Notes:

Load Type: LED Lighting (TE Dimmable) Dimming Mode: Trailing Edge (TE) Mains Frequency: 50 Hz

Minimum Brightness	1800	500 - 4000
Maximum Brightness	8000	1900 - 9500
Soft Turn On	0.50 sec	0.06 - 2.00
Soft Turn Off	0.50 sec	0.06 - 2.00
Kickstart Duration	4.5 sec	0.1 - 150.0
Kickstart Brightness	3000	1810 - 8000
Kickstart Turn On	0.10 sec	0.01 - 4.00
Kickstart Recovery	2.0 sec	0.1 - 12.0

Reset All | Read From File | Save To File

OK | Cancel

### For 60 Hz

Custom Load Profile And Dimming Curve

Configuration
Testing

A Load Profile adjusts certain settings within each dimmer channel which tailors the dimming behavior to improve the end to end dimming experience.

Inbuilt Load Profiles and the Inbuilt Dimming Curve contain preconfigured settings which cannot be modified. If acceptable results cannot be realized with the load being used, the settings can be customized and then applied to a dimmer channel. A Custom File can also be saved and used within other channels of the dimmer and also shared across other compatible dimmer devices.

Note: The Load Brand, Load Model, Load Quantity, Custom Notes, Load Type and Mains Frequency fields are saved as project settings only. Furthermore, the Load Type and Mains Frequency selections determine the values presented in the Custom Load Profile section.

Load Brand

Load Model

Load Qty

Custom Notes

Load Type LED Lighting (TE Dimmable)

Dimming Mode Trailing Edge (TE)

Mains Frequency  50 Hz  60 Hz

Minimum Brightness	<input type="text" value="1800"/>	500 - 3330
Maximum Brightness	<input type="text" value="5000"/>	1900 - 7830
Soft Turn On	<input type="text" value="0.50"/> sec	0.03 - 2.00
Soft Turn Off	<input type="text" value="0.50"/> sec	0.03 - 2.00
Kickstart Duration	<input checked="" type="checkbox"/> <input type="text" value="4.5"/> sec	0.1 - 150.0
Kickstart Brightness	<input type="text" value="3000"/>	1810 - 5000
Kickstart Turn On	<input type="text" value="0.10"/> sec	0.01 - 4.00
Kickstart Recovery	<input type="text" value="2.0"/> sec	0.1 - 10.0

Right click on graph to add up to 7 points

Reset All
Read From File
Save To File
OK
Cancel

**NOTE:** The Custom Load Profile parameter values varies depending on the load type selected.

- The lower limit for the **Soft Turn On** property is calculated dynamically. However the lower limit value is no less than 0.01.
- The lower limit for the **Soft Turn Off** property is calculated dynamically. However the lower limit value is no less than 0.01.
- The lower limit for the **Kickstart Brightness** is based on Minimum Brightness + 10.
- The lower limit for the **Kickstart Turn On** property is calculated dynamically. However the lower limit value is no less than 0.01.
- Selecting a **Load Type** will load specific values based on the selection of the **Mains Frequency** property.

**IMPORTANT:** When deploying a DIMDD8 / DIMDD4 dimmer, the dimming mode of each channel of the dimmer device loaded into the **Property Editor** are compared to the live dimmer device. If there is a conflict in the dimming mode of a channel :

A **Channel Dimming Mode Conflict** window is displayed prior to deployment.

Channel Dimming Mode Conflicts

**Channel Dimming Mode Differences**

Differences exist between the configuration of the dimmer in the software compared to the dimmer on the live network. Namely, the Dimming Mode setting in one or more channels is conflicting. Please review if the differences are valid prior to deployment.

Dimmer : NEWUNIT Unit Address : 137

Channel	Channel Dimming Mode - Current Network Device	Channel Dimming Mode - After Deployment	Status
Channel 1	Leading Edge (LE)	Trailing Edge (TE)	Different - will change from LE to TE
Channel 2	Trailing Edge (TE)	Trailing Edge (TE)	No change (same)
Channel 3	Trailing Edge (TE)	Trailing Edge (TE)	No change (same)
Channel 4	Trailing Edge (TE)	Trailing Edge (TE)	No change (same)

**Changing From LE to TE**

For a difference between the software and the live device, where deployment will update the live network device from LE to TE, please note:

- The dimming mode of the channel will need to be confirmed again (double-click channel button on dimmer front panel).
- The assigned Load Profile for the channel is not in effect until the Dimming Mode confirmation is performed.
- Proceeding will change the Dimming Mode of the live network device.

**Changing From TE to LE**

For a difference between the software and the live device, where deployment will update the live network device from TE to LE, please note:

- Proceeding will change the Dimming Mode of the live network device.

Do you want to proceed with deployment to the network?

Yes
No

- Click **Yes** to resolve the conflict and deploy.
  - Click **No** to cancel the deployment.
3. SpaceLogic C-Bus Commission enables saving, uploading or sharing of load profile files which includes the following :
- **Load Brand**
  - **Load Model**
  - **Load Quantity**
  - **Custom Notes associated with the load**
  - **Load Type**
  - **Read-only dimming mode**
  - **Mains Frequency**

Dimming setting includes the following:

Minimum Brightness	<input type="text" value="1800"/>		500 - 4000
Maximum Brightness	<input type="text" value="8000"/>		1900 - 9500
Soft Turn On	<input type="text" value="0.50"/>	sec	0.06 - 2.00
Soft Turn Off	<input type="text" value="0.50"/>	sec	0.06 - 2.00
Kickstart Duration	<input type="checkbox"/> <input type="text" value="0"/>	sec	0.1 - 150.0
Kickstart Brightness	<input type="text" value="3000"/>		1810 - 8000
Kickstart Turn On	<input type="text" value="0.12"/>	sec	0.01 - 4.00
Kickstart Recovery	<input type="text" value="0.1"/>	sec	0.1 - 120.0

4. To edit the preset values, click on the value and type new value within the range which is mentioned next to the parameter.
5. Click  to reset the parameter values.

**Minimum Brightness:** Sets the level where the load operates or is visibly On.

**Maximum Brightness:** Sets the level where the load exhibits no further change in brightness or output.

**Soft Turn On:** Sets the role of change for Instant Ramps. The value is the time taken to transit from Off to Maximum Brightness. This value can also affect the timing of C-Bus Ramps between levels and the output of a dimming curve, which is set to 1 second or less.

**Soft Turn Off:** Sets the role of change for Instant Ramps. The value is the time taken to transit from Off to ON.

**Kickstart Duration:** When enabled, sets the duration to maintain the Kickstart Brightness level before recovering to a lower level if set.

**Kickstart Brightness:** When enabled, sets the dimmer Kickstart Minimum Brightness level before when transition from Off to On (at any level).

**Kickstart Turn On:** When enabled, sets the time in which the Kickstart Brightness level is applied to the load. A value of 10 ms is a Fast or Hard Start (same as a switch). This value is recommended to be set to Fast between 0.010 ton 0.100 seconds.

**Kickstart Recovery:** When enabled, sets the time taken at the end of the Kickstart duration to transition from the Kickstart Brightness level to the currently set level of the load.

If the set level is less than the Kickstart Brightness level, this value is set to Slow to achieve a smooth unnoticeable transition at the end of the kickstart.

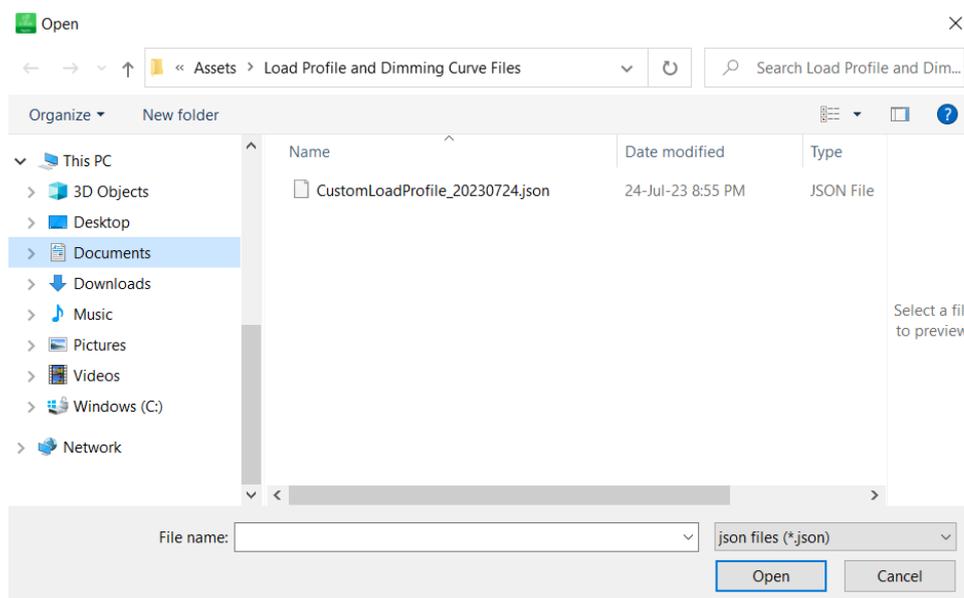
To reset both **Load Profile and Dimming Curve** set values, click **Reset All**.

Enter the required information in **Load Brand**, **Load Model**, **Load Quantity** and **Profile notes** and click **OK**.

The custom load profile settings created can be saved and used for other dimmer channels and dimmer devices by exporting the settings using **Save To File**. The Save to file is enabled once there is a change in the settings.

The exported custom load profile can be reloaded to use for other dimmers using **Read From File**. This will open the folder consisting of JSON files in the path **Assets > Load Profile and Dimming Curve Files**.

Select the file and click **Open**.



## Custom Profile Live Testing

Custom Profile Live Testing allows you to quickly identify and define the minimum and maximum conduction values for a dimmer channel. It uses a direct connection to the dimmer and provides live control of the connected load, without repetitive deployment including:

- Maximize dimming range of connected lights.
- Mask erratic behavior of lights at low brightness levels.
- Mask little/no change in response of lights at high C-Bus control levels.
- Define attributes from live testing rather than experimenting or guessing values to try.

**NOTE:** The maximum conduction value has been changed to 9000 for High-powered dimmer (DIMDH4) and to 9500 for other dimmers.

To perform live testing on the dimmer:

1. In the **PROPERTIES** window, select any custom profile from the **Load Profile** drop-down and click .

**PROPERTIES** ⌵ ⌵ ✕

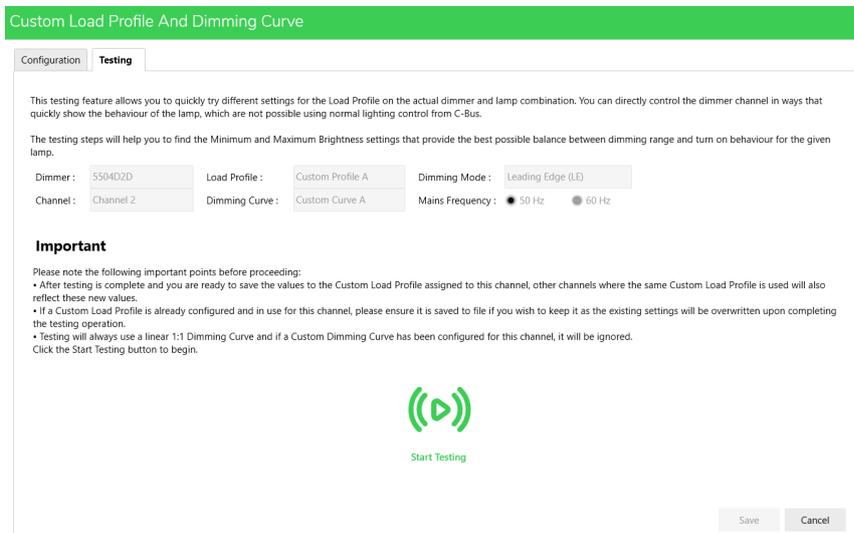
Name:

 Type:

Dimming Mode	Trailing Edge (TE) <span>⌵</span>
Channel Name	Channel 1
Channel Location	
> Advanced	
⌵ Channel 2	
Group	1 <span>⌵</span> <Unused> <span>⌵</span>  
Dimming Mode	Trailing Edge (TE) <span>⌵</span>
Channel Name	Channel 2
Channel Location	
⌵ Advanced	
Min Level	0 % <span>⌵</span>
Max Level	100 % <span>⌵</span>
Warn Before Off Time	Not Enabled <span>⌵</span>
Load Profile 	Custom Profile A <span>⌵</span> 
Dimming Curve	Linear 1:1 Curve <span>⌵</span> 
Power Recovery	Restore To Previous <span>⌵</span>

**Custom Load Profile and Dimming Curve** window is displayed.

2. You can perform live testing in the **Testing** section. The **Testing** tab is disabled initially and becomes enabled when the following conditions are met:
- The C-Bus Network must be opened and scanned.
  - If the dimmer is invoked from project, dimmer must be partial or fully matched.
  - A group address must be set or configured to the channel.



The **Testing** tab displays the below properties of the dimmer:

- Dimmer Device Name.
  - Dimmer Channel Name.
  - Current configured **Load Profile** for the channel.
  - Current configured **Dimming Curve** for the channel.
  - Current configured **Dimming Mode** for the channel.
  - Current configured **Mains Frequency** for the channel.
3. Click  to start the testing.

**NOTE:** The testing operation places the current dimmer channel into test mode, allowing you to explore, test and confirm its dimming capability with the connected load.

## 4. Once the testing starts, the process takes place in three steps.

**Step 1:**

**Custom Load Profile And Dimming Curve**

Configuration | **Testing**

The Minimum Brightness for a load profile affects not only the lowest setting that the channel will dim to, but it may also have an effect on how well the lamp starts up when ramped up from off or turned on at minimum.

Note, the turn on behaviour of lamps can change as the lamp warms up, so once a setting for Minimum Brightness has been made it may be necessary to repeat this step after leaving the lamp off for a few minutes. Also, it is better to not look directly at the lamp, and rather look at the indirect light cast onto a surface such as a wall, floor, or table.

Dimmer :	5504D2D	Load Profile :	Custom Profile A	Dimming Mode :	Leading Edge (LE)
Channel :	Channel 2	Dimming Curve :	Custom Curve A	Mains Frequency :	<input checked="" type="radio"/> 50 Hz <input type="radio"/> 60 Hz

**Step 1 - Find Minimum Brightness**

Enter a value or use the up and down arrows to choose a Minimum Brightness to try. Click the "Set Value" button to apply the setting to the channel, and then use the "Turn On" and "Turn Off" buttons to test how well the lamp turns on at that setting.

Once a setting at which the lamp turns on reliably has been found, leave the lamp on at the Minimum Brightness and look for other issues such as slowly drifting brightness or unstable brightness (flicker or skimmer). If these effects are visible and unwanted, increasing the Minimum Brightness slightly may eliminate them without a major impact on the actual brightness.

Once the desired Minimum Brightness setting has been found, proceed to Step 2 to find the Maximum Brightness.

Minimum Brightness: +50, 1900, -50

Channel: Set Value, Turn On, Turn Off

Step 2

Save Cancel

- Set the lowest acceptable brightness level and click **Set Value** to set the value.

**NOTE:** Until you set the value and click **Set Value**, the **Turn On** and **Turn Off** buttons will be disabled.

- Click **Turn On** to test the turn on behavior at that level.
- Click **Turn Off** to turn off the test at that level.
- Click **Step 2** to test the maximum brightness.

**Step 2:**

**Custom Load Profile And Dimming Curve**

Configuration | **Testing**

The Maximum Brightness is normally the brightness setting where increasing the setting further does not produce any perceptible increase in visible brightness of the lamp.

Note, it is better to not look directly at the lamp, and rather look at the indirect light cast onto a surface such as a wall, floor, or table.

Dimmer :	5504D2D	Load Profile :	Custom Profile A	Dimming Mode :	Leading Edge (LE)
Channel :	Channel 2	Dimming Curve :	Custom Curve A	Mains Frequency :	<input checked="" type="radio"/> 50 Hz <input type="radio"/> 60 Hz

**Step 2 - Find Maximum Brightness**

Use the various step up and step down arrows to see whether increasing or decreasing the Maximum Brightness produces a visible result. The left/right keyboard arrows can also be used to select a range and the up/down keyboard arrows can be used to step the brightness up or down.

Once the desired Maximum Brightness setting has been found, proceed to Step 3.

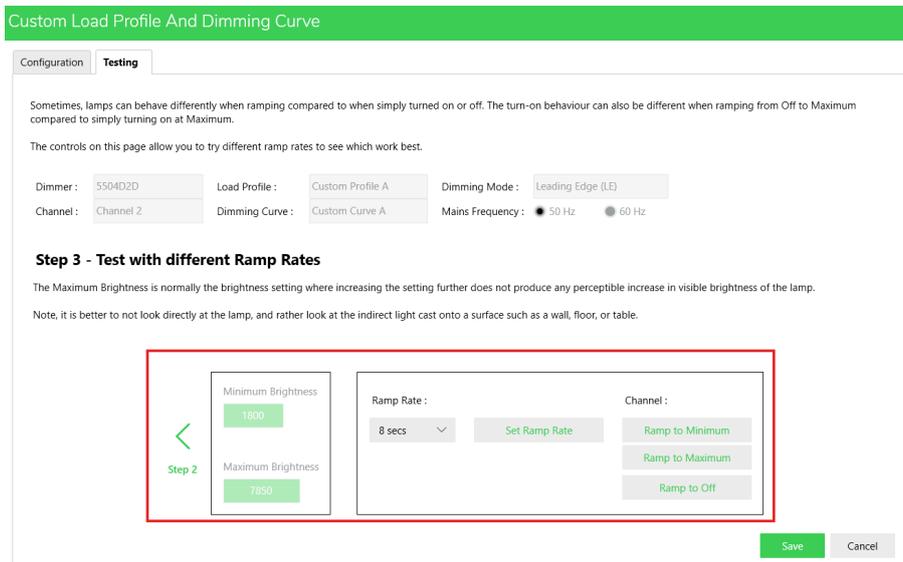
Maximum Brightness: +50, +100, +200, 7850

Step 1 Step 3

Save Cancel

- Set the highest acceptable brightness level.
- Click **Step 3** to test the dimming response.

**Step 3:**

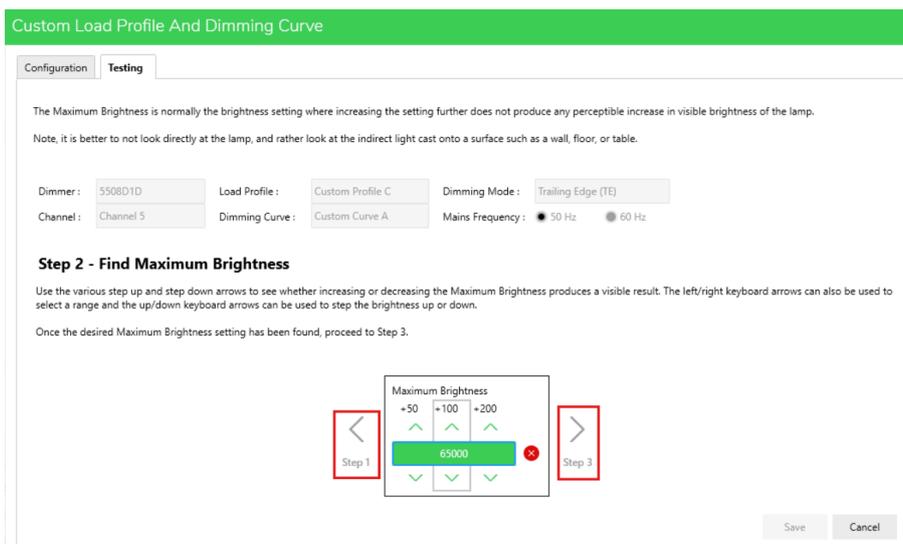


- a. Choose the ramp rate response between the **Minimum** and **Maximum Brightness** limits with the load currently connected, to test and observe the dimming behavior within the range defined in **Step 1** and **Step 2**.

The ramp rate ranges are instant, 4 secs, 8 secs, 12 secs, 20 secs, 30 secs.

- b. Click **Save**.

**NOTE:** If a validation error occurs, the step arrows and labels are disabled.



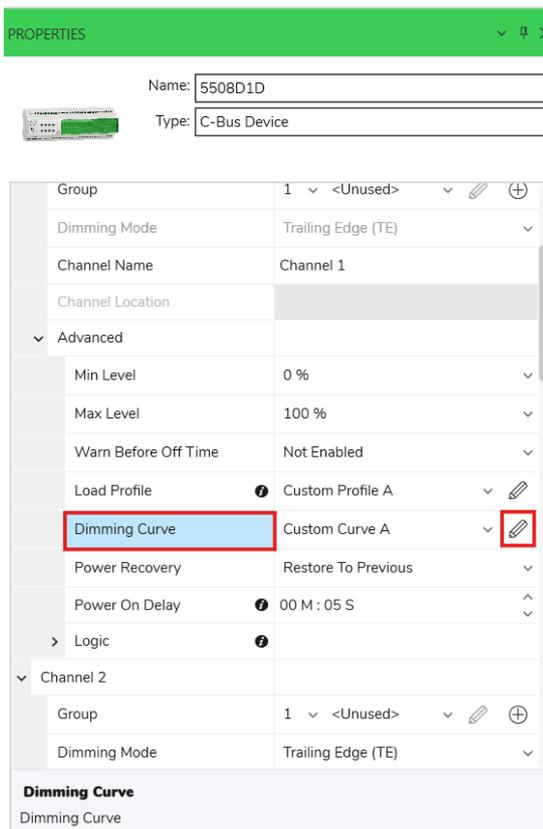
## Dimming Curve

A Dimming Curve refers to a translation between input level and output level. A Dimming Curve adjusts the rate of the change of the brightness level of a dimmer channel as the C-Bus group (level) is ramped. The default dimming curve is linear.

To create a customized Dimming Curve:

1. In **Advanced** section of channels, select **Custom Curve** from the **Dimming Curve** drop-down.

2. Click .

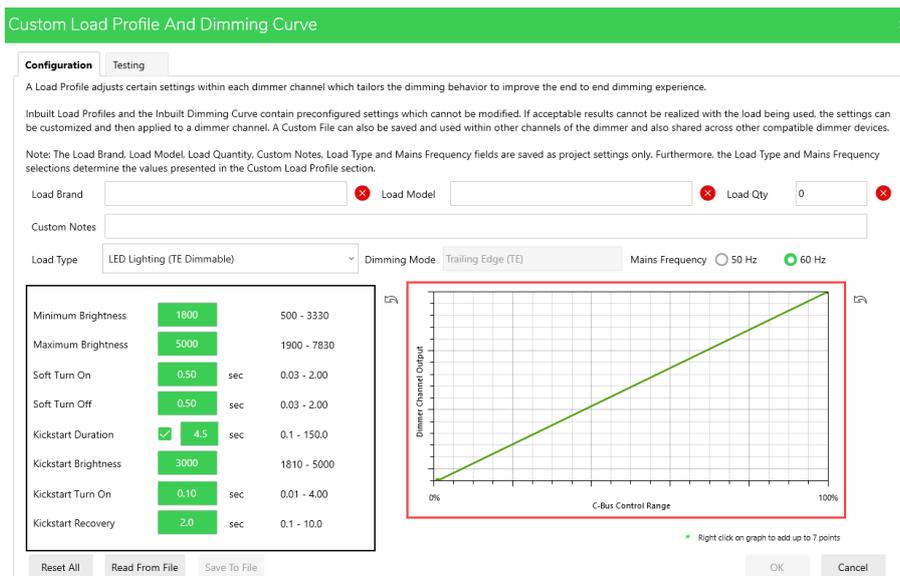


**Custom Load Profile And Dimming Curve** window is displayed.

3. To add new point on chart, right click on the chart and select **Add**.
4. To change the added point, hold and drag the point to set new channel and control range value.

Once settings are completed mention curve notes and confirm **OK**.

The chart in below image represents mapping between load profile and C-Bus control range.

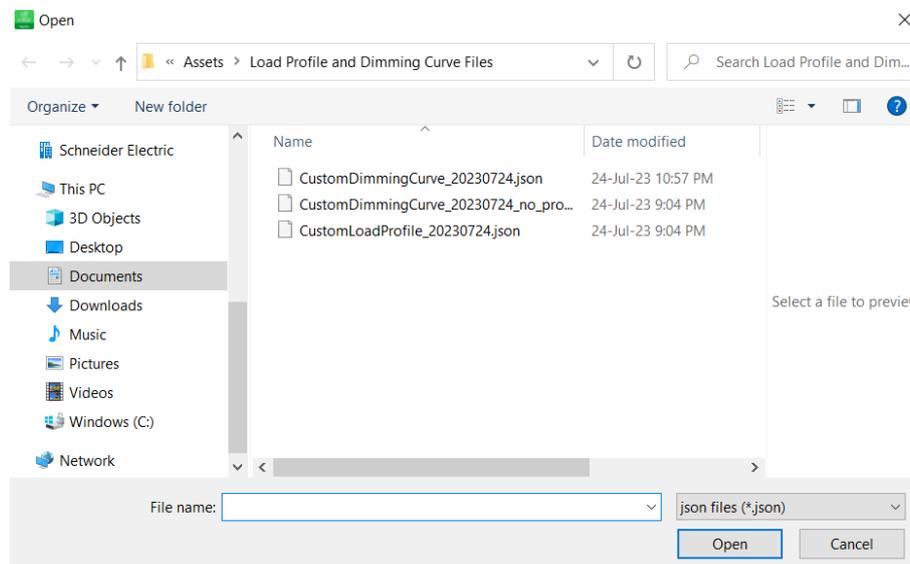


The custom dimming curve settings created can be saved and used for other dimmer channels and dimmer devices by exporting the settings using **Save To File**. The Save to file is enabled once there is a change in the settings.

- Click  to reset the setting values.

The exported custom dimming curve can be reloaded to use for other dimmers using **Read From File** . This will open the folder consisting of json files in the path **Assets > Load Profile and Dimming Curve Files**.

- Select the file and click **open**.

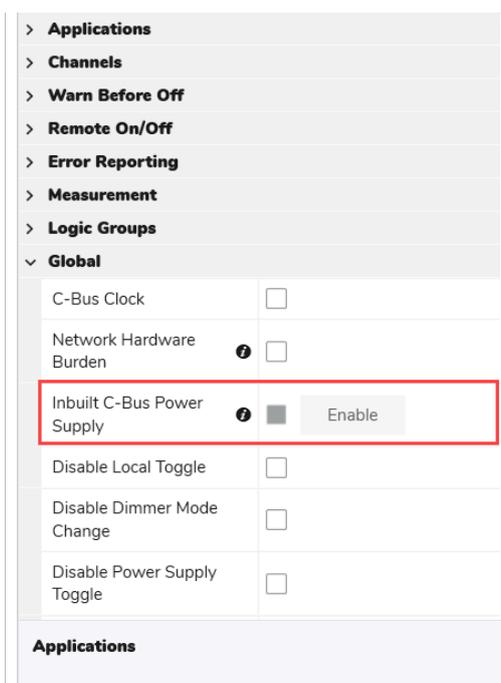


## Inbuilt C-Bus Power Supply

SpaceLogic C-Bus Commission allows to enable/disable the "Inbuilt C-Bus Power Supply" function for the C-Bus Voltage Free Relays and Digital Dimmers.

**NOTE: Enabling/Disabling C-Bus Power Supply from front panel** of the respective device is also possible, refer respective Device User Guide.

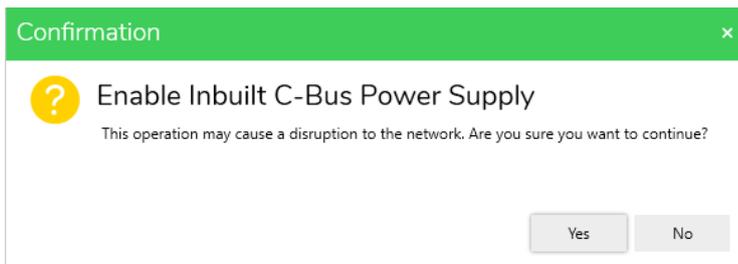
- Select a relay/dimmer unit.
- In **Properties** window, go to **Global > Inbuilt C-Bus power supply**



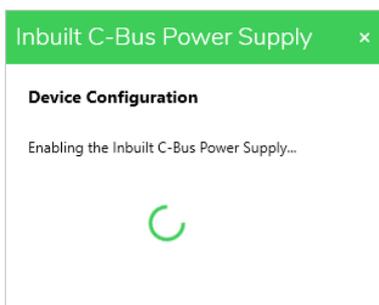
**NOTE:** Option is available only if:

- The C-Bus network is opened and scanned.
- A device is fully/partially matched.

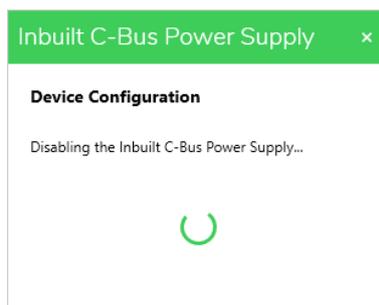
3. Check the check box to enable 'Inbuilt C-Bus power Supply'. Confirmation message is displayed.



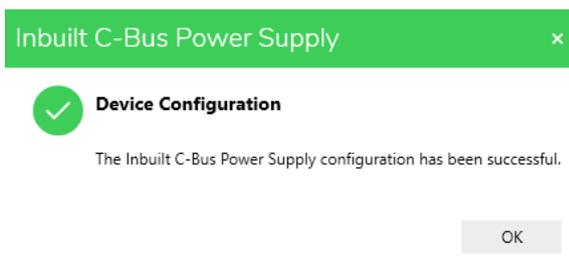
Confirm **Yes**



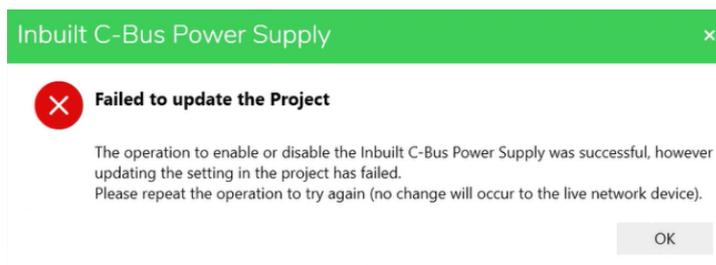
**NOTE:** Uncheck the check box to disable 'Inbuilt C-Bus power Supply' (By default, it is disabled). Confirmation message is displayed.



4. Confirm **Yes**. If device configuration process is successful, below message is displayed.

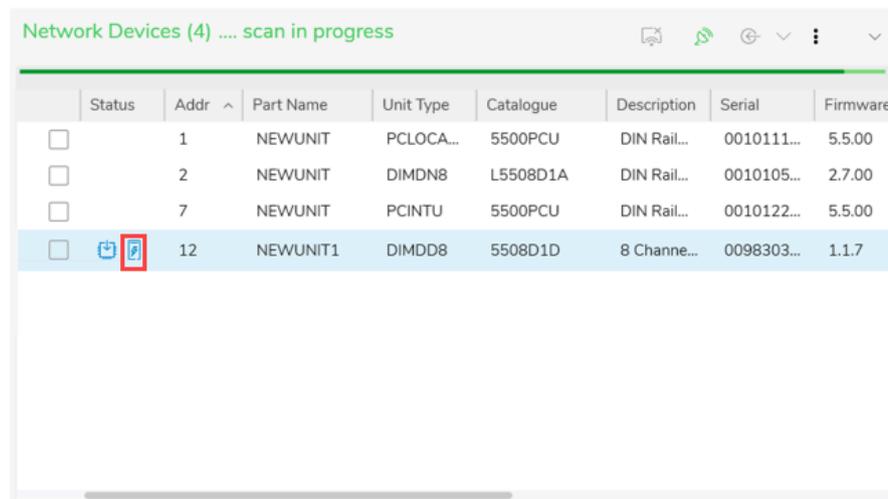


**NOTE:** If the device configuration process is failed, below error message is displayed.



5. The enabled 'Inbuilt C-Bus Power Supply' for a respective device is visible in *Network Device* section as shown below.

The icon  represents 'Inbuilt C-Bus Power Supply' is been enabled for the device.

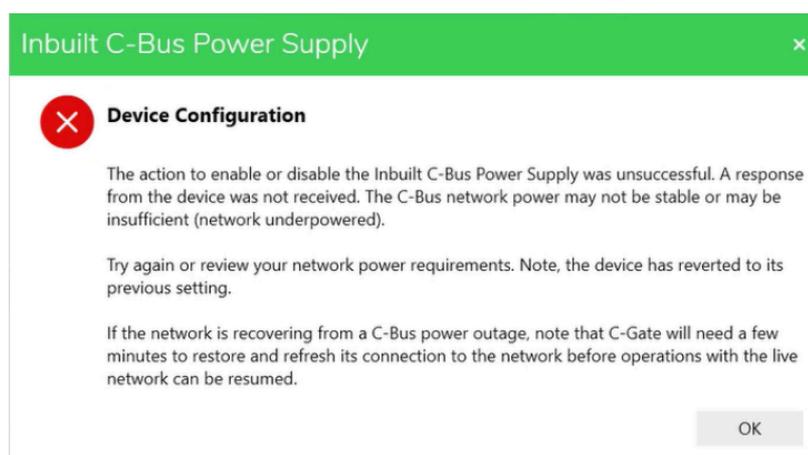


Status	Addr	Part Name	Unit Type	Catalogue	Description	Serial	Firmware
<input type="checkbox"/>	1	NEWUNIT	PCLOCA...	5500PCU	DIN Rail...	0010111...	5.5.00
<input type="checkbox"/>	2	NEWUNIT	DIMDN8	L5508D1A	DIN Rail...	0010105...	2.7.00
<input type="checkbox"/>	7	NEWUNIT	PCINTU	5500PCU	DIN Rail...	0010122...	5.5.00
<input type="checkbox"/> 	12	NEWUNIT1	DIMDD8	5508D1D	8 Channe...	0098303...	1.1.7

**IMPORTANT:** If the power supply enabled device is been removed from the live network and is re-added to the network, the network would be already enabled displaying following message .



If the device configuration reverting to previous settings is failed, below error message is displayed.



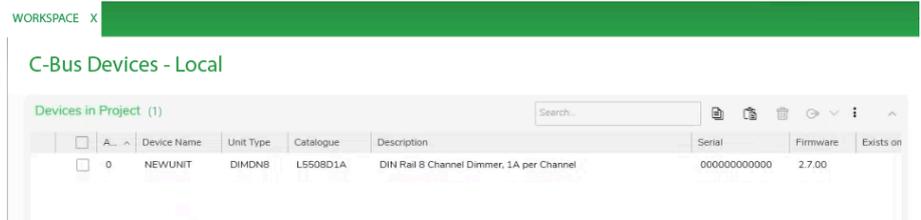
## Dimmer Conversions

If there are old dimmers existing in the project, the SpaceLogic C-Bus Commission allows the user to convert old dimmers to digital dimmers.

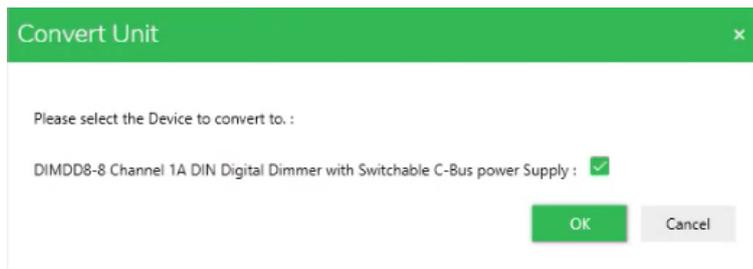
Old Dimmers		New Dimmers	
Catalogue number	Unit Type	Catalogue number	Unit Type
L5508D1A	DIMDN8	5508D1D	DIMDD8
L5504D2A	DIMDN4	5504D2D	DIMDD4
L5504D2U	DIMDU4	5504D2D	DIMDD4

To convert:

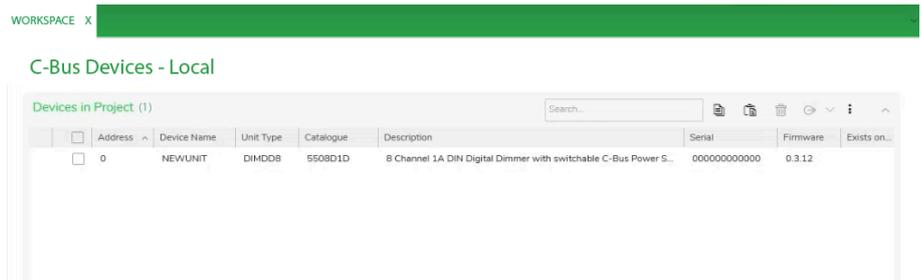
1. Open the same project in commission software same as in Toolkit where the dimmer is added in network.
2. Select **C-Bus Devices** of the network.  
The available devices in the project are displayed.
3. Select the dimmer that needs to be converted.



4. Right click on the **Dimmer > Convert Unit**.  
**Convert Unit** confirmation box is displayed.



5. Select the check box and click **OK**.  
The old dimmer DIMDN8 is converted to digital dimmer DIMDD8.



## 6. When conversion is completed:

- The address of the dimmer remains the same.
- The unit type catalogue description and firmware details are updated.
- The firmware will have the latest version.
- The serial details needs to be updated manually in property window of the device.
- The configuration changes made in old dimmer reflects in the new dimmer as well.

Table below shows the list of properties that will be restored in the digital dimmer DIMDN4 and DIMDN8:

Properties	Properties which are restored	Properties which are not restored
<b>Project Name</b>	Project name will be restored as in the old dimmer.	Not Applicable
<b>Applications</b>	Applications will be restored as in the old dimmer.	Not Applicable
<b>Channel</b>	<ul style="list-style-type: none"> <li>◦ Group Address</li> <li>◦ Channel Restore Level</li> <li>◦ Power on Delay</li> <li>◦ Min, Max</li> </ul>	Not Applicable
<b>Logic</b>	<ul style="list-style-type: none"> <li>◦ Logic Groups</li> <li>◦ Assignment</li> <li>◦ Min, Max</li> </ul>	Area
	<ul style="list-style-type: none"> <li>◦ Logic Recovery</li> <li>◦ Logic group Restore level</li> </ul>	Learn Mode
<b>Power Recovery</b>	Not Applicable	Enable Burden
<b>Global</b>	<ul style="list-style-type: none"> <li>◦ Enable C-Bus Clock</li> <li>◦ Enable Local Toggle</li> <li>◦ Enable C-Bus Priority</li> <li>◦ C-Bus Clock</li> <li>◦ C-Bus Priority</li> <li>◦ Local Toggle</li> </ul>	
<b>Unit Identification</b>	<ul style="list-style-type: none"> <li>◦ Unit Address</li> <li>◦ Part Name</li> <li>◦ Tag Name</li> <li>◦ Notes</li> </ul>	
The Serial details needs to be updated manually in the property editor.		

For DIMDU4, the following properties will be restored.

- Device ID
- Kickstart Duration
- Kickstart Brightness
- Kickstart Turn On
- Error Reporting Mode
- Error Reporting Regular Report Interval
- Error Reporting Group
- Error Reporting Trigger group
- Error Reporting Resend Action Selector
- Acknowledge All Action Selector

Along with existing, additional properties can also be configured in the new digital dimmers.

Once the conversion is completed:

1. Scan the C-Bus Network.
2. Identify new dimmer on the Network.
3. Readdress the device to match live network or readdress device to match the project database.
4. Deploy the device.

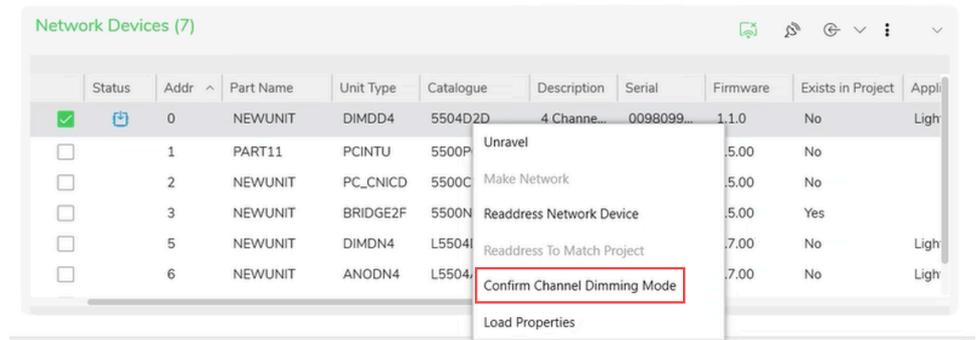
### Channel Dimming mode (Live Network Service)

In **Network Device** section, right-click on the DIMDDx dimmer unit for **Confirm Channel Dimming Mode** option.

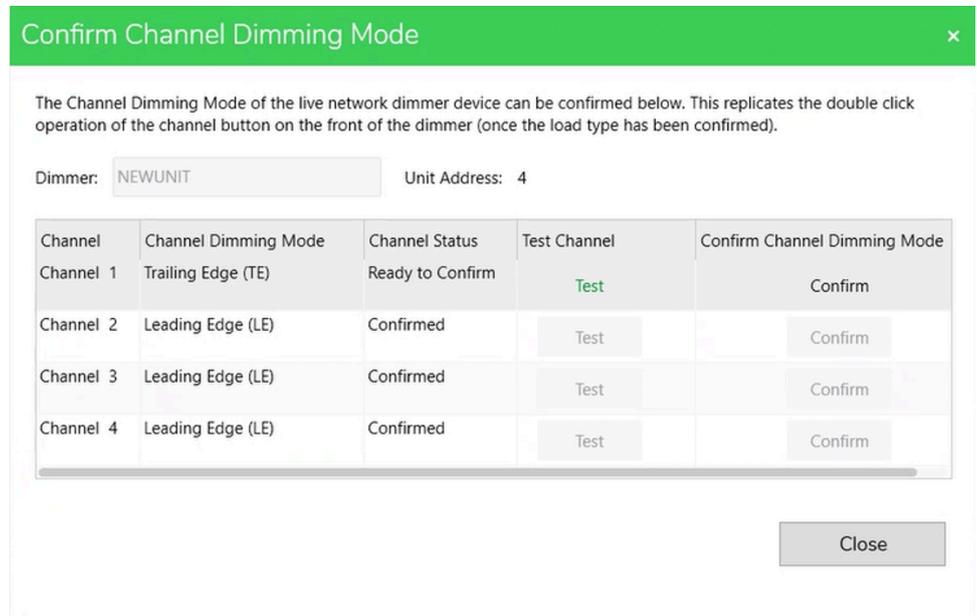
**IMPORTANT:** This function is available only for dimmers with firmware version v1.3 and above:

- The DIMDD8 Dimmer
- The DIMDD4 Dimmer

This function is disabled while selected dimmer device is in **Deployment Queue**.



The **Confirm Channel Dimming Mode** window consists of following information:



- **Dimmer:** Displays part name of the unit.
- **Unit Address:** Displays unit address of the unit.

Fields	Description
Channel	Displays part name of the dimmer.
Channel Dimming Mode	Displays the dimming mode of the channel.



To configure Voltage free relays, click here, page 225

## Voltage Free Relays

### Unit Types

- RELDN4A - 5504RVF - 4 Channel, 16A DIN Rail Voltage Free Relay, Switchable C-Bus Power Supply
- RELDN8A - 5508RVF - 8 Channel, 16A DIN Rail Voltage Free Relay, Switchable C-Bus Power Supply
- RELDN16A - 5516RVF - 16 Channel, 16A DIN Rail Voltage Free Relay, Switchable C-Bus Power Supply

To enable/disable **Inbuilt C-Bus Power Supply** function for the Voltage Free Relays, click here, page 218.

The field information to configure SpaceLogic C-Bus Relay is as explained below:

<b>Applications</b>	This section displays the lighting applications supported by the relays. Up to four lighting applications can be defined and then used throughout the configuration of the relays.		
<b>Channels</b> <b>NOTE:</b> <ul style="list-style-type: none"> <li>• RELDN16A will have 16 channels</li> <li>• RELDN8A will have 8 channels</li> <li>• RELDN4A will have 4 channels</li> </ul>	<b>Group</b> This field allows to program group addresses associated with relay channels. You can: <ul style="list-style-type: none"> <li>• Select group address using drop-down list.</li> <li>• Modify group address using .</li> <li>• Add group address using .</li> <li>• Create a new group name which takes the next available address (it's a fast commissioning option).</li> </ul>		
	<b>Channel Name</b>	This field allows to define the channel name of the relay.	
	<b>Channel Location</b>	This field allows to define the channel location of the relay.	
	<b>Advanced</b>	<b>Turn on Threshold (C-Bus Level)</b>	The turn on threshold has a range of 0 – 255 which are C-Bus levels.
		<b>Warn Before off Time</b>	This field allows to set the warn before off time. <b>Warn Before off Time</b> can be set between 1– 15 min.  By default, it is <b>Not Enabled</b> .  Once <b>Warn Before off Time</b> is set, <b>Warn Before off Level</b> field is displayed and enabled to set the range between 1–100 %.
		<b>Power Recovery</b>	This field allows to set the power recovery percentage.  By default, it is <b>Restore To Previous</b> .
<b>Restrike Delay</b>		This field defines a time between a channel switching off and switching on. Delay is set in minutes:seconds.  This setting is also applicable for upon device power up.  Mouse over on the <b>Restrike Delay</b> info icon to view the tooltip message.	
<b>Logic</b>	<b>Type</b>  This field allows to select the type of the logic group.		

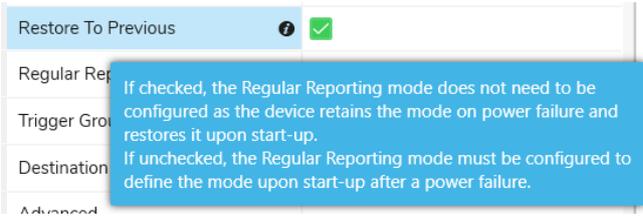
		<p><b>Logic Group</b></p> <p>This field allows to program logic group addresses associated with relay channels.</p> <p>You can:</p> <ul style="list-style-type: none"> <li>• Select group address using drop-down list.</li> <li>• Modify group address using .</li> <li>• Add group address using .</li> <li>• Have maximum 4 logic groups.</li> </ul> <p>Mouse over on the <b>Logic</b> info icon to view the tooltip message.</p>
--	--	--

<p><b>Interlock Channels</b></p> <p>The Relay interlock allows interlocking of multiple relay channels, so that only one relay in a group of interlocked relay is On at any one time.</p>	<p><b>Add Interlock Set</b></p> <p><b>NOTE:</b> The maximum number of interlock sets added depends on the number of Channels assigned to the set.</p> <p><b>Example:</b> Having 2 interlock sets added. If set 1 is assigned with 6 channels, then set 2 can be assigned with only the remaining 10 channels.</p>	<p>Click  to add new channel interlock set.</p> <p>Number of channels to interlock is maximum 16, minimum is 2.</p> <p>Each selected channels in a interlock set can be assigned with highest to lowest priority.</p> <p><b>NOTE: No Channel Interlock</b>, when interlock channels are not added <b>No Channels Interlocked</b> is displayed.</p>
---	---	---

<p><b>Interlock Sets</b></p> <p>Each created interlock sets has the mentioned fields</p> <p>Click  to remove an created interlock set.</p>	<p><b>Interlock Switching Delay (sec)</b></p> <p>Allows to set the seconds of delay for interlock switching between the range 0.1 to 10 sec.</p> <p>Mouse over on the <b>Interlock Switching Delay (sec)</b> info icon to view the tooltip message.</p>
	<p><b>Number of channels to Interlock</b></p> <p>Select the number of channels to interlock (2, 3, 4).</p>
	<p><b>High Priority</b></p> <p>Select the channel to set as an highest priority and allocate the percentage.</p> <p>Click  to remove the assigned priority.</p>
	<p><b>Lowest Priority</b></p> <p>Select the channel to set as an lowest priority and allocate the percentage.</p> <p>Click  to remove the assigned priority.</p>

<p><b>Remote On/Off</b></p>	<p>This field allows to choose the combinations of Remote On and Off for each individual channels.</p> <p><b>NOTE :</b></p> <ul style="list-style-type: none"> <li>• RELDN16A will have 16 channels</li> <li>• RELDN8A will have 8 channels</li> <li>• RELDN4A will have 4 channels</li> </ul>
-----------------------------	--

<p><b>Error Reporting</b></p> <p>This section display the fields for error reporting</p>	<p><b>Device ID</b></p>	<p>This field displays the unit address of the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Measurement</b> section.</p> <p>When you assign a Device ID, and if you set the <b>Device ID to Not Assigned</b>, then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).</p> <div data-bbox="810 338 1458 943"> <p>▼ <b>Error Reporting</b></p> <table border="1"> <tr> <td>Device ID</td> <td><span>?</span> &lt;Not Assigned&gt;</td> <td>▼</td> </tr> <tr> <td>Mode Control Group</td> <td>&lt;Unused&gt;</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Regular Reporting</td> <td><span>?</span> Disabled (Triggered only)</td> <td>▼</td> </tr> <tr> <td>Regular Reporting Interval</td> <td>30 minutes</td> <td>▼</td> </tr> <tr> <td>Trigger Group</td> <td>&lt;Unused&gt;</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Destination Network</td> <td><span>?</span> &lt;Local Network&gt;</td> <td>▼</td> </tr> <tr> <td colspan="3">▶ Advanced</td> </tr> <tr> <td colspan="3">▼ <b>Measurement</b></td> </tr> <tr> <td>Device ID</td> <td><span>?</span> &lt;Not Assigned&gt;</td> <td>▼</td> </tr> <tr> <td>Send Trigger Group</td> <td><span>?</span> &lt;Unused&gt;</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Clear Trigger Group</td> <td><span>?</span> &lt;Unused&gt;</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Regular Broadcast Interval</td> <td>Disabled</td> <td>▼</td> </tr> </table> </div> <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p> <div data-bbox="810 1014 1458 1317"> <p>▼ <b>Error Reporting</b></p> <table border="1"> <tr> <td>Device ID</td> <td><span>?</span> 1</td> <td>▼</td> </tr> <tr> <td>Mode C</td> <td></td> <td></td> </tr> <tr> <td>Regular</td> <td></td> <td></td> </tr> <tr> <td>Regular</td> <td></td> <td></td> </tr> <tr> <td>Trigger</td> <td></td> <td></td> </tr> <tr> <td>Destina</td> <td></td> <td></td> </tr> </table> <p>A Device ID assigned to this device is unique for the C-Bus network and is a common setting also used within the Measurement category of this device.</p> <p>A Device ID must be assigned to configure properties in this category.</p> <p>Clearing a Device ID and returning it to &lt;Not Assigned&gt; will reset all the properties in both the Error Reporting and Measurement categories.</p> </div>	Device ID	<span>?</span> <Not Assigned>	▼	Mode Control Group	<Unused>	▼ ✎ ⊕	Regular Reporting	<span>?</span> Disabled (Triggered only)	▼	Regular Reporting Interval	30 minutes	▼	Trigger Group	<Unused>	▼ ✎ ⊕	Destination Network	<span>?</span> <Local Network>	▼	▶ Advanced			▼ <b>Measurement</b>			Device ID	<span>?</span> <Not Assigned>	▼	Send Trigger Group	<span>?</span> <Unused>	▼ ✎ ⊕	Clear Trigger Group	<span>?</span> <Unused>	▼ ✎ ⊕	Regular Broadcast Interval	Disabled	▼	Device ID	<span>?</span> 1	▼	Mode C			Regular			Regular			Trigger			Destina		
Device ID	<span>?</span> <Not Assigned>	▼																																																						
Mode Control Group	<Unused>	▼ ✎ ⊕																																																						
Regular Reporting	<span>?</span> Disabled (Triggered only)	▼																																																						
Regular Reporting Interval	30 minutes	▼																																																						
Trigger Group	<Unused>	▼ ✎ ⊕																																																						
Destination Network	<span>?</span> <Local Network>	▼																																																						
▶ Advanced																																																								
▼ <b>Measurement</b>																																																								
Device ID	<span>?</span> <Not Assigned>	▼																																																						
Send Trigger Group	<span>?</span> <Unused>	▼ ✎ ⊕																																																						
Clear Trigger Group	<span>?</span> <Unused>	▼ ✎ ⊕																																																						
Regular Broadcast Interval	Disabled	▼																																																						
Device ID	<span>?</span> 1	▼																																																						
Mode C																																																								
Regular																																																								
Regular																																																								
Trigger																																																								
Destina																																																								
	<p><b>Mode Control Group</b></p>	<p>This field allows to add an enable group (0–254).</p> <p>If you assign a group, <b>Restore To Previous</b> field is displayed and <b>Regular Reporting Interval</b> drop-down is enabled.</p> <p>If you uncheck the <b>Restore To Previous</b> check box, <b>Regular Reporting</b> field will be enabled.</p> <p>If you check <b>Restore To Previous</b> check box, <b>Regular Reporting</b> will be disabled.</p> <div data-bbox="810 1585 1458 1995"> <p>▼ <b>Error Reporting</b></p> <table border="1"> <tr> <td>Device ID</td> <td><span>?</span> 1</td> <td>▼</td> </tr> <tr> <td>Mode Control Group</td> <td>M1</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Regular Reporting</td> <td><span>?</span> Disabled (Triggered only)</td> <td>▼</td> </tr> <tr> <td>Restore To Previous</td> <td><span>?</span> <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Regular Reporting Interval</td> <td>30 minutes</td> <td>▼</td> </tr> <tr> <td>Trigger Group</td> <td>&lt;Unused&gt;</td> <td>▼ ✎ ⊕</td> </tr> <tr> <td>Destination Network</td> <td><span>?</span> &lt;Local Network&gt;</td> <td>▼</td> </tr> <tr> <td colspan="3">▶ Advanced</td> </tr> </table> </div>	Device ID	<span>?</span> 1	▼	Mode Control Group	M1	▼ ✎ ⊕	Regular Reporting	<span>?</span> Disabled (Triggered only)	▼	Restore To Previous	<span>?</span> <input type="checkbox"/>		Regular Reporting Interval	30 minutes	▼	Trigger Group	<Unused>	▼ ✎ ⊕	Destination Network	<span>?</span> <Local Network>	▼	▶ Advanced																																
Device ID	<span>?</span> 1	▼																																																						
Mode Control Group	M1	▼ ✎ ⊕																																																						
Regular Reporting	<span>?</span> Disabled (Triggered only)	▼																																																						
Restore To Previous	<span>?</span> <input type="checkbox"/>																																																							
Regular Reporting Interval	30 minutes	▼																																																						
Trigger Group	<Unused>	▼ ✎ ⊕																																																						
Destination Network	<span>?</span> <Local Network>	▼																																																						
▶ Advanced																																																								
	<p><b>Regular Reporting</b></p>	<p>This field configures the Error Reporting mode of the relays into one of the below modes:</p>																																																						

		<ul style="list-style-type: none"> <li>• <b>Disabled (Triggered only):</b> Errors are reported only when triggered by the assigned Trigger Group.</li> <li>• <b>All Errors, most recent only (Mode 1):</b> The most recent errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>All Errors, most recent and most severe (Mode 2):</b> The most recent and most severe (or latched) errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>Minimum Errors, most recent only (Mode 3):</b> The most recent minimum errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>Minimum Errors, most recent and most severe (Mode 4):</b> The most recent and most severe minimum errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> </ul> <p>All the modes can be set with the regular reporting interval set to <b>No regular reports</b>, which allows live reporting of errors without the regular reports.</p> <p>Mouse over on the <b>Regular Reporting</b> info icon to view the tooltip message.</p>
	<p><b>Restore to Previous</b></p>	<p>If selected, this field restores the data on power failure.</p> <p>When you click <b>Save</b> with the below conditions:</p> <ul style="list-style-type: none"> <li>• <b>Mode Control Group</b> — Assigned</li> <li>• <b>Restore to Previous</b> — Checked</li> <li>• <b>Regular Reporting</b> — Disabled state</li> </ul> <p>The <b>Regular Reporting</b> displays the last saved value.</p> <p>Mouse over on the <b>Restore to Previous</b> info icon to view the tooltip message.</p> 
	<p><b>Regular Reporting Interval</b></p>	<p>This field is used to select the time interval period between the completion of a regular report and beginning of the next report in Always On, Most recent only and Always On, Most recent and most severe modes. By default, the interval is 30 minutes.</p> <p><b>Regular Reporting Interval</b> is enabled for <b>Trigger Only</b> mode.</p>
	<p><b>Trigger Group</b></p>	<p>This field contains a Trigger Group to trigger an error reporting event for any of the three error reporting modes. When a Trigger group is created, <b>Resend Action Selector</b> and <b>Acknowledge Action selector</b> fields are displayed.</p> <p>The <b>Resend Action Selector</b> is set to send all errors and <b>Acknowledge Action selector</b> is set to acknowledge all errors.</p>
	<p><b>Destination Network</b></p>	<p>This field contains the destination C-Bus network to which the relays routes the error reporting messages. This allows the error messages to be sent to a remote C-Bus network for central monitoring if it's not the local network.</p> <p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>
	<p><b>Advanced</b></p>	<p><b>C-Bus Voltage Warning Set Threshold</b></p> <ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>C-Bus Voltage Warning Clear Threshold</b> value selected.</li> </ul>

			<ul style="list-style-type: none"> <li>• If the <b>C-Bus Voltage Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Clear Threshold</b> value to (current C-Bus Voltage Warning Set Threshold value + 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Warning Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected</li> <li>• The value selected must be greater than the <b>C-Bus Voltage Warning Set Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Set Threshold</b> value to (current C-Bus Voltage Warning Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Set Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected</li> <li>• The value selected must be less than the <b>C-Bus Voltage Critical Clear Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Critical Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Clear Threshold</b> value to (current C-Bus Voltage Critical Set Threshold value + 1 V).</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> has a value set (other than <b>Disabled</b>), then the value selected must be less than (current C-Bus Voltage Warning Set Threshold value).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected</li> <li>• The value selected must be greater than the <b>C-Bus Voltage Critical Set Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Critical Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Set Threshold</b> value to (current C-Bus Voltage Critical Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Clear</b></p>

			<p><b>Threshold</b> info icon to view the tooltip message.</p> <p><b>C-Bus Power Supply Warning Set Threshold</b></p> <ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Power Supply Warning Clear Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Clear Threshold</b> value to (current <b>C-Bus Power Supply Warning Set Threshold</b> value - 10 mA).</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Set Threshold</b> info icon to view the tooltip message.</p> <p><b>C-Bus Power Supply Warning Clear Threshold</b></p> <ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be less than the <b>C-Bus Power Supply Warning Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Set Threshold</b> value to (current <b>C-Bus Power Supply Warning Clear Threshold</b> value + 10 mA).</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Clear Threshold</b> info icon to view the tooltip message.</p> <p><b>Unit Over Temperature Set Threshold</b></p> <p>This field is a combo box which is by default set to 70° C.</p> <p>The <b>Unit Over Temperature Set Threshold</b> property increments by 1° C with a range of 1° C - 80° C.</p> <p>Mouse over on the <b>Unit Over Temperature Set Threshold</b> info icon to view the tooltip message.</p> <p><b>Unit Over Temperature Clear Threshold</b></p> <p>This field is a combo box which is by default set to 65° C.</p> <p>The <b>Unit Over Temperature Clear Threshold</b> property increments by 1° C with a range of 0° C - 79° C.</p> <p>Mouse over on the <b>Unit Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>
<p><b>Measurement</b></p>	<p><b>Device ID</b></p>	<p>This field displays the unit address of the device.</p> <p><b>NOTE:</b> The Device ID is for the entire device and is as same for <b>Error Reporting</b> section.</p> <p>When you assign a Device ID, and if you set the <b>Device ID</b> to <b>Not Assigned</b>, then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).</p>	

	<b>Send Trigger Group</b>	This field contains a trigger group to request the relays to send its stored measurement data.  Mouse over on the <b>Send Trigger Group</b> info icon to view the tooltip message.		
	<b>Clear Trigger Group</b>	This field contains a trigger group to clear the stored measurement data in the relays.  Mouse over on the <b>Clear Trigger Group</b> info icon to view the tooltip message.		
	<b>Regular Broadcast Interval</b>	NA	Disabled by default. Can set the intervals between 1 min to 4 hours.	
	<b>Regular Broadcast Option</b>	<b>All</b>	Enabled by default.	
		<b>Lamp Hours</b>	Selected and disabled by default.	
		<b>Channel Temperature</b>	Selected and disabled by default.	
		<b>Power Supply Current</b>	Selected and disabled by default.	
		<b>C-Bus Voltage</b>	Selected and disabled by default.	
<b>Unit temperature</b>		Selected and disabled by default.		
	<b>NOTE:</b> Deselecting all will enable each of the individual check box options.			
<b>Destination Network</b>	This field contains the destination C-Bus network to which the relays routes measurement application messages.  Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.			

The action selector for trigger groups is as explained below:	Virtual Channel Number	Property	Units	Reset	Notes
	0 – 15	Lamp Running Time	Hours	Yes	NA
	16 – 31	Channel Voltage	Volts	No	Units with power metering only
	32 – 47	Channel Current	Amperes	No	
	48 – 63	Channel Power	Watts	No	
	64 – 79	Channel Energy	Watt-hours	Yes	
	80 – 95	Channel Lifetime Energy	Watt-hours	No	
	128 – 143	Channel Temperature	Celsius	No	relays only
	252	C-Bus Power Supply Output Current	Amperes	No	NA
	253	C-Bus Voltage	Volts	No	NA
254	Unit Temperature	Celsius	NA	NA	

Measurement Application supports various operational parameters for triggered request.

Measurement Request Trigger Group defines the Trigger Group for the request. A trigger's Action Selector determines which measured parameter is requested.

**NOTE:** Action Selector 0xFF requests all measurements (in which they are sent 2 at a time with an interval of 2 seconds). Other Action Selector values can be used to request individual measured properties corresponding to the virtual channel number as per the above table.

The DEVICE ID for the Measurements is defined by the Device ID parameter, the same Device ID is used for Error Reporting. The Device ID will be unique per network to differentiate measurements from different devices. The devices monitoring the Measurement messages should keep track of the source network to differentiate if Device IDs are reused across multiple C-Bus networks.

If the Device ID parameter is left at its default value of 0xFF then the Unit Address is used as the Device ID in the Measurement Application messages, which ensures uniqueness. However, if the device is readdressed then any monitoring devices will also needs to be updated to match the new Device ID (It is recommended to leave the Device ID as the default value).

<b>Logic Groups</b> relays can have maximum 4 logic groups each group having respective channels (8 or 4)	<b>Group</b> This section will allow to create a enable group using  and modify existing group using  . By default, it is unused. If enable group is created, <b>Restore To Previous</b> is enabled.	
	<b>Power Recovery</b> This field allows to set the power recovery percentage. By default, it is <b>Restore to Previous</b> .	
	<b>Channel</b> <b>NOTE :</b> <ul style="list-style-type: none"> <li>• RELDN16A will have 16 channels</li> <li>• RELDN8A will have 8 channels</li> <li>• RELDN4A will have 4 channels</li> </ul>	

<b>Global</b> This section displays the project properties set by the user at the time of creation of the project.	<b>C-Bus Clock</b>	If checked, allows you to enable the C-Bus clock for the relays.
	<b>Disable Local Toggle</b>	If checked, disables the local toggle.
	<b>Disable Power Supply Toggle</b>	If checked, disables the power supply toggle.
	<b>Disable C-Bus Priority</b>	If checked, disables the C-Bus priority.
	<b>Disable Clock Generator Toggle</b>	If checked, disables the clock generator toggle.

<b>Unit Identification</b> This section display the fields for identification of the unit.	<b>Unit Type</b>	This field contains the unit type and unit description of the device.
	<b>Catalog Number</b>	This field contains the catalog number related to the unit type.
	<b>Firmware Version</b>	This field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
	<b>Part Name</b>	This field contains the part name which is stored in the unit hardware, which can be modified.
	<b>Unit Address</b>	This field displays the unit address assigned to the device.
	<b>Serial Number</b>	This field contains the serial number which exists on the physical network.
	<b>Tag Name</b>	This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
	<b>Notes</b>	This field contains a location to add notes about the unit which is stored in the project database only.

<b>Status</b> The Status section contains information about the C-Bus network related functions located on the unit.	<b>Device Status</b> This section displays the details of hardware.	<b>Hardware Version</b>	This field displays the hardware version of the device.
		<b>Firmware Version</b>	This field displays the firmware version of the device.
		<b>C-Bus Clock Active</b>	This field indicates whether the C-Bus internal clock is currently enabled on the relays within the network.
		<b>C-Bus Voltage (V)</b>	This field displays the C-Bus voltage of the device.
		<b>Inbuilt C-Bus Power Supply Active</b>	This field displays whether the Inbuilt C-Bus Power Supply Active is On or Off.
		<b>Power Supply Load</b>	This field displays the load of the power supply (mA).
		<b>Power Supply Output Voltage</b>	This field displays the power supply output voltage (mV) of the device.
		<b>Load Power</b>	This field displays the load power (mW) of the device.

		<b>Unit Temperature</b>	This field displays the unit temperature (°C) of the device.
--	--	-------------------------	--

Once configuring relay is completed, click **Save** to save the changes.

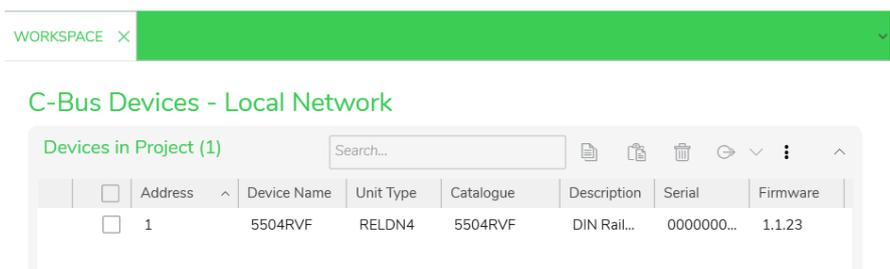
## Relay Conversion

If there are old relays existing in the project, the SpaceLogic C-Bus Commission allows the user to convert old relays to new relays.

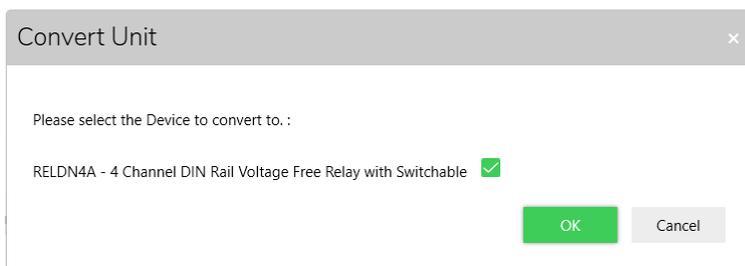
Old Unit Type	New Unit Type
RELDN4	RELDN4A
RELDN8/RELDN8B	RELDN8A
RELDN12	RELDN16A

To convert:

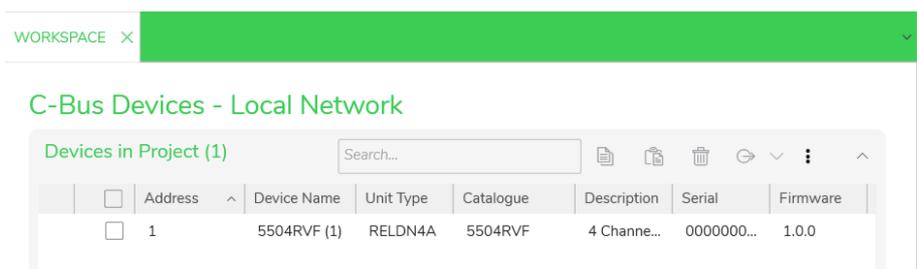
1. Open the same project in commission software same as in Toolkit where the device (old relay) is added in network.
2. Select **C-Bus Devices** of the network.  
The available devices in the project are displayed.
3. Select the device (old relay) that needs to be converted.



4. Right click on the **Relay > Convert Unit**.  
**Convert Unit** confirmation box is displayed.



5. Click **OK**.
6. The old relay RELDN4 is converted to new relay RELDN4A.



**IMPORTANT:** When conversion is completed:

- The address of the relay remains the same.
- The unit type catalogue description and firmware details are updated.
- The firmware will have the latest version.
- The serial details needs to be updated manually in property window of the device.
- The configuration changes made in old relay reflects in the new relay as well.

Table below shows the list of properties that will be restored in the new relay.

**List of properties that will be restored in the RELDN4A, RELDN8A and RELDN16A**

Properties	Properties which are restored	Properties which are not restored
<b>Project Name</b>	Project name will be restored as in the old relay	Not Applicable
<b>Applications</b>	Applications will be restored as in the old relay	Not Applicable
<b>Channel</b>	<ul style="list-style-type: none"> <li>◦ Group Address</li> <li>◦ Turn on Threshold (C-Bus Level)</li> <li>◦ Power Recovery</li> <li>◦ Restrike Delay</li> <li>◦ Interlock Channels</li> </ul>	Not Applicable
<b>Logic</b>	<ul style="list-style-type: none"> <li>◦ Logic Groups</li> <li>◦ Assignment</li> <li>◦ Min, Max</li> </ul>	Area
	<ul style="list-style-type: none"> <li>◦ Logic Recovery</li> <li>◦ Logic group Restore level</li> </ul>	Learn Mode
<b>Power Recovery</b>	Not Applicable	Enable Burden
<b>Global</b>	<ul style="list-style-type: none"> <li>◦ Enable C-Bus Clock</li> <li>◦ Enable Local Toggle</li> <li>◦ Enable C-Bus Priority</li> </ul>	
<b>Unit Identification</b>	<ul style="list-style-type: none"> <li>◦ Unit Address</li> <li>◦ Part Name</li> <li>◦ Tag Name</li> <li>◦ Notes</li> </ul>	
The serial details needs to be updated manually in the property editor.		

Once the conversion is completed:

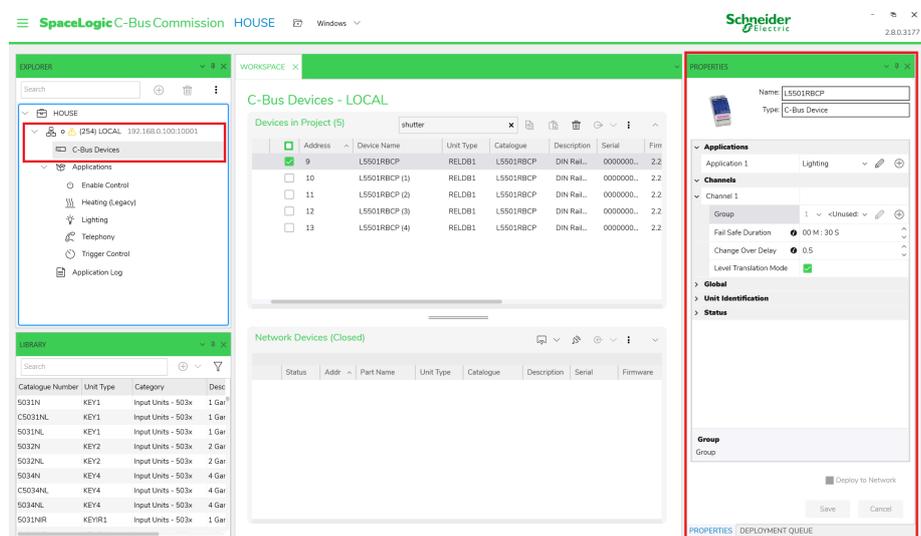
1. Scan the C-Bus network.
2. Identify new relay on the **Network**.
3. Readdress the device to match live network or readdress device to match the project database.
4. Deploy the device.

# Shutter Relay

The Shutter Relay device is a C-Bus relay output unit for controlling motorised blinds, curtains, and window shutters. It also allows natural light to be incorporated into a lighting solution.

## Prerequisites:

- A project must be open in the SpaceLogic C-Bus Commission software. The Shutter Relay device must already be added to a **Devices in Project** of a network (Adding Shutter Relay is similar to adding any C-Bus device).
  - This section displays the name and type of the Shutter Relay device. The name of the Shutter Relay device can be renamed and also allows the user to configure different operational features for Shutter Relay devices added to each network.
1. Select a Network from the project.
  2. Click **C-Bus Devices** of a network.
  3. Select Shutter Relay device from **Devices in Project**. The selected Shutter Relay device properties are displayed in the **PROPERTIES** window.



**NOTE:** The fields in the device properties can be modified as per the project requirement.

4. The field information to configure SpaceLogic C-Bus Shutter Relay is explained below:

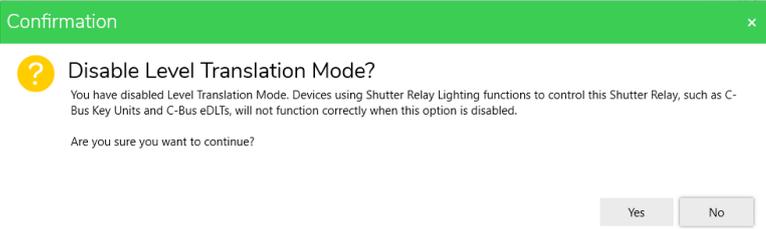
<p><b>Applications</b></p>	<p>This section displays the lighting applications supported by the Shutter Relays. Only one lighting application can be defined and then used throughout the configuration of the Shutter Relays.</p> <ul style="list-style-type: none"> <li>Click . The <b>Add Application</b> pop-up appears.</li> </ul> <div data-bbox="459 349 1066 730" style="border: 1px solid #ccc; padding: 10px; margin-bottom: 10px;"> <div style="background-color: #4CAF50; color: white; padding: 5px; display: flex; justify-content: space-between;"><span>Add Application</span><span>×</span></div> <p>Address * <input type="text" value="49"/></p> <p>Name * <input type="text" value="Lighting"/> <small>(1 to 32 characters)</small></p> <p>Description : <input type="text"/></p> <p><small>* Required fields</small></p> <div style="display: flex; justify-content: flex-end; gap: 10px;"> <span style="background-color: #4CAF50; color: white; padding: 5px 10px;">Create</span> <span style="background-color: #ccc; padding: 5px 10px;">Cancel</span> </div> </div> <ul style="list-style-type: none"> <li>Enter the required details and then click <b>Create</b>. The application is created and listed in the <b>Application 1</b> drop-down.</li> <li>Click  to modify the application name.</li> </ul> <div data-bbox="459 902 1066 1283" style="border: 1px solid #ccc; padding: 10px; margin-bottom: 10px;"> <div style="background-color: #4CAF50; color: white; padding: 5px; display: flex; justify-content: space-between;"><span>Edit Application</span><span>×</span></div> <p>Address * <input type="text" value="56"/></p> <p>Name * <input type="text" value="Lighting"/> <small>(1 to 32 characters)</small></p> <p>Description : <input type="text"/></p> <p><small>* Required fields</small></p> <div style="display: flex; justify-content: flex-end; gap: 10px;"> <span style="background-color: #4CAF50; color: white; padding: 5px 10px;">Save</span> <span style="background-color: #ccc; padding: 5px 10px;">Cancel</span> </div> </div> <ul style="list-style-type: none"> <li>Make necessary changes and then click <b>Save</b>.</li> </ul>
<p><b>Channels</b></p> <p><b>NOTE:</b> RELDB1 will have 1 channel</p>	<p><b>Group</b></p> <p>This field allows to program group addresses associated with Shutter Relay channels.</p> <ul style="list-style-type: none"> <li>You can select group address using drop-down.</li> <li>Click  to add group address. The <b>Add Group</b> pop-up appears.</li> </ul> <div data-bbox="459 1572 1066 1890" style="border: 1px solid #ccc; padding: 10px; margin-bottom: 10px;"> <div style="background-color: #4CAF50; color: white; padding: 5px; display: flex; justify-content: space-between;"><span>Add Group</span><span>×</span></div> <p>Add a new Group to application Lighting</p> <p>Group Address * <input type="text" value="0"/></p> <p>Group Name * <input style="border: 2px solid red; color: red; font-weight: bold; text-align: center; width: 100px; height: 20px; vertical-align: middle;" type="text"/> <span style="color: red; font-weight: bold; font-size: 1.2em;">×</span></p> <p><small>* Required fields</small></p> <div style="display: flex; justify-content: flex-end; gap: 10px;"> <span style="background-color: #ccc; padding: 5px 10px;">OK</span> <span style="background-color: #ccc; padding: 5px 10px;">Cancel</span> </div> </div> <ul style="list-style-type: none"> <li>Enter the required details and then click <b>OK</b>. The group is created and listed in the <b>Group</b> drop-down.</li> </ul>

- Click  to modify group address. The **Edit Group** pop-up appears.



- Make necessary changes and then click **OK**.

You can also create a new group name which takes the next available address (it's a fast commissioning option).

<b>Fail Safe Duration</b>	Select the time for fail safe duration from the drop-down.
<b>Change Over Delay</b>	Select the time for minimum delay permitted between completing an open or close operation and commencing another.
<b>Level Translation Mode</b>	<p>If you uncheck the <b>Level Translation Mode</b> check box, a <b>Confirmation</b> pop-up appears.</p>  <p>Click <b>Yes</b> to disable level translation mode.</p>

<p><b>Global</b></p> <p>This section displays the project properties set by the user at the time of creation of the project.</p>	<b>Area</b>	<p>This field displays the area address, which is set to unused by default. You can use the <b>Area</b> drop-down to program the unit to be part of a specific area.</p> <ul style="list-style-type: none"> <li>Click  to add group address. The <b>Add Group</b> pop-up appears.</li> <li>Click  to modify group address. The <b>Edit Group</b> pop-up appears.</li> </ul>		
	<b>Unit Options</b>	<b>Enable C-Bus Clock</b>	If checked, you can enable the C-Bus clock for the Shutter Relays.	
		<b>Enable Burden (Software)</b>	You can enable/disable the <b>Enable Burden</b> check box only if the unit address is set to 1 and the <b>Enable C-Bus Clock</b> check box is selected.	
		<b>Enable Local Toggle</b>	If checked, you can enable the local toggle for the Shutter Relays.	
		<b>Enable C-Bus Priority</b>	If checked, you can enable the C-Bus priority for the Shutter Relays.	
	<b>Learn Mode</b>	<b>Allow Learn Mode</b>	Select the <b>Allow Learn Mode</b> check box to enable the <b>Application Learn</b> drop-down.	
		<b>Application Learn</b>	The <b>Application Learn</b> drop-down is enabled only if the <b>Allow Learn Mode</b> check box is selected.	
		<b>Unit Has Learned</b>	This field displays <b>Yes</b> if the unit has been learned and <b>No</b> if the unit has not been learned.	

<p><b>Unit Identification</b></p> <p>This section display the fields for identification of the unit.</p>	<b>Unit Type</b>	This field displays the unit type and unit description of the device.
	<b>Catalog Number</b>	This field displays the catalog number related to the unit type.
	<b>Firmware Version</b>	This field displays the version number of the C-Bus interface firmware which exists on the physical network

		or which has been assigned to a logical representation of the unit in the database.
	<b>Part Name</b>	This field displays the part name which is stored in the unit hardware, which can be modified.
	<b>Unit Address</b>	This field displays the unit address assigned to the device.
	<b>Serial Number</b>	This field contains the serial number which exists on the physical network.
	<b>Tag Name</b>	This field displays the name that you can provide to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
	<b>Notes</b>	This field displays a location to add notes about the unit which is stored in the project database only.

<b>Status</b> The Status section contains information about the C-Bus network related functions located on the unit.	<b>C-Bus Clock Active</b>	This field displays whether the C-Bus internal clock is currently enabled on the Shutter Relays on the network.
	<b>C-Bus Voltage (V)</b>	This field displays the C-Bus voltage of the device.
	<b>Learn Mode Active</b>	This field displays the status of the learn mode.
	<b>Burden (Software) Active</b>	This field displays the status of the burden (software).
	<b>Local Toggle Active</b>	This field displays the status of the local toggle.

Once Shutter Relay configuration is completed, **Save** the changes.

# Support Units

C-Bus units which provide support for the C-Bus network are generally known as support units. Some support units are responsible for linking a C-Bus network to another network or other system or protocol. They include bridges to connect C-Bus networks to one another, DALI gateways to connect to DALI networks, and interface units to connect to PCs, laptops as well as third party control devices. Other support units include: Telephony interfaces, IR transmitters, and C-Bus power supplies.

These units physically link a C-Bus network to another network or other system or protocol. They include C-Bus bridges, which link two wired networks, as well as wired to wireless gateways to connect to C-Bus wired networks.

- Bridges, page 239
- Gateways, page 240
- PC Interfaces, page 268

## Bridges

The C-Bus bridges provide connectivity between wired C-Bus networks, see [Add bridge network](#)

There are two types of wired bridges:

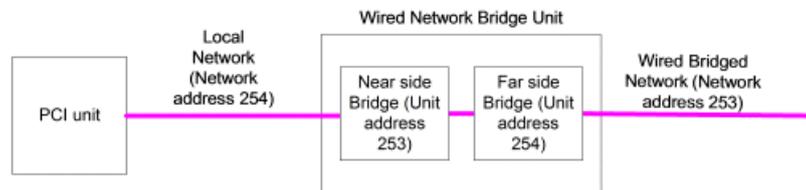
- C-Bus network bridge (5100B)
- C-Bus network bridge (5500NB)

Each of the bridge units have a near and far side, which relates to whether the side is connected to a local or remote network.

The local and wired bridged networks are linked together by a network bridge unit. When the wired bridged network is added, the network bridge appears as a unit in both the local and wired network. In the local network, the bridge is listed as Near side network bridge unit. In the wired bridged network, the bridge appears as Far side network bridge unit.

When the network bridge is configured, the Near side network bridge unit address has the same value as the far side network (Wired Bridged) address and the Far side network bridge unit has the same value as the near side network (Local) address

### Local and Wired Bridged network joined by a single network bridge



List of Bridge unit devices:

- 5500NB [BRIDGE2F] and 5500NB [BRIDGE2N]
- 5100B [BRIDGE1F] and 5100B [BRIDGE1N]
- SLC5500NB [BRIDGE2F] and SLC5500NB [BRIDGE2N]

The C-Bus bridge configuration provides the ability to view unit identification and unit status information as well as configure global settings.

Field		Description
Connection	Links to Network	Displays the network it is linked with in the far side of the bridge.

	<p><b>Route C-Bus Applications to</b></p> <p>This section allows to select, whether they want to send the C-Bus message to Adjacent or Remote network by checking the check box.</p> <p><b>NOTE:</b> Remote network check box will not be enabled unless there is a remote network to route to.</p>	<p>Displays whether the network is adjacent or remote</p> <p>Remote network will be enabled when more than 1 network is linked .</p>
	<p><b>C-Bus Application Policy Rule</b></p> <p>This section allows to control the messages which are passed between the wireless to the wired network by defining at least one of the two drop down lists.</p>	<p>Policy Rule 1</p> <p>Policy Rule 1 drop down list allows to select all or specifically only one application. If All Applications is selected, messages for all applications will be passed between the networks.</p> <p>Policy Rule 2</p> <p>If you select only one application type, the Policy Rule 2 drop down list, will offer a secondary choice of application type.</p>
<p><b>Global</b></p> <p>This section allows users to check and update the C-Bus clock information.</p>	C-Bus Clock	The C-Bus Clock check box enables/disables the resident C-Bus clock. The Enable C-Bus Clock check box is ticked (enabled) by default.
	Burden	The Enable Burden check box enables/disables the resident network burden. The Enable Burden check box is operational if the unit address is 001 and the Enable C-Bus Clock check box is ticked. Otherwise, the Enable Burden check box is non-operational [greyed out]. If the operational Enable Burden check box is ticked, then the resident burden is enabled.
<p><b>Unit Identification</b></p> <p>This section display the fields for identification of the unit.</p>	Unit Type	The Unit Type field contains the unit type and unit description of the device.
	Firmware Version	The Firmware Version field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
	Catalogue Number	The Catalog Number field contains the catalog number related to the unit type.
	Part Name	The Part Name field contains the part name which is stored in the unit hardware.
	Unit Address	This field displays the unit address assigned to the device.
	Serial Number	The Serial number field contains the serial number which exists on the physical network.
	Tag Name	The Tag Name field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
<p><b>Status</b></p> <p>The Status section contains information about the C-Bus network related functions located on the unit.</p>	C-Bus Clock Active	The Clock Active indicates whether the C-Bus internal clock is enabled on this C-Bus unit. If activated, the indicator is lit. If not activated, the indicator is greyed out.
	Burden Active	The Burden Active indicates whether the C-Bus burden is active on this C-Bus unit. If active, the indicator is lit. If not active, the indicator is greyed out.
	Voltage	Voltage field contains the voltage level available to the unit. The voltage level displayed refreshes whenever the Update Status button is clicked.

## Gateways

The available Gateway devices are visible in **Library** window, select  > **Support units > Gateways**

## C-Bus DALI-2 Gateway

The SpaceLogic C-Bus DALI-2 Gateway is an interface that allows controlling, managing and monitoring of DALI Lighting and Emergency Lighting devices. It allows to configure and commission DALI Lighting and Emergency Lighting devices in conjunction with C-Bus units.

### Unit Type

SYS\_DAL2 (5502CDGP230)

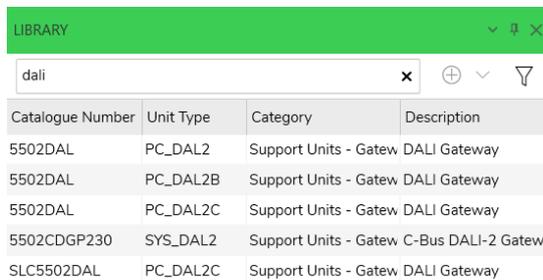
DALI-2 gateway:

- Is a DALI-2 certified multi-master application controller
- Supports full functionality of DALI device types DT0, DT1, DT6
- Enables comprehensive reporting on DALI devices and lines status and failures over C-Bus reporting feature
- Warn before off functionality indicates the lights are about to turn off by visual warning
- Allows switching, dimming for individual devices, groups, and broadcast addressing modes and flexible scene triggering via DALI group and broadcast addressing
- Provides 2-way mapping between DALI and C-Bus

## Add DALI-2 Gateway

**Prerequisites:** Make sure your project is Open, and network has been selected.

1. Select the *Network* .
2. Click *C-Bus Devices*.
3. Type “Dali” in **Library** window *Search* bar.



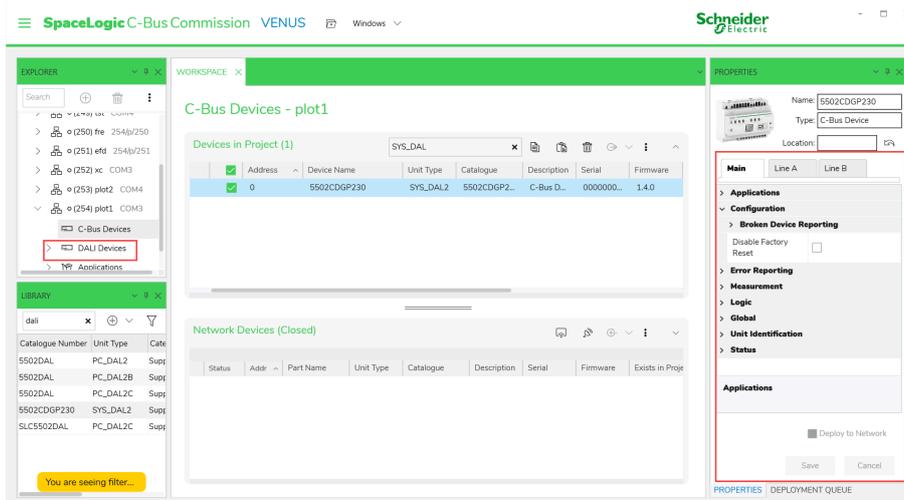
You are seeing filtered results

**Step result:** All the Dali gateways are displayed.

4. Select DALI-2 gateway (SYS\_DAL2) and click ⊕

**Step result:** DALI-2 gateway is added to the *Devices in Project* section

- Once DALI-2 gateway is added to the *Devices in Project* section, Dali devices is displayed in **Library** window and gateway properties is displayed in **Property** window.



Make sure **Properties** window has been selected in the **Windows**

**NOTE:** Adding multiple DALI-2 Gateway is similar to ADD Multiple C-Bus devices, page 68

To configure DALI 2 Gateway, click here, page 242

## DALI-2 Gateway

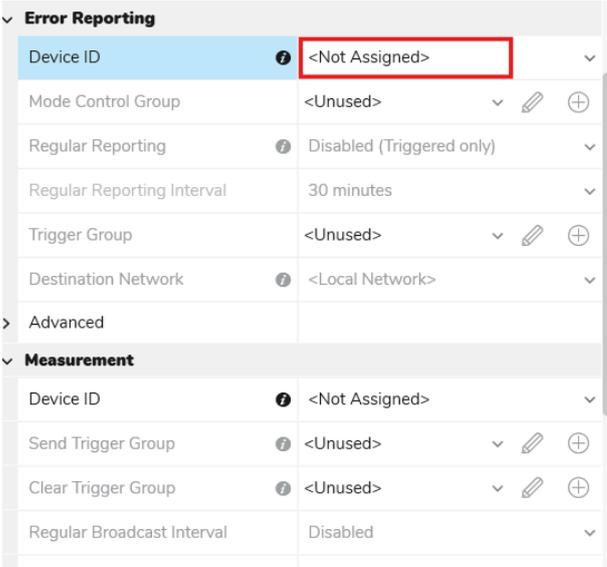
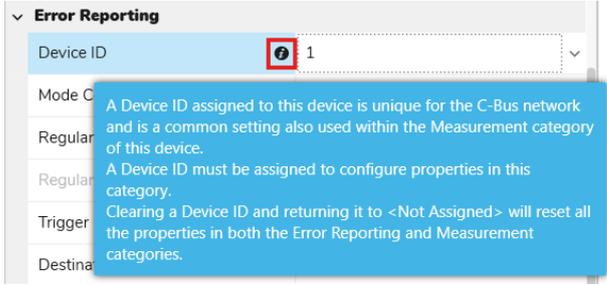
**Prerequisites:** Make sure the network is already been created in a project and DALI-2 gateway is been added to **Devices in Project** (project database).

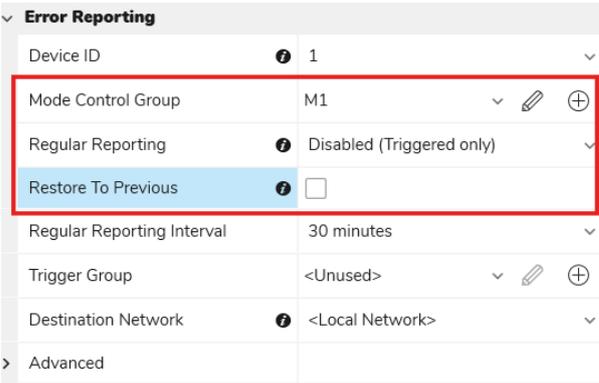
### Unit Type

SYS\_DAL2 (5502CDGP230)

The table below explains the field information in the property editor required to configure the DALI-2 gateway device.

<p><b>Applications</b></p> <p>This section displays the lighting applications supported by the DALI-2 gateway. Up to four lighting applications can be defined and then used throughout the configuration of the DALI-2 gateway for control across C-Bus Main, Line A and Line B.</p>	
<p><b>Main</b></p>	
<p><b>Configuration</b></p> <p>This section has a configuration field to set the operation conditions for C-Bus DALI-2 gateway.</p>	<p><b>Broken Device Reporting</b></p> <p>This section displays the different failure modes. If a failure mode check box is selected, the C-Bus DALI-2 gateway will report that failure mode.</p> <ul style="list-style-type: none"> <li>• <b>Control Gear Failure:</b> This check box refers to the failure of control gear in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Control Gear Failure</b> mode.</li> <li>• <b>Lamp Failure:</b> This check box refers to the failure of lamp in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Lamp Failure</b> mode.</li> <li>• <b>Emergency Control Gear Failure:</b> This check box refers to the failure of circuit in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Circuit Failure</b> mode.</li> <li>• <b>Battery Duration Failure:</b> This check box refers to the failure of battery duration in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Battery Duration Failure</b> mode.</li> <li>• <b>Battery Failure:</b> This check box refers to the failure of battery in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Battery Failure</b> mode.</li> <li>• <b>Emergency Lamp Failure:</b> This check box refers to the failure of DALI emergency and exit ECGs in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Emergency Lamp Failure</b> mode.</li> <li>• <b>Function Test Max Delay Exceeded:</b></li> <li>• <b>Function Test Failed:</b> This check box refers to the failure of function test in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Function Test Failure</b> mode.</li> <li>• <b>Duration Test Failed:</b></li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Open Circuit:</b> This check box refers to the open circuit in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Open Circuit</b> mode.</li> <li>• <b>Short Circuit:</b> This check box refers to the short circuit in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Short Circuit</b> error reported by the DALI ECGs.</li> <li>• <b>Load Decrease:</b> This check box refers to the load decrease in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Load Decrease</b> error reported by the DALI ECGs.</li> <li>• <b>Load Increase:</b> This check box refers to the load increase in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Load Increase</b> error reported by the DALI ECGs.</li> <li>• <b>Current Protector Active:</b> This check box refers to the current protector active in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Current Protector Active</b> error reported by the DALI ECGs.</li> <li>• <b>Thermal Shutdown:</b> This check box refers to the thermal shutdown in the gateway. If selected, the C-Bus DALI-2 gateway will report the <b>Thermal Shutdown</b> error reported by the DALI ECGs.</li> <li>• <b>Thermal Overload:</b> This check box refers to the thermal overload in the gateway. If selected, the C-Bus DALI-2 Gateway will report the <b>Thermal Overload</b> error reported by the DALI ECGs.</li> <li>• <b>Reference Measurement Failed:</b> If this check box is selected, the C-Bus DALI-2 gateway will report the <b>Reference Measurement Failure</b> mode.</li> </ul> <p><b>Disable Factory Reset</b></p> <p>If this check box is selected, the C-Bus DALI-2 gateway will disable the factory reset.</p>
<p><b>Error Reporting</b></p> <p>This section displays the fields for error reporting.</p>	<p><b>Device ID</b></p> <p>This field displays the unit address of the device.</p> <p>When you assign a Device ID, and then if you set the <b>Device ID</b> to <b>Not Assigned</b>, then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).</p>  <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p>  <p><b>Mode Control Group</b></p> <p>This field allows to add an enable group (0–254).</p> <p>If you assign a group, <b>Restore To Previous</b> field is displayed and <b>Regular Reporting Interval</b> drop-down is enabled.</p> <p>If you uncheck the <b>Restore To Previous</b> check box, <b>Regular Reporting</b> field will be enabled.</p> <p>If you check <b>Restore To Previous</b> check box, <b>Regular Reporting</b> will be disabled.</p>

		
	<p><b>Regular Reporting</b></p>	<p>This field configures the regular reporting mode of the DALI-2 gateway into one of the below modes:</p> <ul style="list-style-type: none"> <li>• <b>Disabled (Triggered only):</b> Errors are reported only when triggered by the assigned Trigger Group.</li> <li>• <b>All Errors, most recent only (Mode 1):</b> The most recent errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>All Errors, most recent and most severe (Mode 2):</b> The most recent and most severe (or latched) errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>Minimum Errors, most recent only (Mode 3):</b> The most recent minimum errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> <li>• <b>Minimum Errors, most recent and most severe (Mode 4):</b> The most recent and most severe minimum errors are reported automatically at a regular time interval (time set by the <b>Regular Report Interval</b> field).</li> </ul> <p>All the modes can be set with the regular reporting interval set to <b>No regular reports</b>, which allows live reporting of errors without the regular reports.</p> <p>Mouse over on the <b>Regular Reporting</b> info icon to view the tooltip message.</p>
	<p><b>Restore To Previous</b></p>	<p>When you click <b>Save</b> with the below conditions:</p> <ul style="list-style-type: none"> <li>• <b>Mode Control Group</b> — Assigned</li> <li>• <b>Restore to Previous</b> — Checked</li> <li>• <b>Regular Reporting</b> — Disabled state</li> </ul> <p>The <b>Regular Reporting</b> displays the last saved value.</p> <p>Mouse over on the <b>Restore to Previous</b> info icon to view the tooltip message.</p> 
	<p><b>Regular Report Interval</b></p>	<p>This field is used to select the time interval period between the completion of a regular report and beginning of the next report in <b>All Errors, most recent only</b> and <b>All Errors, most recent and most severe</b> modes. By default, the interval is 30 minutes.</p> <p>Regular reporting interval is enabled for <b>Trigger Only</b> mode.</p>
	<p><b>Trigger Group</b></p>	<p>This field contains a <b>Trigger Group</b> to trigger an error reporting event for any of the three error reporting modes. When a trigger group is created, <b>Resend Action Selector</b> and <b>Acknowledge All Action selector</b> fields are displayed.</p> <p>The <b>Resend Action Selector</b> is set to send all errors and <b>Acknowledge All Action selector</b> is set to acknowledge all errors.</p>
	<p><b>Destination Network</b></p>	<p>This field contains the destination C-Bus network to which the DALI-2 gateway routes the error messages. This allows the</p>

		<p>error messages to be sent to a remote C-Bus network for central monitoring if it's not the local network.</p> <p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>
	<p><b>Advanced</b></p>	<p><b>C-Bus Voltage Warning Set Threshold</b></p> <ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>C-Bus Voltage Warning Clear Threshold</b> value selected.</li> <li>• If the <b>Line A Over Temperature Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>Line A Over Temperature Clear Threshold</b> value to (Line A Over Temperature Set Threshold - 1 °C).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Warning Clear Threshold</b></p> <ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be greater than the <b>C-Bus Voltage Warning Set Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Warning Set Threshold</b> value to (current C-Bus Voltage Warning Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Voltage Critical Set Threshold</b></p> <ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>C-Bus Voltage Critical Clear Threshold</b> value selected.</li> <li>• If the <b>C-Bus Voltage Critical Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Clear Threshold</b> value to (current C-Bus Voltage Critical Set Threshold value + 1 V).</li> <li>• If the <b>C-Bus Voltage Warning Set Threshold</b> has a value set (other than <b>Disabled</b>), then the value selected must be less than (current C-Bus Voltage Warning Set Threshold value).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Set Threshold</b> info icon to view the tooltip message.</p>

		<p><b>C-Bus Voltage Critical Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Voltage Critical Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Voltage Critical Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Voltage Critical Set Threshold</b> value to (current C-Bus Voltage Critical Clear Threshold value - 1 V).</li> </ul> <p>Mouse over on the <b>C-Bus Voltage Critical Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Power Supply Warning Set Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be greater than the <b>C-Bus Power Supply Warning Clear Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Clear Threshold</b> value to (current C-Bus Power Supply Warning Set Threshold value - 10 mA).</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>C-Bus Power Supply Warning Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be less than the <b>C-Bus Power Supply Warning Set Threshold</b> value selected.</li> <li>If the <b>C-Bus Power Supply Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Set Threshold</b> value to (current C-Bus Power Supply Warning Clear Threshold value + 10 mA).</li> </ul> <p>Mouse over on the <b>C-Bus Power Supply Warning Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Unit Over Temperature Set Threshold</b></p>	<p>This field is a combo box which is by default set to 70 °C.</p> <p>The <b>Unit Over Temperature Set Threshold</b> property increments by 1 °C with a range of 1 °C - 80 °C.</p> <p>Mouse over on the <b>Unit Over Temperature Set Threshold</b></p>

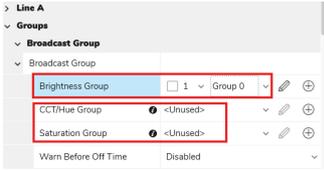
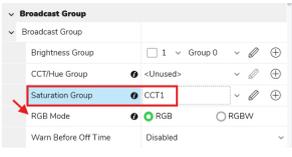
			<p>info icon to view the tooltip message.</p>
		<p><b>Unit Over Temperature Clear Threshold</b></p>	<p>This field is a combo box which is by default set to 65° C.</p> <p>The <b>Unit Over Temperature Clear Threshold</b> property increments by 1° C with a range of 0° C - 79° C.</p> <p>Mouse over on the <b>Unit Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Line A Over Temperature Set Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be greater than the <b>Line A Over Temperature Set Threshold</b> value selected.</li> <li>• If the <b>C-Bus Power Supply Warning Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>C-Bus Power Supply Warning Set Threshold</b> value to (current C-Bus Power Supply Warning Clear Threshold value + 10 mA).</li> </ul> <p>Mouse over on the <b>Line A Over Temperature Set Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Line A Over Temperature Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be less than the <b>Line A Over Temperature Set Threshold</b> value selected.</li> <li>• If the <b>Line A Over Temperature Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>Line A Over Temperature Set Threshold</b> value to (Line A Over Temperature Clear Threshold value + 1 °C).</li> </ul> <p>Mouse over on the <b>Line A Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>
		<p><b>Line B Over Temperature Set Threshold</b></p>	<ul style="list-style-type: none"> <li>• By default, <b>Disabled</b> is selected.</li> <li>• The value selected must be greater than the <b>Line B Over Temperature Set Threshold</b> value selected.</li> <li>• If the <b>Line B Over Temperature Clear Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>Line B Over Temperature Clear Threshold</b> value to (Line B Over Temperature Set Threshold - 1 °C).</li> </ul>

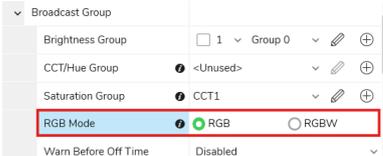
			<p>Mouse over on the <b>Line B Over Temperature Set Threshold</b> info icon to view the tooltip message.</p>	
		<p><b>Line B Over Temperature Clear Threshold</b></p>	<ul style="list-style-type: none"> <li>By default, <b>Disabled</b> is selected.</li> <li>The value selected must be less than the <b>Line B Over Temperature Set Threshold</b> value selected.</li> <li>If the <b>Line B Over Temperature Set Threshold</b> is <b>Disabled</b>, then setting a value here will also set the <b>Line B Over Temperature Set Threshold</b> value to (Line B Over Temperature Clear Threshold value + 1 °C).</li> </ul> <p>Mouse over on the <b>Line B Over Temperature Clear Threshold</b> info icon to view the tooltip message.</p>	
<p><b>Measurement</b></p> <p>The DALI-2 Gateway monitors a range of properties such as DALI device lamp running time, line voltage and line current for each DALI line. This information can then be shared on C-Bus using the measurement application.</p>	<p><b>Device ID</b></p>	<p>This field displays the unit address of the device.</p> <p>When you assign a Device ID, and then if you set the <b>Device ID</b> to <b>Not Assigned</b>, then all properties in both the <b>Error Reporting</b> and <b>Measurement</b> section are reverted to their default settings and disabled (grey out state).</p> <p>Mouse over on the <b>Device ID</b> info icon to view the tooltip message.</p>		
	<p><b>Send Trigger Group</b></p>	<p>This field contains a trigger group to request the DALI-2 gateway to send its stored measurement data.</p> <p>Mouse over on the <b>Send Trigger Group</b> info icon to view the tooltip message.</p>		
	<p><b>Clear Trigger Group</b></p>	<p>This field contains a trigger group to clear the stored measurement data in the DALI- 2 gateway.</p> <p>Mouse over on the <b>Clear Trigger Group</b> info icon to view the tooltip message.</p>		
	<p><b>Regular Broadcast Interval</b></p>	<p>Disabled by default. Can set the intervals between 1 min to 4 hours.</p>		
	<p><b>Regular Broadcast Option</b></p>	<p><b>All</b></p>	<p>Enabled by default.</p>	
		<p><b>Lamp Hours</b></p>	<p>Selected and disabled by default.</p>	
		<p><b>DALI MAC Temperature</b></p>	<p>Selected and disabled by default.</p>	
		<p><b>DALI Current</b></p>	<p>Selected and disabled by default.</p>	
		<p><b>DALI Voltage</b></p>	<p>Selected and disabled by default.</p>	
		<p><b>C-Bus Voltage</b></p>	<p>Selected and disabled by default.</p>	
<p><b>Unit temperature</b></p>		<p>Selected and disabled by default.</p>		
	<p><b>NOTE:</b> Deselecting <b>All</b> check box will enable each of the individual check box options.</p>			
<p><b>Destination Network</b></p>	<p>This field contains the destination C-Bus network to which the DALI-2 gateway routes the measurement application messages.</p> <p>Mouse over on the <b>Destination Network</b> info icon to view the tooltip message.</p>			
<p>Each Device ID assigned has Send Trigger group associated with an <b>Action Selector</b> as described in the below table.</p>				

Action Selector	Property	Units	Reset-table	Notes
0-63	Lamp Running Time (Line A)	Hours	Yes	Indexed By Object ID
64-127	Lamp Running Time (Line B)	Hours	Yes	Indexed by Object ID
128	Line A DALI Voltage	Volts	No	
129	Line B DALI Voltage	Volts	No	
130	Line A DALI Current	Amperes	No	
131	Line B DALI Current	Amperes	No	
132	Line A DALI MAC Temperature	Degrees C	No	
133	Line B DALI MAC Temperature	Degrees C	No	
253	C-Bus Voltage	Volts	No	
254	Unit Temperature	Degrees C	No	
<b>Logic</b> The DALI-2 Gateway can utilize combinational logic to control lighting behavior for DALI Line broadcast, DALI group or DALI device control. Up to 16 logic groups can be used for a DALI-2 Gateway.	<b>Logic Groups</b>			This section allows users to configure a C-Bus group from a lighting application for each of the 16 available logic groups.
<b>Global</b> This section displays the project properties set by the user at the time of creation of the project.	<b>C-Bus Clock</b>			This section allows users to enable or disable the C-Bus clock for the DALI-2 gateway.
<b>Unit Identification</b> This section displays the fields for identification of the unit.	<b>Unit Type</b>			Displays the unit type and unit description of the device.
	<b>Catalogue Number</b>			Displays the catalog number related to the unit type.
	<b>Firmware Version</b>			Displays the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
	<b>Part Name</b>			Displays the part name which is stored in the unit hardware, which can be modified.
	<b>Unit Address</b>			Displays the unit address assigned to the device.
	<b>Serial Number</b>			Displays the serial number which exists on the physical network.
	<b>Tag Name</b>			Displays the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
	<b>Notes</b>			A location to add notes about the unit which is stored in the project database only.

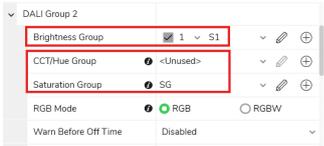
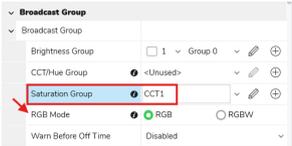
<b>Status</b>  The Status section contains information about the C-Bus network related functions located on the unit.	<b>Voltage</b>	Displays the voltage level available to the unit. The voltage level displayed refreshes whenever the Update Status button is clicked.
	<b>C-Bus Clock-Active</b>	This field indicates whether the C-Bus internal clock is currently enabled on the DALI-2 gateway within the network.

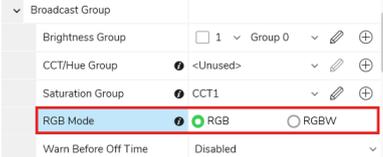
<b>Line A / Line B</b>	
<b>Line A / Line B name</b>	This field allows to rename Line A / Line B.
<b>Warn Before Off Enable Group</b>	This field allows to create a group to enable application.
<b>WBO Restore</b>	This field allows to set the Warn Before Off Restore by selecting the check box.  If unchecked, can set the Warn Before Off restore level to <b>Use off level</b> , <b>Use minimum level</b> , or between 1–100%.
<b>Enable Local Toggle</b>	This field allows to set the <b>Enable Local Toggle</b> by selecting the check box.
<b>Enable Commissioning</b>	This field allows to set the <b>Enable Commissioning</b> by selecting the check box.
<b>Enable C-Bus Priority</b>	This field allows to set the <b>Enable C-Bus Priority</b> by selecting the check box.
<b>Missing Device Threshold</b>	This field allows to set the missing device range from 1–255.
<b>Status Update Interval (Secs)</b>	This field displays the status update interval ranging from 2–255.

	<p><b>Groups</b></p> <p><b>Broad-cast Groups</b></p>	<p><b>Brightness Group</b></p> <p>C-Bus group address is mapped to control the Broadcast Group, DALI Group 1 - 16 or Virtual Group 1 - 16.</p> <p><b>IMPORTANT:</b> The groups assigned in Line A, Line B, and DALI devices on each line has to be unique.</p> <p>Only when you assign a group address for <b>Brightness Group</b>, <b>CCT/Hue Group</b> and <b>Saturation Group</b> drop-downs are displayed.</p>  <ul style="list-style-type: none"> <li>You can add group name for brightness group. Select the group name from the <b>Brightness Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> </ul>  <ul style="list-style-type: none"> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>Brightness Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>.</li> </ul>	<p><b>CCT/Hue Group</b></p> <p><b>Saturation Group</b></p> <p>Only when you assign a group address for <b>Saturation Group</b>, <b>RGB Mode</b> field is displayed.</p> 	<p>C-Bus group address is used to control the CCT/Hue of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>If a <b>Saturation Group</b> is not set, this CCT/Hue Group controls the CCT (correlated colour temperature). Used in conjunction with the Brightness Group for on, off, and dimming control plus setting the white colour temperature (tuneable white).</li> <li>If a <b>Saturation Group</b> is set, this CCT/Hue Group controls the Hue of a DALI DT8 device.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The <b>CCT/Hue Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p> <ul style="list-style-type: none"> <li>Select the group name from the <b>CCT/Hue Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>CCT/Hue Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>. Group name is updated.</li> </ul> <p>Mouse over on the <b>CCT/Hue Group</b> info icon to view the tooltip message.</p> <p>C-Bus Group Address is used to control the Saturation of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>If a <b>CCT/Hue Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue (colour) of a DALI DT8 device. The <b>Saturation Group</b> controls the Saturation (intensity) of a DALI DT8 device.</li> <li>Used with both the <b>Brightness Group</b> and the <b>CCT/Hue Group</b> for on, off, and dimming control plus setting the RGB/RGBW colour and its intensity.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The <b>Saturation Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p> <ul style="list-style-type: none"> <li>Select the group name from the <b>Saturation Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> </ul>
--	--	--	--	---

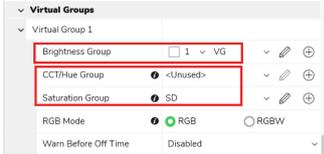
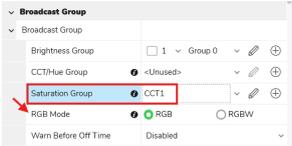
			<ul style="list-style-type: none"> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>Saturation Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>. Group name is updated.</li> </ul> <p>Mouse over on the <b>Saturation Group</b> info icon to view the tooltip message.</p>
		<p><b>RGB Mode</b></p> <p><b>RGB Mode</b> field will appear for all types excluding type C and D devices.</p>	<p>You can configure the control of DALI coloured lighting solution to suit either 3-channel or 4-channel types to achieve the optimal outcome for coloured DALI lighting.</p> <p>Select the RGB mode.</p>  <p>Mouse over on the <b>RGB Mode</b> info icon to view the tooltip message.</p>
	<b>Application Index</b>	This field is a combo box to select the application to be used for the group. The index is visible only when the application is been assigned in the application section.	
	<b>Warn Before off Time</b>	<p>When enabled, it adds a time delay between when the C-Bus group is turned off and when the DALI lights actually go off. For example, if the <b>Warn Before Off Time</b> is set to 5 minutes for DALI Group 1, and the C-Bus group linked to it is turned off (such as when a sensor times out), the lights in DALI Group 1 will stay on for another 5 minutes before turning off. This feature is useful for alerting occupants that the lights will soon turn off due to lack of movement. To keep the lights on, they simply need to move to re-trigger the sensor, which will turn the C-Bus group back on and cancel the countdown.</p> <p>This field displays amount of time after the group address is turned off.</p> <p>When you select the minutes from the <b>Warn Before off Time</b> drop-down, <b>Warn Before Off Level</b> drop-down is displayed.</p>	
	<b>Warn Before Off Level</b>	<p>Select the Warn Before Off Level.</p> <p>When <b>Warn Before Off</b> is enabled for a channel, and a command is received from C-Bus to turn the channel OFF, the channel does not immediately turn off. Instead it:</p> <ul style="list-style-type: none"> <li>sets the channel level to the configured <b>Warn Before Off Level</b>, to warn any occupants that the light will turn off shortly.</li> <li>starts a countdown timer set for the <b>Warn Before Off Time</b>: <ul style="list-style-type: none"> <li>When the timer expires, the channel turns OFF.</li> <li>If another OFF command is received for the channel before the timer expires, the channel cancels the timer and turns off immediately.</li> </ul> </li> </ul>	
	<b>Advanced</b>	<b>Min / Max Logic</b>	This field allows you to choose minimum or maximum level of the group address associated with the channel.
<b>Logic Group Assignment</b>		This field allows to pair additional groups to the output, can have maximum 2 logic group assignment.	
<b>Primary Control Function</b>		<p>The Primary Control Function setting determines how DALI lighting behaves when a C-Bus Group on is turned ON or OFF. It allows the lights to fade up or down smoothly, rather than switching instantly.</p> <p>These settings set the DALI fade times used when an instant ramp on C-Bus is received. The fades for target levels of</p>	

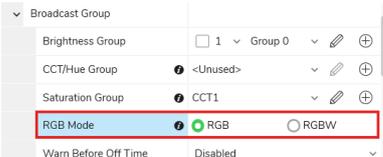
				<p>OFF and ON affect toggle type functions, allowing adjustment of the soft turn off/on. The fades for other levels affect things like the ON event for a Memory Toggle function, the release event of pushbutton dimming, or the smoothness of light level maintenance.</p> <p>Two presets are available such as <b>Push Button Dimming</b> and <b>Scene Operations</b>. Select the required preset value.</p> <p>Mouse over on the <b>Primary Control Function</b> info icon to view the tooltip message.</p> <p>Recommended Fade Settings:</p> <table border="1" data-bbox="1077 571 1460 1176"> <thead> <tr> <th>Primary Control Function</th> <th>Soft Turn On</th> <th>Soft Turn Off</th> <th>Soft End Ramp</th> </tr> </thead> <tbody> <tr> <td>Push-button Dimming</td> <td>0.7s</td> <td>0.7s</td> <td>2s</td> </tr> <tr> <td>Scene Operations</td> <td>0.7s</td> <td>0.7s</td> <td>0.7s</td> </tr> <tr> <td>Motion Sensor</td> <td>0s</td> <td>0.7s</td> <td>2s</td> </tr> <tr> <td>Daylight Harvesting</td> <td>0.7s</td> <td>0.7s</td> <td>4s</td> </tr> <tr> <td>Custom</td> <td colspan="3">Choose your own values.</td> </tr> </tbody> </table>	Primary Control Function	Soft Turn On	Soft Turn Off	Soft End Ramp	Push-button Dimming	0.7s	0.7s	2s	Scene Operations	0.7s	0.7s	0.7s	Motion Sensor	0s	0.7s	2s	Daylight Harvesting	0.7s	0.7s	4s	Custom	Choose your own values.		
Primary Control Function	Soft Turn On	Soft Turn Off	Soft End Ramp																									
Push-button Dimming	0.7s	0.7s	2s																									
Scene Operations	0.7s	0.7s	0.7s																									
Motion Sensor	0s	0.7s	2s																									
Daylight Harvesting	0.7s	0.7s	4s																									
Custom	Choose your own values.																											
			<p><b>Soft Turn On</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of 100 %, so the group is turned ON at maximum level.</p> <p>If you select <b>Instant</b> from <b>Soft Turn On</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p> <p><b>NOTE:</b> When you trigger a light switch (On, Off, Toggle), you may need gentle fade such as , 0.7s or 1s. But if triggered by a motion sensor, a fast fade (0 s) might be better for instant response.</p>																								
			<p><b>Soft Turn Off</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of zero, so the group is turned OFF.</p> <p>If you select <b>Instant</b> from <b>Soft Turn Off</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p>																								
			<p><b>Soft End Ramp</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of any value other than 0 to 100 %.</p> <p><b>NOTE:</b> When using:</p> <ul style="list-style-type: none"> <li><b>Push Button Dimming key Function:</b> A medium fade 2s is recommended to reduce any visible brightness correction.</li> </ul>																								

	<p><b>DALI Groups</b></p> <p>This section is to use the DALI Group.</p>	<p><b>Brightness Group</b></p> <p>C-Bus group address is mapped to control the Broadcast Group, DALI Group 1 - 16 or Virtual Group 1 - 16.</p> <p><b>IMPORTANT:</b> The groups assigned in Line A, Line B, and DALI devices on each line has to be unique.</p> <p>Only when you assign a group address for <b>Brightness Group</b>, <b>CCT/Hue Group</b> and <b>Saturation Group</b> drop-downs are displayed.</p> 	<p><b>CCT/Hue Group</b></p>	<ul style="list-style-type: none"> <li><b>Daylight Harvesting:</b> A longer fade 4s is desirable to avoid the appearance of the artificial light level if the ambient light level changes frequently due to cloud cover.</li> </ul> <p>C-Bus group address is used to control the CCT/Hue of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>If a <b>Saturation Group</b> is not set, this CCT/Hue Group controls the CCT (correlated colour temperature). Used in conjunction with the <b>Brightness Group</b> for on, off, and dimming control plus setting the white colour temperature (tuneable white).</li> <li>If a <b>Saturation Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue of a DALI DT8 device.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The <b>CCT/Hue Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p> <ul style="list-style-type: none"> <li>Select the group name from the <b>CCT/Hue Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>CCT/Hue Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>. Group name is updated.</li> </ul> <p>Mouse over on the <b>CCT/Hue Group</b> info icon to view the tooltip message.</p>
		<p><b>Saturation Group</b></p> <p>Only when you assign a group address for <b>Saturation Group</b>, <b>RGB Mode</b> field is displayed.</p> 	<p><b>Saturation Group</b></p> <p>C-Bus Group Address is used to control the Saturation of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>If a <b>CCT/Hue Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue (colour) of a DALI DT8 device. The <b>Saturation Group</b> controls the Saturation (intensity) of a DALI DT8 device.</li> <li>Used with both the <b>Brightness Group</b> and the <b>CCT/Hue Group</b> for on, off, and dimming control plus setting the RGB/RGBW colour and its intensity.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The <b>Saturation Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p>	<p>C-Bus Group Address is used to control the Saturation of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>If a <b>CCT/Hue Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue (colour) of a DALI DT8 device. The <b>Saturation Group</b> controls the Saturation (intensity) of a DALI DT8 device.</li> <li>Used with both the <b>Brightness Group</b> and the <b>CCT/Hue Group</b> for on, off, and dimming control plus setting the RGB/RGBW colour and its intensity.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The <b>Saturation Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p>

			<ul style="list-style-type: none"> <li>Select the group name from the <b>Saturation Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>Saturation Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>. Group name is updated.</li> </ul> <p>Mouse over on the <b>Saturation Group</b> info icon to view the tooltip message.</p>
		<p><b>RGB Mode</b></p> <p><b>RGB Mode</b> field will appear for all types excluding type C and D devices.</p>	<p>You can configure the control of DALI coloured lighting solution to suit either 3-channel or 4-channel types to achieve the optimal outcome for coloured DALI lighting.</p> <p>Select the RGB mode.</p>  <p>Mouse over on the <b>RGB Mode</b> info icon to view the tooltip message.</p>
	<b>Application Index</b>	This field is a combo box to select the application to be used for the group. The index is visible only when the application is been assigned in the application section.	
	<b>Warn Before Off Time</b>	<p>When enabled, it adds a time delay between when the C-Bus group is turned off and when the DALI lights actually go off. For example, if the <b>Warn Before Off Time</b> is set to 5 minutes for DALI Group 1, and the C-Bus group linked to it is turned off (such as when a sensor times out), the lights in DALI Group 1 will stay on for another 5 minutes before turning off. This feature is useful for alerting occupants that the lights will soon turn off due to lack of movement. To keep the lights on, they simply need to move to re-trigger the sensor, which will turn the C-Bus group back on and cancel the countdown.</p> <p>This field displays amount of time after the group address is turned off.</p> <p>When you select the minutes from the <b>Warn Before off Time</b> drop-down, <b>Warn Before Off Level</b> drop-down is displayed.</p>	
	<b>Warn Before Off Level</b>	<p>Select the Warn Before Off Level.</p> <p>When <b>Warn Before Off</b> is enabled for a channel, and a command is received from C-Bus to turn the channel OFF, the channel does not immediately turn off. Instead it:</p> <ul style="list-style-type: none"> <li>sets the channel level to the configured <b>Warn Before Off Level</b>, to warn any occupants that the light will turn off shortly.</li> <li>starts a countdown timer set for the <b>Warn Before Off Time</b>: <ul style="list-style-type: none"> <li>When the timer expires, the channel turns OFF.</li> <li>If another OFF command is received for the channel before the timer expires, the channel cancels the timer and turns off immediately.</li> </ul> </li> </ul>	
	<b>Advanced</b>	<b>Min / Max Logic</b>	This field allows you to choose minimum or maximum level of the group address associated with the channel.
<b>Logic Group Assignment</b>		This field allows to pair additional groups to the output, can have maximum 2 logic group assignment.	
<b>Primary Control Function</b>		The Primary Control Function setting determines how DALI lighting behaves	

				<p>when a C-Bus Group on is turned ON or OFF. It allows the lights to fade up or down smoothly, rather than switching instantly.</p> <p>These settings set the DALI fade times used when an instant ramp on C-Bus is received. The fades for target levels of OFF and ON affect toggle type functions, allowing adjustment of the soft turn off/on. The fades for other levels affect things like the ON event for a Memory Toggle function, the release event of pushbutton dimming, or the smoothness of light level maintenance.</p> <p>Two presets are available such as <b>Push Button Dimming</b> and <b>Scene Operations</b>. Select the required preset value.</p> <p>Mouse over on the <b>Primary Control Function</b> info icon to view the tooltip message.</p> <p>Recommended Fade Settings:</p> <table border="1" data-bbox="1054 752 1437 1364"> <thead> <tr> <th data-bbox="1054 752 1150 909">Primary Control Function</th> <th data-bbox="1150 752 1246 909">Soft Turn On</th> <th data-bbox="1246 752 1342 909">Soft Turn Off</th> <th data-bbox="1342 752 1437 909">Soft End Ramp</th> </tr> </thead> <tbody> <tr> <td data-bbox="1054 909 1150 1025">Push-button Dimming</td> <td data-bbox="1150 909 1246 1025">0.7s</td> <td data-bbox="1246 909 1342 1025">0.7s</td> <td data-bbox="1342 909 1437 1025">2s</td> </tr> <tr> <td data-bbox="1054 1025 1150 1115">Scene Operations</td> <td data-bbox="1150 1025 1246 1115">0.7s</td> <td data-bbox="1246 1025 1342 1115">0.7s</td> <td data-bbox="1342 1025 1437 1115">0.7s</td> </tr> <tr> <td data-bbox="1054 1115 1150 1182">Motion Sensor</td> <td data-bbox="1150 1115 1246 1182">0s</td> <td data-bbox="1246 1115 1342 1182">0.7s</td> <td data-bbox="1342 1115 1437 1182">2s</td> </tr> <tr> <td data-bbox="1054 1182 1150 1294">Day-light Harvesting</td> <td data-bbox="1150 1182 1246 1294">0.7s</td> <td data-bbox="1246 1182 1342 1294">0.7s</td> <td data-bbox="1342 1182 1437 1294">4s</td> </tr> <tr> <td data-bbox="1054 1294 1150 1364">Custom</td> <td colspan="3" data-bbox="1150 1294 1437 1364">Choose your own values.</td> </tr> </tbody> </table>	Primary Control Function	Soft Turn On	Soft Turn Off	Soft End Ramp	Push-button Dimming	0.7s	0.7s	2s	Scene Operations	0.7s	0.7s	0.7s	Motion Sensor	0s	0.7s	2s	Day-light Harvesting	0.7s	0.7s	4s	Custom	Choose your own values.		
Primary Control Function	Soft Turn On	Soft Turn Off	Soft End Ramp																									
Push-button Dimming	0.7s	0.7s	2s																									
Scene Operations	0.7s	0.7s	0.7s																									
Motion Sensor	0s	0.7s	2s																									
Day-light Harvesting	0.7s	0.7s	4s																									
Custom	Choose your own values.																											
			<p><b>Soft Turn On</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of 100 %, so the group is turned ON at maximum level.</p> <p>If you select <b>Instant</b> from <b>Soft Turn On</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p> <p><b>NOTE:</b> When you trigger a light switch (On, Off, Toggle), you may need gentle fade such as 0.7s or 1s. But if triggered by a motion sensor, a fast fade 0 s might be better for instant response.</p>																								
			<p><b>Soft Turn Off</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of zero, so the group is turned OFF.</p> <p>If you select <b>Instant</b> from <b>Soft Turn Off</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p>																								
			<p><b>Soft End Ramp</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of any value other than 0 to 100 %.</p>																								

				<p><b>NOTE:</b> When using:</p> <ul style="list-style-type: none"> <li>• <b>Push Button Dimming key Function:</b> A medium fade 2s is recommended to reduce any visible brightness correction.</li> <li>• <b>Daylight Harvesting:</b> A longer fade 4s is desirable to avoid the appearance of the artificial light level if the ambient light level changes frequently due to cloud cover.</li> </ul>
	<p><b>Virtual Groups</b></p> <p>This section refers to a category for virtual groups.</p>	<p><b>Brightness Group</b></p> <p>C-Bus group address is mapped to control the <b>Broadcast Group</b>, DALI Group 1 - 16 or Virtual Group 1 - 16.</p> <p><b>IMPORTANT:</b> The groups assigned in Line A, Line B, and DALI devices on each line has to be unique.</p> <p>Only when you assign a group address for <b>Brightness Group</b>, <b>CCT/Hue Group</b> and <b>Saturation Group</b> drop-downs are displayed.</p> 	<p><b>CCT/Hue Group</b></p> <p>C-Bus group address is used to control the CCT/Hue of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>• If a <b>Saturation Group</b> is not set, this <b>CCT/Hue Group</b> controls the CCT (correlated colour temperature).</li> </ul> <p>Used in conjunction with the <b>Brightness Group</b> for on, off, and dimming control plus setting the white colour temperature (tuneable white).</p> <ul style="list-style-type: none"> <li>• If a <b>Saturation Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue of a DALI DT8 device.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• The <b>CCT/Hue Group</b> uses the Application Index defined in the <b>Brightness Group</b>.</li> <li>• The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p> <ul style="list-style-type: none"> <li>• Select the group name from the <b>CCT/Hue Group</b> drop-down.</li> <li>• Click  to create new group name.</li> </ul> <p><b>Add Group</b> pop-up is displayed.</p> <ul style="list-style-type: none"> <li>• Provide the details and click <b>OK</b>.</li> </ul> <p>The created group name will be populated in the <b>CCT/Hue Group</b> drop-down.</p> <ul style="list-style-type: none"> <li>• Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>• Edit the group name and click <b>OK</b>.</li> </ul> <p>Group name is updated.</p> <p>Mouse over on the <b>CCT/Hue Group</b> info icon to view the tooltip message.</p>	
		<p><b>Saturation Group</b></p> <p>Only when you assign a group address for <b>Saturation Group</b>, <b>RGB Mode</b> field is displayed.</p> 		<p>C-Bus Group Address is used to control the Saturation of a DALI DT8 device.</p> <ul style="list-style-type: none"> <li>• If a <b>CCT/Hue Group</b> is set, this <b>CCT/Hue Group</b> controls the Hue (colour) of a DALI DT8 device. The <b>Saturation Group</b> controls the Saturation (intensity) of a DALI DT8 device.</li> <li>• Used with both the <b>Brightness Group</b> and the <b>CCT/Hue Group</b> for on, off, and dimming control plus setting the RGB/RGBW colour and its intensity.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• The <b>Saturation Group</b> uses the <b>Application Index</b> defined in the Brightness Group.</li> </ul>

				<ul style="list-style-type: none"> <li>The <b>CCT/Hue Group</b> is applicable to all controllable DALI devices (excluding Types C and D), yet functional for DALI DT8 device only.</li> </ul> <p>To assign a group:</p> <ul style="list-style-type: none"> <li>Select the group name from the <b>Saturation Group</b> drop-down.</li> <li>Click  to create new group name. <b>Add Group</b> pop-up is displayed.</li> <li>Provide the details and click <b>OK</b>. The created group name will be populated in the <b>Saturation Group</b> drop-down.</li> <li>Click  to modify the group name. <b>Edit Group</b> pop-up is displayed.</li> <li>Edit the group name and click <b>OK</b>. Group name is updated.</li> </ul> <p>Mouse over on the <b>Saturation Group</b> info icon to view the tooltip message.</p>
		<p><b>RGB Mode</b></p> <p><b>RGB Mode</b> field will appear for all types excluding type C and D devices.</p>		<p>You can configure the control of DALI coloured lighting solution to suit either 3-channel or 4-channel types to achieve the optimal outcome for coloured DALI lighting.</p> <p>Select the RGB mode.</p>  <p>Mouse over on the <b>RGB Mode</b> info icon to view the tooltip message.</p>
		<p><b>Application Index</b></p>		<p>This field is a combo box to select the application to be used for the group. The index is visible only when the application has been assigned in the <b>Application</b> section.</p>
		<p><b>Warn Before off Time</b></p>		<p>When enabled, it adds a time delay between when the C-Bus group is turned off and when the DALI lights actually go off. For example, if the <b>Warn Before Off Time</b> is set to 5 minutes for DALI Group 1, and the C-Bus group linked to it is turned off (such as when a sensor times out), the lights in DALI Group 1 will stay on for another 5 minutes before turning off. This feature is useful for alerting occupants that the lights will soon turn off due to lack of movement. To keep the lights on, they simply need to move to re-trigger the sensor, which will turn the C-Bus group back on and cancel the countdown.</p> <p>This field displays amount of time after the group address is turned off.</p> <p>When you select the minutes from the <b>Warn Before off Time</b> drop-down, <b>Warn Before Off Level</b> drop-down is displayed.</p>
		<p><b>Warn Before Off Level</b></p>		<p>Select the Warn Before Off Level.</p> <p>When <b>Warn Before Off</b> is enabled for a channel, and a command is received from C-Bus to turn the channel OFF, the channel does not immediately turn off. Instead it:</p> <ul style="list-style-type: none"> <li>sets the channel level to the configured <b>Warn Before Off Level</b>, to warn any occupants that the light will turn off shortly.</li> <li>starts a countdown timer set for the <b>Warn Before Off Time</b>:             <ul style="list-style-type: none"> <li>When the timer expires, the channel turns OFF.</li> <li>If another OFF command is received for the channel before the timer expires, the channel cancels the timer and turns off immediately.</li> </ul> </li> </ul>
		<p><b>Advanced</b></p>	<p><b>Primary Control Function</b></p>	<p>The Primary Control Function setting determines how DALI lighting behaves when a C-Bus Group on is turned ON or</p>

				<p>OFF. It allows the lights to fade up or down smoothly, rather than switching instantly.</p> <p>These settings set the DALI fade times used when an instant ramp on C-Bus is received. The fades for target levels of OFF and ON affect toggle type functions, allowing adjustment of the soft turn off/on. The fades for other levels affect things like the ON event for a Memory Toggle function, the release event of pushbutton dimming, or the smoothness of light level maintenance.</p> <p>Two presets are available such as <b>Push Button Dimming</b> and <b>Scene Operations</b>. Select the required preset value.</p> <p>Mouse over on the <b>Primary Control Function</b> info icon to view the tooltip message.</p> <p>Recommended Fade Settings:</p> <table border="1" data-bbox="1077 728 1460 1339"> <thead> <tr> <th>Pri- mary Con- trol Func- tion</th> <th>Soft Turn On</th> <th>Soft Turn Off</th> <th>Soft End Ramp</th> </tr> </thead> <tbody> <tr> <td>Push- button Dim- ming</td> <td>0.7s</td> <td>0.7s</td> <td>2s</td> </tr> <tr> <td>Scene Opera- tions</td> <td>0.7s</td> <td>0.7s</td> <td>0.7s</td> </tr> <tr> <td>Motion Sensor</td> <td>0s</td> <td>0.7s</td> <td>2s</td> </tr> <tr> <td>Day- light Har- vesting</td> <td>0.7s</td> <td>0.7s</td> <td>4s</td> </tr> <tr> <td>Cus- tom</td> <td colspan="3">Choose your own values.</td> </tr> </tbody> </table>	Pri- mary Con- trol Func- tion	Soft Turn On	Soft Turn Off	Soft End Ramp	Push- button Dim- ming	0.7s	0.7s	2s	Scene Opera- tions	0.7s	0.7s	0.7s	Motion Sensor	0s	0.7s	2s	Day- light Har- vesting	0.7s	0.7s	4s	Cus- tom	Choose your own values.		
Pri- mary Con- trol Func- tion	Soft Turn On	Soft Turn Off	Soft End Ramp																									
Push- button Dim- ming	0.7s	0.7s	2s																									
Scene Opera- tions	0.7s	0.7s	0.7s																									
Motion Sensor	0s	0.7s	2s																									
Day- light Har- vesting	0.7s	0.7s	4s																									
Cus- tom	Choose your own values.																											
			<p><b>Soft Turn On</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of 100 %, so the group is turned ON at maximum level.</p> <p>If you select <b>Instant</b> from <b>Soft Turn On</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p> <p><b>NOTE:</b> When you trigger a light switch (On, Off, Toggle), you may need gentle fade such as 0.7s or 1s. But if triggered by a motion sensor, a fast fade 0s might be better for instant response.</p>																								
			<p><b>Soft Turn Off</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of zero, so the group is turned OFF.</p> <p>If you select <b>Instant</b> from <b>Soft Turn Off</b> drop-down, automatically <b>Push Button Dimming</b> is populated in the <b>Primary Control Function</b> drop-down.</p>																								
			<p><b>Soft End Ramp</b></p>	<p>Select the DALI fade time when an instant ramp is received with a target level of any value other than 0 to 100 %.</p>																								

				<p><b>NOTE:</b> When using:</p> <ul style="list-style-type: none"> <li>• <b>Push Button Dimming key Function:</b> A medium fade 2s is recommended to reduce any visible brightness correction.</li> <li>• <b>Daylight Harvesting:</b> A longer fade 4s is desirable to avoid the appearance of the artificial light level if the ambient light level changes frequently due to cloud cover.</li> </ul>
<p><b>Scenes</b></p> <p>The categories allows to create trigger groups, each having action selectors assigned to it.</p>	<p><b>Broadcast Scene</b></p> <p>This field allows to add group for trigger application.</p> <p>Trigger groups can be created using  and each group created can assign maximum of 16 <b>Action Selectors</b>.</p>			
	<p><b>DALI Group Scene</b></p> <p>This field allows to add group for trigger application.</p> <p>Trigger groups can be created using  and each group created can assign maximum of 16 <b>Action Selectors</b>.</p>			

Once configuring of the device is completed. Click **Save** in the **PROPERTIES** window to save the changes in the project database.

## DALI ECG Devices

This section allows the user to configure different operational features for devices in the DALI line added to each network.

### Unit Types

- DALI ECG DT1 (Emergency or Exit Light (Generic))
- DALI ECG DT1 A (Emergency or Exit Light (Switched Maintained Dimmable))
- DALI ECG DT1 B (Emergency or Exit Light (Switched Maintained Non-Dimmable))
- DALI ECG DT1 C (Emergency or Exit Light (Maintained))
- DALI ECG DT1 D (Emergency or Exit Light (Non – Maintained Dimmable))
- DALI ECG DT 6 (Single Channel LED Device)
- DALI 2x ECG DT 6 (DALI 2 Channel Device (DT6))
- DALI 3x ECG DT 6 (DALI 3 Channel Device (DT6))
- DALI 4x ECG DT 6 (DALI 4 Channel Device (DT6))
- DALI ECG (DALI ECG (Generic))
- DALI 2x ECG (DALI 2 Channel Device (Generic))
- DALI 3x ECG (DALI 3 Channel Device (Generic))
- DALI 4x ECG (DALI 4 Channel Device (Generic))
- DALI ECG DT8 (Single Channel Tunable / Color Controllable Device))

The field information to configure DALI ECG devices is as explained below:

<b>Channel Info</b>	<b>Name</b>	This field allows to modify the DALI Channel name.
	<b>Description</b>	This field allows to give description on channel device.
<b>Applications</b>		
<p>This section displays the lighting applications supported by the DALI-2 Gateway. Up to four lighting applications can be defined and then used throughout the configuration of the DALI-2 Gateway.</p>		
<b>Control Mapping</b>	<b>Device Used</b>	This field lets you know whether the device is physically available or not.

		By default, the check box is checked.		
<p><b>Address Mapping</b></p> <p>Address Mapping allows a C-Bus group address to directly control a DALI device.</p> <p>It is a one to one mapping of a C-Bus group address to a DALI device.</p> <p><b>NOTE:</b> Only controllable DALI devices support Address Mapping.</p> <p>This section allows to assign maximum of 16 DALI group membership.</p> <p><b>NOTE:</b> If the check box is selected, then the group is used for the device.</p>	<p><b>Brightness Group</b></p> <p>C-Bus group address is mapped to control the Address Mapping.</p> <p><b>IMPORTANT:</b> The groups assigned in Line A, Line B, and DALI devices on each line has to be unique.</p>	<p><b>CCT/Hue Group</b></p> <p>C-Bus group address is used to control the CCT/ Hue of a DALI DT8 device.</p>	<ul style="list-style-type: none"> <li>If a Saturation Group is not set, this CCT/ Hue Group controls the CCT (correlated colour temperature).</li> <li>Used in conjunction with the Brightness Group for on, off, and dimming control plus setting the white colour temperature (tuneable white).</li> <li>If a Saturation Group is set, this CCT/Hue Group controls the Hue of a DALI DT8 device.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The CCT/Hue Group uses the Application Index defined in the Brightness Group.</li> <li>The CCT/Hue Group is applicable to all controllable DALI devices (excluding Emergency Types C and D), yet functional for DALI DT8 only.</li> </ul>	
		<p><b>Saturation Group</b></p> <p>C-Bus Group Address is used to control the Saturation of a DALI DT8 device.</p>	<ul style="list-style-type: none"> <li>If a CCT/Hue Group is set, this CCT/Hue Group controls the Hue (colour) of a DALI DT8 device.</li> <li>The Saturation Group controls the Saturation (intensity) of a DALI DT8 device.</li> <li>Used with both the Brightness Group and the CCT/Hue Group for on, off, and dimming control plus setting the RGB colour and its intensity.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The Saturation Group uses the Application Index defined in the Brightness Group.</li> <li>The CCT/Hue Group is applicable to all controllable DALI devices (excluding Emergency Types C and D), yet functional for DALI DT8 only.</li> </ul>	
		<p><b>Disable DALI to C-Bus Mapping</b></p>	Check the checkbox to disable the DALI to C-Bus mapping	
		<p><b>Application Index</b></p>	This field is a combo box to select the application to be used for the group. The index is visible only when the application is been assigned in the application section.	
		<p><b>Warn Before Off Time</b></p>	This field displays the amount of time after the group address is turned off (1–15 minutes).	
		<p><b>Advanced</b></p>	<p><b>Min Max Logic</b></p>	This field gives the ability to pair 2 C-Bus group address to the same logical output and perform minimum and maximum logic.
			<p>Logic group Assignment</p>	This field allows you to pair additional groups to the output.

**Virtual Groups**

This section refers to a category for virtual groups, which is an extension of DALI groups and allows to create a maximum of 16 Virtual groups.

<p><b>Device Control</b></p>	<p><b>Levels</b></p>	<p><b>Minimum Level</b></p>	This field displays the minimum level for the device. This value cannot be lower than the Physical Minimum Level.
		<p><b>Maximum Level</b></p>	This field displays the maximum level for the device.
		<p><b>Power On Level</b></p>	This field displays the level that the device will reach when it powers on from an off state.
		<p><b>System Failure Level</b></p>	This field allows to set system failure level.
		<p><b>Physical Minimum Level</b></p>	This field displays the physical minimum level, which is defined by the manufacturer.
		<p><b>Emergency Level</b></p>	This field displays the emergency level for the device if it was a DALI emergency and exit ECG. The device will reach this level when the mains power is out and the device is running on battery.

		<b>Prolong Time</b>	This field displays the prolong time for this device.
		<b>Test Timeout</b>	This field displays the test timeout for the device. This refers to the count of how many times the device times outs before it stops the test.
		<b>Physical Minimum Level</b>	This is a read only field. This refers to the device physical minimum level.
		<b>Emergency Minimum Level</b>	This field displays the minimum level the DALI emergency and exit ECGs will reach. This field is for DALI emergency and exit ECGs only.
		<b>Emergency Maximum Level</b>	This field displays the maximum level the DALI emergency and exit ECGs will reach. This field is for DALI emergency and exit ECGs only.
		<b>Rated Duration</b>	This field displays the rate duration for the device.
<b>Lamp Time</b>		This field displays the lamp running time. This is only updated when the device is extracted.	
<b>Remote On</b>		This field is used to enable or disable Remote ON. If selected, the Remote ON is enabled. If cleared, the Remote ON is disabled.	
<b>Remote Off</b>		This field is used to enable or disable Remote OFF. If selected, the Remote OFF is enabled. If cleared, the Remote OFF is disabled.	
<b>Scenes</b>			
<p><b>NOTE:</b> The user must have configured the scene configuration in the DALI Gateway lines.</p> <p>This is the category section for scenes, where a user is allowed to assign maximum 16 DALI scenes to each controllable devices.</p> <p>By assigning the scene, the user can set the level they want the scene to go to based on min and max level of the device.</p> <p>Minimum Level – minimum level the device has been set to.</p> <p>Maximum Level – maximum level the device has been set to.</p>			
<b>Led Light</b>	<b>Dimming Curve Type</b>		
This is the category section for the dimming curve type.	This field displays the dimming curve type set for the DT6 device. This can be either standard dimming curve or linear dimming curve.		
<b>Emergency Light</b>	<b>Status</b>	<b>Inhibit Mode</b>	If checked, notifies when the device is in preventing mode.
		<b>Function Test Done and Result Valid</b>	If checked, notifies when the function test is completed and is valid.
		<b>Duration Test Done Result Valid</b>	If checked, notifies when the duration test is completed and is valid.
		<b>Battery Fully Charged</b>	If checked, notifies when the battery is fully charged.
		<b>Function Test Request Pending</b>	If checked, notifies when the function test request is pending.
		<b>Duration Test Request Pending</b>	If checked, notifies when the duration test request is pending.
		<b>Identification Active</b>	If checked, notifies when the device is identified (50/50, identify).
		<b>Physically Selected</b>	If checked, notifies if this device is the one physically selected.
	<b>Mode</b>	<b>Rest Mode Active</b>	If checked, will be in currently off mode.
		<b>Normal Mode Active</b>	If checked, will be in normal on mode.
		<b>Emergency Mode Active</b>	If checked, will be in emergency mode.
		<b>Extended Emergency Mode</b>	If checked, notifies when the extended emergency mode is in use.
		<b>Function Test in Progress</b>	If checked, notifies when the function test is in progress.
		<b>Duration Test in Progress</b>	If checked, notifies when the duration test is in progress.

		<b>Hardwired Inhibit is Active</b>	If checked, notifies when the hardwired inhibit is active.
	<b>Failure Status</b>	<b>Circuit Failure</b>	If checked, notifies when there is circuit failure.
		<b>Battery Duration Failure</b>	If checked, notifies when there is battery duration failure.
		<b>Battery Failure</b>	If checked, notifies when there is battery failure.
		<b>Emergency Lamp Failure</b>	If checked, notifies when there is emergency lamp failure.
		<b>Function Test Max Delay Exceeded</b>	If checked, notifies when the function test max delay is exceeded.
		<b>Duration Test Max Delay Exceeded</b>	If checked, notifies when the duration test max delay is exceeded.
		<b>Function Test Failed</b>	If checked, notifies when the function test max delay is exceeded.
		<b>Duration Test Failed</b>	If checked, notifies when the duration test is failed.
	<b>Features</b> This section displays the parameters whose values get reported from the emergency application.	Integral Emergency Control If checked, the parameter value gets reported.	
		Maintained Control Gear If checked, the parameter value gets reported.	
		Switched Maintained Control Gear If checked, the parameter value gets reported.	
		Auto Test Capability If checked, the parameter value gets reported.	
		Adjustable Emergency Level If checked, the parameter value gets reported.	
		Hardwired Inhibit Supported If checked, the parameter value gets reported.	
Physical Selection Supported If checked, the parameter value gets reported.			
Relight in Rest Mode Supported If checked, the parameter value gets reported.			
<b>Light Source Life</b> This field displays how long the device is been running for (in hours).			
<b>Battery Charge Percent</b> This field displays the percentage of the battery on the current amount of time.			
<b>Duration Test Result Minutes</b> This field displays how long the device has run duration test result.			
<b>Lamp Emergency Time</b> This field displays how long the device has run its emergency mode.			
<b>Lamp Total time</b> This field displays normal operation time along with emergency time.			
<b>Status</b> This section is read-only. This will update only when extracted from the device	<b>Control Gear Failure</b>	If checked, notifies when there is a control gear failure.	
	<b>Lamp Failure</b>	If checked, notifies when there is a Lamp failure.	
	<b>Lamp On</b>	If checked, notifies when there is a Lamp On.	
	<b>Limit error</b>	If checked, notifies when there is a Limit error.	
	<b>Fade Running</b>	If checked, notifies when there is a Fade running.	

	<b>Reset state</b>	If checked, notifies when there is a Fade running.
	<b>Short Address Missing</b>	If checked, notifies when the short address is missing.
	<b>Power Cycle Seen</b>	If checked, notifies when the power cycle is seen (when the device is turned off and back on again).
	<b>Thermal Overload Detected</b>	If checked, notifies when the thermal overload is detected.
	<b>Thermal Shutdown Detected</b>	If checked, notifies when the thermal shutdown is detected.
	<b>Load Decreased Detected</b>	If checked, notifies when the load decrease is detected.
	<b>Reference Measurement Failed</b>	If checked, notifies when the reference measurement is failed.
	<b>Load Increased Detected</b>	If checked, notifies when there is a Fade running.
	<b>Reconciled</b>	If checked, notifies the device has been reconciled. If not checked, the device is not reconciled.
<b>Device Identification</b>	<b>Short Address</b>	This field displays the short address of the device.
	<b>Object ID</b>	This field displays the object ID of the device.
	<b>GTIN</b>	This field displays the GTIN number of the device and is updated only after the device is extracted.
	<b>Serial</b>	This field displays the device's serial number and is updated only after the device is extracted.
	<b>Device Type 0</b>	If selected, then the device is type 0. If cleared, then the device is not type 0.
	<b>Device Type 1</b>	If selected, then the device is type 1. If cleared, then the device is not type 1.
	<b>Device Type 6</b>	If selected, then the device is type 6. If cleared, then the device is not type 6.
	<b>Device Type 8</b>	If selected, then the device is type 8. If cleared, then the device is not type 8.
	<b>DALI Version</b>	This refers to the DALI version of the device and is updated after the device is extracted.

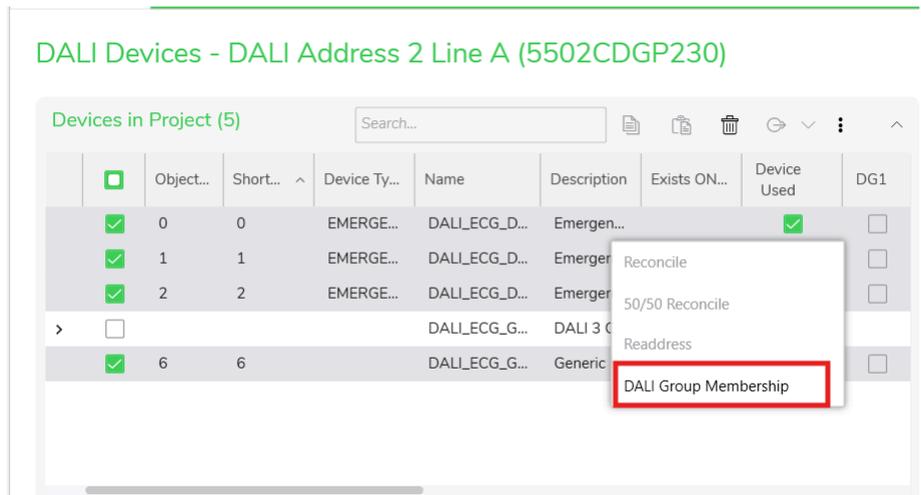
## DALI Device Grouping

DALI device grouping is performed to quickly configure and save DALI Group Membership for multiple DALI devices in the project or on the live DALI line with less effort and time.

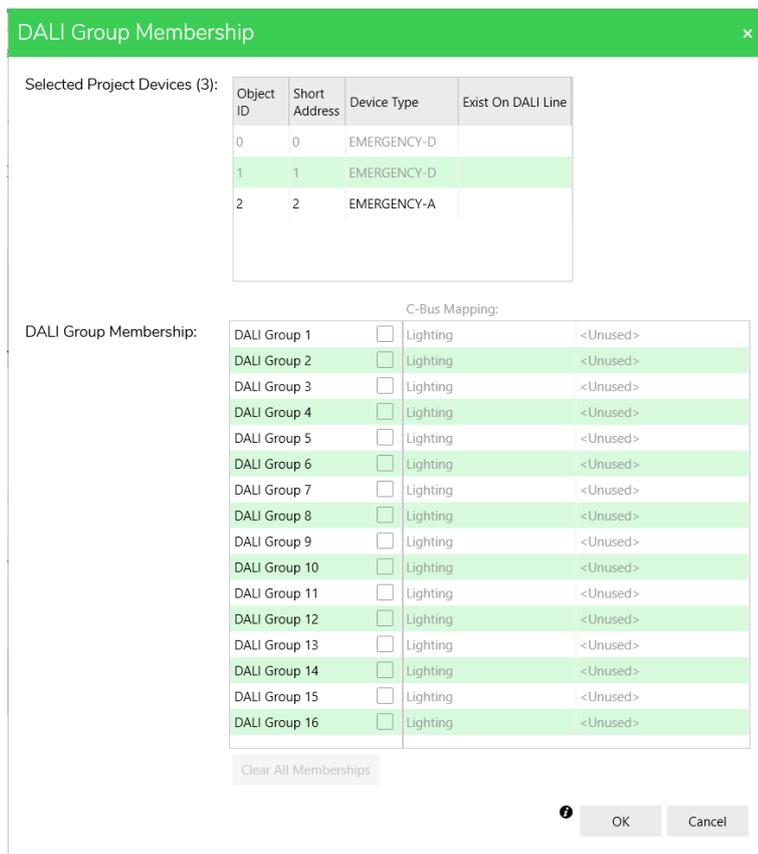
**Prerequisites:** Make sure the network has already been created in a project and DALI-2 Gateway has been added to the **Devices in Project** (project database).

1. Select the Network.
2. Click **DALI Devices**.
3. In the **Devices in Project** section, select the devices to be grouped.

4. Right-click and select **DALI Group Membership**.



**DALI Group Membership** pop-up appears.



**NOTE:** If the selected DALI device does not contain DALI Group Membership properties then the device appears disabled in the **Selected Project Devices** table.

5. Select the required **DALI Group** checkbox to configure DALI Group Membership for all the selected DALI devices and click **OK**.

×
**DALI Group Membership**

Selected Project Devices (3):

Object ID	Short Address	Device Type	Exist On DALI Line
0	0	EMERGENCY-D	
1	1	EMERGENCY-D	
2	2	EMERGENCY-A	

DALI Group Membership:

DALI Group	<input type="checkbox"/>	C-Bus Mapping:	
DALI Group 1	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 2	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 3	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 4	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 5	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 6	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 7	<input type="checkbox"/>	Lighting	<Unused>
DALI Group 8	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 9	<input type="checkbox"/>	Lighting	<Unused>
DALI Group 10	<input type="checkbox"/>	Lighting	<Unused>
DALI Group 11	<input type="checkbox"/>	Lighting	<Unused>
DALI Group 12	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 13	<input type="checkbox"/>	Lighting	<Unused>
DALI Group 14	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 15	<input checked="" type="checkbox"/>	Lighting	<Unused>
DALI Group 16	<input type="checkbox"/>	Lighting	<Unused>

[Clear All Memberships](#)

OK
Cancel

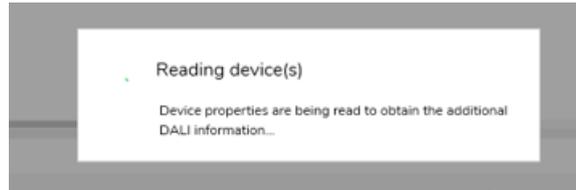
**NOTE:** Click [Clear All Memberships](#) to unselect all the selected DALI groups.

DALI Group Membership configuration changes are saved to the selected project devices only.

6. In the **Line Devices** section, select the devices to be grouped. Follow the steps 4–5.

	Short Address	Device Types	Fault Status	Exists in Project	Device Used	DG1	DG2	DG3	DG4	D
<input checked="" type="checkbox"/>	0	LED	NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	2		NONE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Whenever you invoke **DALI Group Membership** for live devices, it will read the additional DALI information during the first scan, regardless of which DALI scan you completed.

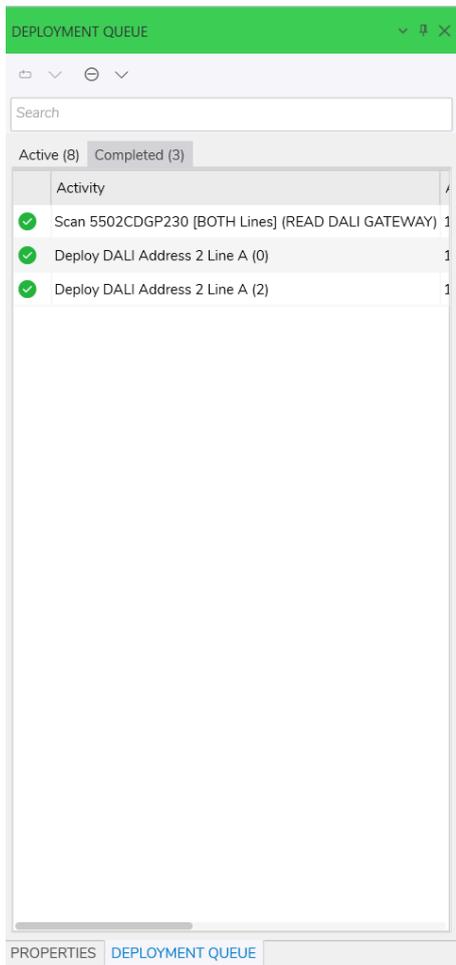


**NOTE:** Only if **Read DALI Gateway** scan is completed, **C-Bus Mapping** is displayed for each DALI Group in the **DALI Group Membership** table.

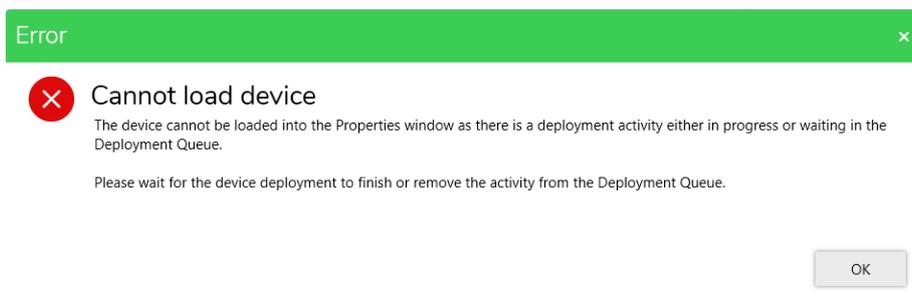
For live DALI devices, when you click **OK**:

- Configurations are saved only to selected live network devices if it is a unreconciled device.
- Configurations are saved to the selected live network devices and project devices if it is a reconciled device.
- DALI Group Membership changes are saved.

The completed configuration activity can be seen in **DEPLOYMENT QUEUE**.



An **Error** pop-up appears if you try to load the same device into the **PROPERTY EDITOR** while deployment is still in progress.



## PC Interfaces

The C-Bus PC interface units connect SpaceLogic C-Bus Commissioning software directly to the C-Bus network.

### Unit Type

- 5500PC (PCINT4)
- 5500PCU (PCINTU)

The field information to configure PC Interface is as below:

Field		Description
<b>Global</b>  This section allows users to check and update the C-Bus clock information.	C-Bus Clock	The C-Bus Clock check box enables/disables the resident C-Bus clock. The Enable C-Bus Clock check box is ticked (enabled) by default.
	Burden	The Enable Burden check box enables/disables the resident network burden. The Enable Burden check box is operational if the unit address is 001 and the Enable C-Bus Clock check box is ticked. Otherwise, the Enable Burden check box is non-operational [greyed

		out]. If the operational Enable Burden check box is ticked, then the resident burden is enabled.
<b>Unit Identification</b> This section display the fields for identification of the unit.	Unit Type	The Unit Type field contains the unit type and unit description of the device.
	Firmware Version	The Firmware Version field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.
	Catalogue Number	The Catalog Number field contains the catalog number related to the unit type.
	Part Name	The Part Name field contains the part name which is stored in the unit hardware.
	Unit Address	This field displays the unit address assigned to the device.
	Serial Number	The Serial number field contains the serial number which exists on the physical network.
	Tag Name	The Tag Name field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only.
Notes	The Notes field contains a location to add notes about the unit which is stored in the project database only.	
<b>Status</b> The Status section contains information about the C-Bus network related functions located on the unit.	C-Bus Clock Active	The Clock Active indicates whether the C-Bus internal clock is enabled on this C-Bus unit. If activated, the indicator is lit. If not activated, the indicator is greyed out.
	Burden Active	The Burden Active indicates whether the C-Bus burden is active on this C-Bus unit. If active, the indicator is lit. If not active, the indicator is greyed out.
	Voltage	Voltage field contains the voltage level available to the unit. The voltage level displayed refreshes whenever the Update Status button is clicked.

## C-Bus Automation Controllers

The C-Bus Network Automation Controller and C-Bus Application Controller units are DIN Rail-mounted C-Bus units. They enable C-Bus to perform complex conditional events, real-time scheduling, combinations of conditional events and scheduling, calculations, and protocol conversions. This support automation functions such as control and monitoring of C-Bus groups and scenes. The unit is programmed via its own internal web interface, which is accessible via a USB cable or an Ethernet network.

SpaceLogic C-Bus Commission supports the below automation and application controllers.

### Unit Type

- 5500NAC (PC\_NAC)
- 5500NAC (SYS\_NAC)
- LSS5500NAC (PC\_NAC)
- LSS5500NAC (SYS\_NAC)

### Unit Type

- 5500SHAC (PC\_SHAC)
- 5500SHAC (SYS\_SHAC)
- LSS5500SHAC (PC\_SHAC)
- LSS5500SHAC (SYS\_SHAC)

### Unit Type

- 5500AC2 (PC\_AC2)
- 5500AC2 (SYS\_AC2)
- 5500NAC2 (PC\_NAC2)
- 5500NAC2 (SYS\_NAC2)

When any controller unit is added to the **Devices in Project**, three layers of the controller are displayed. They are IP layer, PC and SYS.

- IP Layer will not have any address, serial, firmware version or unit type.

- IP Layer cannot be readdressed.  
**NOTE:** Ensure that the PC and SYS levels are readdressed as per current implementation without losing the IP layer.
- The SYS and PC layer are used to configure, reconcile and deploy to the device.
- The SYS and PC layer cannot be deleted independently.
- When loading the IP layer in **Property** window, the **Deploy to network** is disabled.

Address	Device Name	Unit Type	Catalogue	Description	Serial	Firmware	Exist
	5500SHAC		5500SHAC	Network...			
1	5500SHAC_PC	PC_SHAC	5500SHAC	Wiser for...	0000000...	5.5.00	
2	5500SHAC_SYS	SYS_SH...	5500SHAC	Wiser for...	0000000...	1.14.00	

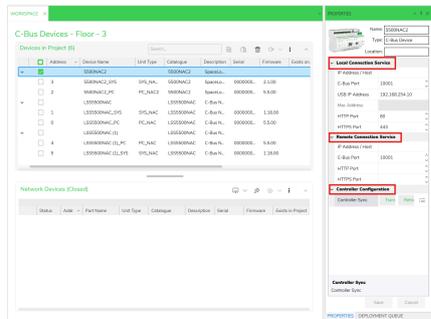
**Connect to the controllers:** Configure IP layer of the controllers to sync or connect to the controllers or can enter manually at the time of connection.

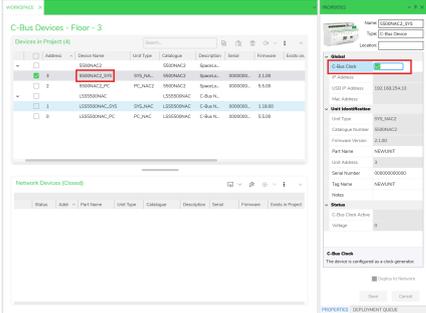
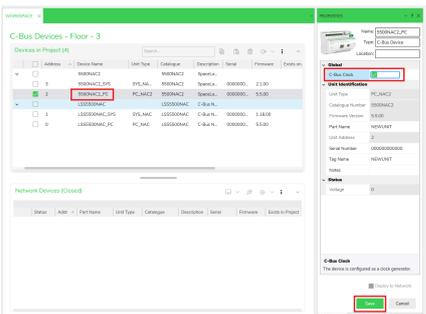
**Controller sync functions:** Controller sync consists of 2 functions:

- **Push:** Push (Transfer) function is used to push the object list to the controller.
- **Pull:** Pull (Retrieve) function is used to pull the data back from the controller and store data in the project.

The field information to configure SpaceLogic C-Bus Automation Controllers is explained below:

<b>IP layer/group layer</b>	<b>Local Connection Service</b>	<b>IP Address/Host</b>	IP address of the controller.
		<b>C-Bus Port</b>	Default 10001.
		<b>USB IP Address</b>	Default IP address for USB connection.
		<b>Mac Address</b>	Mac address of the controller (read-only).
		<b>HTTP PORT</b>	Default 80 (range restricted to 16-bit unsigned integer 0 -65535).
		<b>HTTPS PORT</b>	Default 443 (range restricted to 16-bit unsigned integer 0 -65535).
	<b>Remote Connection Service</b>	<b>IP Address/Host</b>	IP address of the remote device.
		<b>C-Bus Port</b>	Default 10001 (range restricted to 16-bit unsigned integer 0 -65535).
		<b>HTTP PORT</b>	HTTP port of the device (range restricted to 16-bit unsigned integer 0 -65535).
		<b>HTTPS PORT</b>	HTTPS port of the device (range restricted to 16-bit unsigned integer 0 -65535).
<b>Controller Configuration</b> <b>IMPORTANT:</b> Configuring of the device is done only on the <b>Devices in Project</b> (project database).		<b>Controller Sync</b>	Object List, page 272 To create object lists click
			Transfer , page 274
			Retrieve, page 277

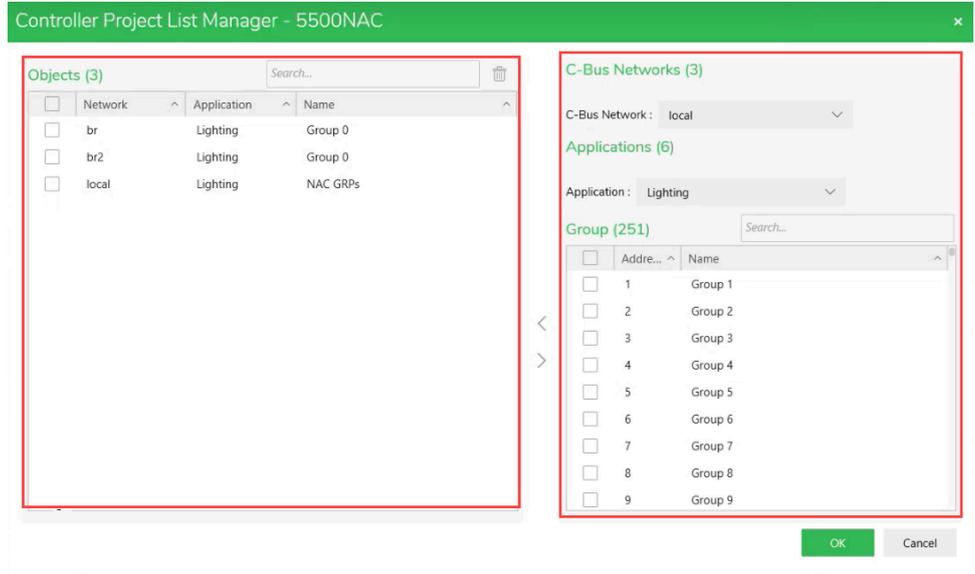


<p><b>SYS_INTERFACE (NAC/SHAC/NAC2/AC2)</b></p>	<p><b>Global</b></p> <p>This section allows users to check and update the C-Bus clock information.</p>	<p><b>C-Bus Clock</b></p>	<p>This check box enables/disables the resident C-Bus clock. The <b>Enable C-Bus Clock</b> check box is ticked (enabled) by default.</p> 
	<p><b>IP Address</b></p>	<p>N/A</p>	
	<p><b>USB IP Address</b></p>	<p>Default (read only)</p>	
	<p><b>Mac Address</b></p>	<p>N/A</p>	
	<p><b>Unit Identification</b></p> <p>This section display the fields for identification of the unit.</p>	<p><b>Unit Type</b></p>	<p>This field contains the unit type of the device.</p>
		<p><b>Firmware Version</b></p>	<p>This field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.</p> <p><b>NOTE:</b> For SYS_NAC/SHAC, the minimum firmware version to support is 1.14.00.</p>
		<p><b>Catalogue Number</b></p>	<p>This field contains the catalog number related to the unit type.</p>
		<p><b>Part Name</b></p>	<p>This field contains the part name which is stored in the unit hardware.</p>
		<p><b>Unit Address</b></p>	<p>This field displays the unit address assigned to the device.</p>
		<p><b>Serial Number</b></p>	<p>This field contains the serial number which exists on the physical network.</p>
<p><b>Tag Name</b></p>		<p>This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only</p>	
<p><b>Notes</b></p>	<p>This field contains a location to add notes about the unit which is stored in the project database only.</p>		
<p><b>Status</b></p> <p>This section contains information about the C-Bus network related functions located on the unit.</p>	<p><b>C-Bus Clock Active</b></p>	<p>This field indicates whether the C-Bus internal clock is enabled on this C-Bus unit. If activated, the indicator is lit. If not activated, the indicator is greyed out.</p>	
	<p><b>Voltage</b></p>	<p>This field contains the voltage level available to the unit.</p>	
<p><b>PC_INTERFACE (NAC/SHAC/NAC2/AC2)</b></p>	<p><b>Global</b></p> <p>This section allows you to check and update the C-Bus clock information.</p>	<p><b>C-Bus Clock</b></p>	<p>Select the check box to enable the resident C-Bus clock. Once you select the <b>C-Bus Clock</b> check box, the <b>Save</b> button is enabled.</p> 

<p><b>Unit Identification</b></p> <p>This section displays the fields for identification of the unit.</p>	<p><b>Unit Type</b></p>	<p>This field contains the unit type of the device.</p>
	<p><b>Firmware Version</b></p>	<p>This field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database.</p> <p><b>NOTE:</b> For PC_NAC/SHAC, the minimum firmware version to support is 5.5.00.</p>
	<p><b>Catalogue Number</b></p>	<p>This field contains the catalog number related to the unit type.</p>
	<p><b>Part Name</b></p>	<p>This field contains the part name which is stored in the unit hardware.</p>
	<p><b>Unit Address</b></p>	<p>This field displays the unit address assigned to the device.</p>
	<p><b>Serial Number</b></p>	<p>This field contains the serial number which exists on the physical network.</p>
	<p><b>Tag Name</b></p>	<p>This field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only</p>
	<p><b>Notes</b></p>	<p>This field contains a location to add notes about the unit which is stored in the project database only.</p>
<p><b>Status</b></p> <p>This section contains information about the C-Bus network related functions located on the unit.</p>	<p><b>Voltage</b></p>	<p>This field contains the voltage level available to the unit.</p>

## Object List Manager

Object list manager allows you to work with assigned groups and levels of an application to the object list.



Controller Project List Manager window is displayed, which consists of the following:

<b>Objects</b>	<b>Network</b>	Displays network name of the selected object.
	<b>Application</b>	Displays application name of the selected object.
	<b>Name</b>	Displays name of the selected object.
	<b>Search</b>	To search the existing objects in the object list, type the object name/application/network name in search bar.
	<b>Delete</b>	Select the object list and click  .
<b>C-Bus Networks</b>	<b>C-Bus Network</b>	All the available C-Bus networks are displayed in the drop-down.
	<b>Applications</b>	All the available applications in the selected network are displayed in the drop-down. <b>NOTE:</b> Applications of the selected network will be displayed.
	<b>Search</b>	Depending on the type of application is selected groups, channels or devices can be searched using search bar.
Depending on the type of application is selected, groups, channels or devices are displayed.		
<b>Lighting Application</b>	Group of the lighting application is displayed.	Address. Displays address of the group/enable group.
<b>Enable</b>	Group of the enable application is displayed.	Name. Displays name of the group/enable group.
<b>Measurement Application</b>	Channels of the measurement/error application are displayed.	Device ID. Device ID to identify specific C-Bus unit from measurement/error application.
		Device Name. Displays name of the device.
<b>Error Application</b>		Channel ID. Object Id assigned to DALI Gateway (0–255).
		Channel Name. Specifies the name of the channel.

<b>Emergency Exit Light</b>	Devices of the emergency exit light application are displayed.	CDG Name. Displays C-Bus DALI-2 Gateway name.
		Line Name. Displays DALI line name.
		EEL Name. Displays Emergency Exit Light application name.
		Object ID. Displays the Object ID of the device.
		Test Group. Displays the assigned test group.

1. Click < to add objects from **C-Bus Network** to the **Object**.
2. Click > to remove objects from **Object**.
3. Click **OK** to save the object lists to project database.

**IMPORTANT:**

- The remote C-Bus network in the current project (connected via C-Bus bridge) allows up to a maximum of 19 networks along with local network (and 5 bridge networks deep max) allows to add objects in the object list section. Once the maximum limit is reached, the list of networks in the C-Bus Network will be disabled.
- To use the disabled network, remove the objects in the object list.
- Objects added to the list define the networks that will be used in the controller.

## Transfer

The configurations in the SpaceLogic C-Bus Commission can be pushed to the C-Bus Controllers via push operation.

The created objects are pushed to the controller using **Transfer** button.

1. Once the objects list are created, click **Transfer**. The **C-Bus Controller Authentication** window is displayed.

C-Bus Controller Authentication

Interface: Local TCP connection

Username: admin

\* Password:

\* Required fields

Login Cancel

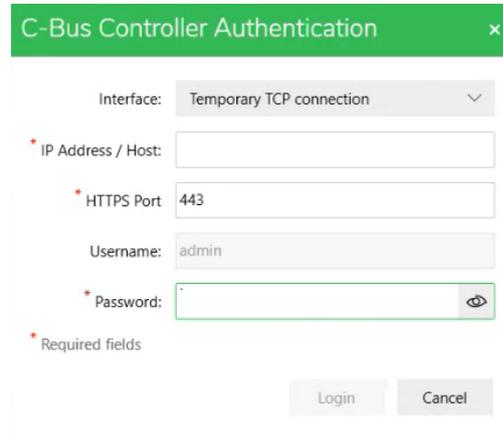
2. Select the **Interface** type from drop-down.

- Local TCP Connection
- Remote TCP Connection
- USB Connection

**NOTE:** The IP address for Local, Remote and USB are fetched from the details configured in the IP layer.

- Temporary TCP Connection

For temporary connection, you need to enter additional IP address and HTTPS port details.



3. Enter the password.

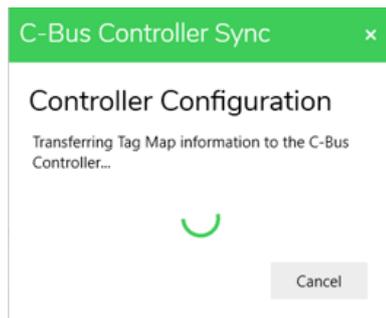
**NOTE:** If you enter wrong password, **Authentication Failed** message is displayed.



4. Click **OK** and re-enter the password.

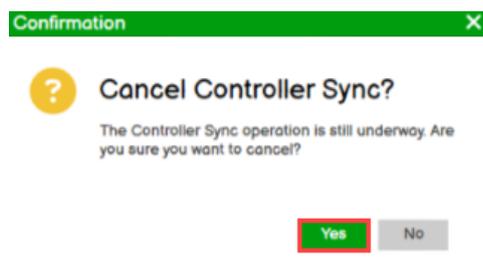
5. Click **Login**.

The **C-Bus controller Sync** process window is displayed.



The tag map and object informations are transferred to C-Bus Controllers.

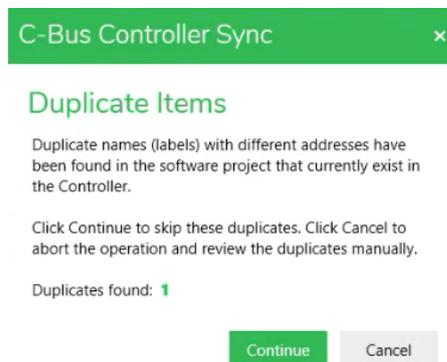
**NOTE:** Click **Cancel** to cancel the syncing.



Click **Yes**.

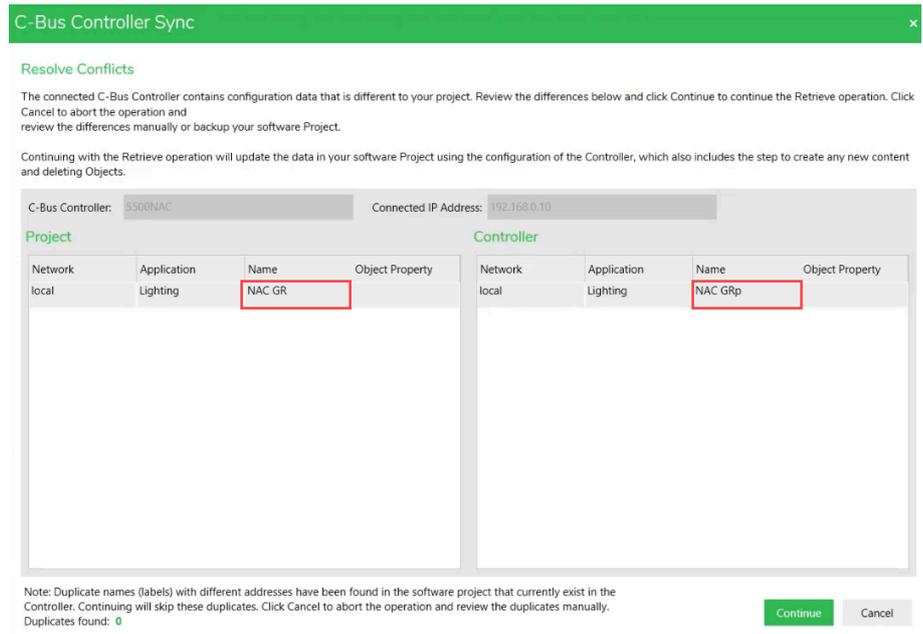
**IMPORTANT:** While transferring :

- If there are any duplicates items identified (application, group or label name), **C-Bus Controller Sync** window is displayed indicating the duplicate items.



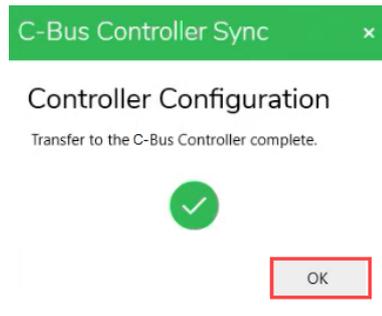
6. Click **Continue** to resolve duplicate items.

If any conflict items are identified, **C-Bus Controller Sync** window is displayed indicating the conflicts.



7. Click **Continue** to resolve the conflict.

On successful transfer, transfer completion message is displayed.



8. Click **OK** to complete the transfer.

## Retrieve

The configurations done in the controllers can be pulled from C-Bus Controller to the SpaceLogic C-Bus Commission using pull operation.

The created objects are pulled to the SpaceLogic C-Bus Commission using **Retrieve** button.

**NOTE:** When you extract any C-Bus device and try to configure controllers in parallel, the **Retrieve** button is disabled.

1. Click **Retrieve**. **C-Bus Controller Authentication** window is displayed.

C-Bus Controller Authentication

Interface: Local TCP connection

Username: admin

\* Password:

\* Required fields

Login Cancel

2. Select the **Interface** type from drop-down.

- Local TCP Connection
- Remote TCP Connection
- USB Connection

**NOTE:** The IP address for Local, Remote and USB are fetched from the details configured in the IP layer.

- Temporary TCP Connection

For temporary connection, you need to enter additional IP address and HTTPS port details.

C-Bus Controller Authentication

Interface: Temporary TCP connection

\* IP Address / Host:

\* HTTPS Port: 443

Username: admin

\* Password:

\* Required fields

Login Cancel

3. Enter the password.

**NOTE:** If you enter the wrong password, **Authentication Failed** message is displayed.

C-Bus Controller Authentication

**Authentication Failed**

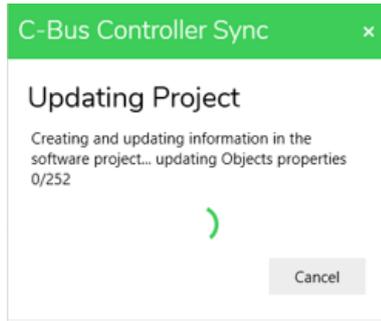
Unable to connect to the C-Bus Controller.

Please confirm the login details and try again.

OK

4. Click **OK** and re-enter the password.

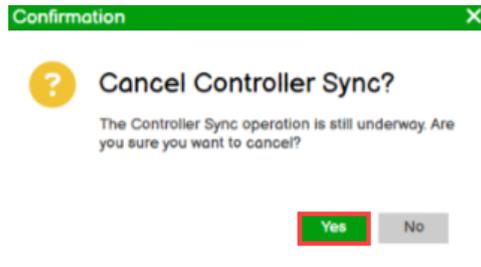
5. Click **Login**. **C-Bus controller Sync** pop-up window is displayed.



While retrieving (pull operation) data from C-Bus controllers, objects can be updated, deleted or added.

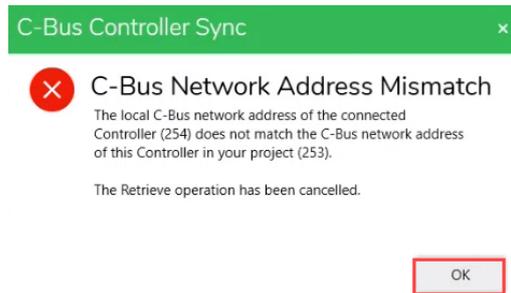
**NOTE:**

- To cancel the syncing, click **Cancel**.



Click **Yes**.

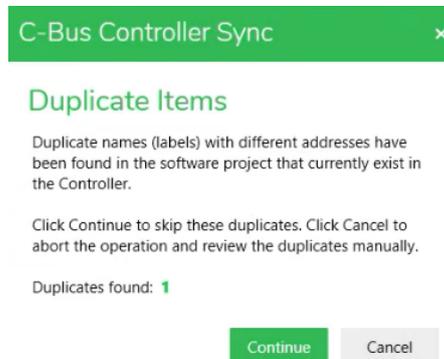
- An error message is displayed if the controller configuration is failed.



Check the local and network IP address of the controller and re-login.

**IMPORTANT:** While retrieving :

- If any duplicates items are identified (application, group or label name), **C-Bus Controller Sync** window is displayed indicating the duplicate items



6. Click **Continue** to resolve duplicate items.

If any conflict items are identified, **C-Bus Controller Sync** window is displayed indicating the conflicts.

7. Click **Continue** to resolve the conflict.

On successful retrieve, completion message is displayed.

8. Click **OK** to complete the retrieve.

## C-Bus Network Interface

The C-Bus Network interface units connect SpaceLogic C-Bus Commissioning software via the port address.

### Unit Type

- 5500CN2 (PC\_CNICD)

The field information to configure C-Bus Network Interface (CNI) is as below:

	Field	Description
<b>Global</b>  This section allows users to check and update the C-Bus clock information.	C-Bus Clock	The C-Bus Clock check box enables/disables the resident C-Bus clock. The Enable C-Bus Clock check box is ticked (enabled) by default
	Burden	The Enable Burden check box enables/disables the resident network burden. The Enable Burden check box is operational if the unit address is 001 and the Enable C-Bus Clock check box is ticked. Otherwise, the Enable Burden check box is non-operational [greyed out]. If the operational Enable Burden check box is ticked, then the resident burden is enabled

<b>Unit Identification</b> This section display the fields for identification of the unit.	Unit Type	The Unit Type field contains the unit type and unit description of the device
	Firmware Version	The Firmware Version field shows the version number of the C-Bus interface firmware which exists on the physical network or which has been assigned to a logical representation of the unit in the database
	Catalogue Number	The Catalog Number field contains the catalog number related to the unit type
	Part Name	The Part Name field contains the part name which is stored in the unit hardware
	Unit Address	This field displays the unit address assigned to the device
	Serial Number	The Serial number field contains the serial number which exists on the physical network
	Tag Name	The Tag Name field contains the name that user can give to the logical representation of the unit. This name can be up to 32 characters long and is stored in the project database only
	Notes	The Notes field contains a location to add notes about the unit which is stored in the project database only
<b>Status</b> The Status section contains information about the C-Bus network related functions located on the unit.	C-Bus Clock Active	The Clock Active indicates whether the C-Bus internal clock is enabled on this C-Bus unit. If activated, the indicator is lit. If not activated, the indicator is greyed out
	Burden Active	The Burden Active indicates whether the C-Bus burden is active on this C-Bus unit. If active, the indicator is lit. If not active, the indicator is greyed out
	Voltage	Voltage field contains the voltage level available to the unit. The voltage level displayed refreshes whenever the Update Status button is clicked

# Open Source License Information

This Schneider Electric product is provided with certain open source software components (collectively, "OSS") developed by third parties. The OSS is licensed in accordance with the OSS license terms set forth below.

- Apache License 2.0, page 282
- BSD-3 Clause License, page 285
- Custom License, page 285
- Microsoft Public License, page 288
- MIT License, page 289
- Oracle Binary Code License Agreement for the Java SE Platform Products and JavaFX, page 289
- Eclipse Public License - v 1.0, page 292
- Eclipse Public License - v 2.0, page 295
- GNU Lesser General Public License v 2.1, page 300
- GNU Lesser General Public License Version 3, page 302
- Cyber Security, page 8

## Apache-2.0 License

### **SPDX identifier**

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

### **TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION**

## 1. Definitions

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. **Grant of Patent License.** Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
4. **Redistribution.** You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
  - a. You must give any other recipients of the Work or Derivative Works a copy of this License; and
  - b. You must cause any modified files to carry prominent notices stating that You changed the files; and
  - c. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
  - d. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.
5. **Submission of Contributions.** Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
6. **Trademarks.** This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
7. **Disclaimer of Warranty.** Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. **Limitation of Liability.** In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. **Accepting Warranty or Additional Liability.** While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

For more details, click <https://licenses.nuget.org/Apache-2.0>

## BSD-3-Clause License

### SPDX identifier

BSD-3-Clause

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**NOTE:** Note that the Eclipse Distribution License - v 1.0 (EDL 1.0) is a match to BSD-3-Clause, even though it uses a different name.

For more details, click <https://licenses.nuget.org/BSD-3-Clause>

Components: NLog, Gong-Wpf-DragDrop

## Custom License

Software Licenses that apply to the DotNetZip library and tools

As DotNetZip includes work derived from other projects, you are required to comply with the terms and conditions for each of them. These licenses include BSD, Apache, and zlib.

To use the software, you must accept the licenses. If you do not accept the licenses, do not use the software.

Original intellectual property in DotNetZip is provided under the Ms-PL:

Copyright (c) 2006 - 2011 Dino Chiesa

Copyright (c) 2006, 2007, 2008, 2009 Dino Chiesa and Microsoft Corporation.

Microsoft Public License (Ms-PL)

This license governs use of the accompanying software, the DotNetZip library ("the software"). If you use the software, you accept this license. If you do not accept the license, do not use the software.

#### 1. Definitions

The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.

A "contribution" is the original software, or any additions or changes to the software.

A "contributor" is any person that distributes its contribution under this license.

"Licensed patents" are a contributor's patent claims that read directly on its contribution.

#### 2. Grant of Rights

- a. Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.
- b. Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

#### 3. Conditions and Limitations

- a. No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.
- b. If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.
- c. If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.
- d. If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.
- e. The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

---

The jzlib library, itself, is a re-implementation of ZLIB v1.1.3 in pure Java.

zlib is provided under the zlib license:

Copyright (C) 1995-2004 Jean-loup Gailly and Mark Adler The ZLIB software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution. Jean-loup Gailly [jloup@gzip.org](mailto:jloup@gzip.org)  
Mark Adler [madler@alumni.caltech.edu](mailto:madler@alumni.caltech.edu)

-----  
The managed BZIP2 code included in Ionic.BZip2.dll and Ionic.Zip.dll is modified code, based on Java code in the Apache commons compress library.

Apache Commons Compress ( <http://commons.apache.org/proper/commons-compress/> ) is provided under the Apache 2 license:

Apache Commons Compress

Copyright 2002-2014 The Apache Software Foundation

Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed with this work for additional information regarding copyright ownership. The ASF licenses this file to you under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

Many thanks to Julian Seward for the original C implementation of BZip2 ( <http://www.bzip.org/> ).

-----  
The managed Deflate64 code included Ionic.Zip.dll is modified code, based on C# code in the .NET Core Libraries (CoreFX) (System.IO.Compression/DeflateManaged).

Code is provided under MIT licence:

### The MIT License (MIT)

Copyright (c) .NET Foundation and Contributors

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Components: WPFLocalizeExtension

## Microsoft Public License

### Microsoft Public License (Ms-PL)

This license governs use of the accompanying software, the DotNetZip library ("the software"). If you use the software, you accept this license. If you do not accept the license, do not use the software.

#### 1. Definitions

The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.

A "contribution" is the original software, or any additions or changes to the software.

A "contributor" is any person that distributes its contribution under this license.

"Licensed patents" are a contributor's patent claims that read directly on its contribution.

#### 2. Grant of Rights

- a. Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.
- b. Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

### 3. Conditions and Limitations

- a. No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.
- b. If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.
- c. If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.
- d. If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.
- e. The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

For more details, click <https://www.nuget.org/packages/WPFLocalizeExtension/3.10.0/License>

Components: WPFLocalizeExtension

## MIT License

### SPDX identifier

MIT

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next paragraph) shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

For more details, click <https://licenses.nuget.org/MIT>

Components: CountryData, DynamicData, Flurl, Newtonsoft.Json, OxyPlot, ReactiveMarbles.ObservableEvents.SourceGenerator, ReactiveUI, Splat

## Oracle Binary Code License Agreement for the Java SE Platform Products and JavaFX

ORACLE AMERICA, INC. ("ORACLE"), FOR AND ON BEHALF OF ITSELF AND ITS SUBSIDIARIES AND AFFILIATES UNDER COMMON CONTROL, IS WILLING TO LICENSE THE SOFTWARE TO YOU ONLY UPON THE

CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS BINARY CODE LICENSE AGREEMENT AND SUPPLEMENTAL LICENSE TERMS (COLLECTIVELY "AGREEMENT"). PLEASE READ THE AGREEMENT CAREFULLY. BY SELECTING THE "ACCEPT LICENSE AGREEMENT" (OR THE EQUIVALENT) BUTTON AND/OR BY USING THE SOFTWARE YOU ACKNOWLEDGE THAT YOU HAVE READ THE TERMS AND AGREE TO THEM. IF YOU ARE AGREEING TO THESE TERMS ON BEHALF OF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE LEGAL AUTHORITY TO BIND THE LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF YOU DO NOT WISH TO BE BOUND BY THE TERMS, THEN SELECT THE "DECLINE LICENSE AGREEMENT" (OR THE EQUIVALENT) BUTTON AND YOU MUST NOT USE THE SOFTWARE ON THIS SITE OR ANY OTHER MEDIA ON WHICH THE SOFTWARE IS CONTAINED.

1. DEFINITIONS. "Software" means the software identified above in binary form that you selected for download, install or use (in the version You selected for download, install or use) from Oracle or its authorized licensees and/or those portions of such software produced by jlink as output using a Program's code, when such output is in unmodified form in combination, and for sole use with, that Program, as well as any other machine readable materials (including, but not limited to, libraries, source files, header files, and data files), any updates or error corrections provided by Oracle, and any user manuals, programming guides and other documentation provided to you by Oracle under this Agreement. The Java Linker (jlink) is available with Java 9 and later versions. "General Purpose Desktop Computers and Servers" means computers, including desktop and laptop computers, or servers, used for general computing functions under end user control (such as but not specifically limited to email, general purpose Internet browsing, and office suite productivity tools). The use of Software in systems and solutions that provide dedicated functionality (other than as mentioned above) or designed for use in embedded or function-specific software applications, for example but not limited to: Software embedded in or bundled with industrial control systems, wireless mobile telephones, wireless handheld devices, kiosks, TV/STB, Blu-ray Disc devices, telematics and network control switching equipment, printers and storage management systems, and other related systems are excluded from this definition and not licensed under this Agreement. "Programs" means
  - a. Java technology applets and applications intended to run on the Java Platform, Standard Edition platform on Java-enabled General Purpose Desktop Computers and Servers; and
  - b. JavaFX technology applications intended to run on the JavaFX Runtime on JavaFX-enabled General Purpose Desktop Computers and Servers.

"Java SE LIUM" means the Licensing Information User Manual – Oracle Java SE and Oracle Java Embedded Products Document accessible at <http://www.oracle.com/java/technologies/java-se-doc.html>. "Commercial Features" means those features that are identified as such in the Java SE LIUM under the "Description of Product Editions and Permitted Features" section.

2. LICENSE TO USE. Subject to the terms and conditions of this Agreement including, but not limited to, the Java Technology Restrictions of the Supplemental License Terms, Oracle grants you a non-exclusive, non-transferable, limited license without license fees to reproduce and use internally the Software complete and unmodified for the sole purpose of running Programs. THE LICENSE SET FORTH IN THIS SECTION 2 DOES NOT EXTEND TO THE COMMERCIAL FEATURES. YOUR RIGHTS AND OBLIGATIONS RELATED TO THE COMMERCIAL FEATURES ARE AS SET FORTH IN THE SUPPLEMENTAL TERMS ALONG WITH ADDITIONAL LICENSES FOR DEVELOPERS AND PUBLISHERS.

3. **RESTRICTIONS.** Software is copyrighted. Title to Software and all associated intellectual property rights is retained by Oracle and/or its licensors. Unless enforcement is prohibited by applicable law, you may not modify, decompile, or reverse engineer Software. You acknowledge that the Software is developed for general use in a variety of information management applications; it is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use the Software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle disclaims any express or implied warranty of fitness for such uses. No right, title or interest in or to any trademark, service mark, logo or trade name of Oracle or its licensors is granted under this Agreement. Additional restrictions for developers and/or publishers licenses are set forth in the Supplemental License Terms.
4. **DISCLAIMER OF WARRANTY.** THE SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. ORACLE FURTHER DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.
5. **LIMITATION OF LIABILITY.** IN NO EVENT SHALL ORACLE BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA OR DATA USE, INCURRED BY YOU OR ANY THIRD PARTY, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF ORACLE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. ORACLE'S ENTIRE LIABILITY FOR DAMAGES HEREUNDER SHALL IN NO EVENT EXCEED ONE THOUSAND DOLLARS (U.S. \$1,000).
6. **TERMINATION.** This Agreement is effective until terminated. You may terminate this Agreement at any time by destroying all copies of Software. This Agreement will terminate immediately without notice from Oracle if you fail to comply with any provision of this Agreement. Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right. Upon termination, you must destroy all copies of Software.
7. **EXPORT REGULATIONS.** You agree that U.S. export control laws and other applicable export and import laws govern your use of the Software, including technical data; additional information can be found on Oracle's Global Trade Compliance web site (<http://www.oracle.com/corporate/security-practices/corporate/governance/global-trade-compliance.html>). You agree that neither the Software nor any direct product thereof will be exported, directly, or indirectly, in violation of these laws, or will be used for any purpose prohibited by these laws including, without limitation, nuclear, chemical, or biological weapons proliferation.
8. **TRADEMARKS AND LOGOS.** You acknowledge and agree as between you and Oracle that Oracle owns the ORACLE and JAVA trademarks and all ORACLE- and JAVA-related trademarks, service marks, logos and other brand designations ("Oracle Marks"), and you agree to comply with the Third Party Usage Guidelines for Oracle Trademarks currently located at <http://www.oracle.com/legal/trademarks.html>. Any use you make of the Oracle Marks inures to Oracle's benefit.
9. **U.S. GOVERNMENT LICENSE RIGHTS.** If Software is being acquired by or on behalf of the U.S. Government or by a U.S. Government prime contractor or subcontractor (at any tier), then the Government's rights in Software and accompanying documentation shall be only those set forth in this Agreement.
10. **GOVERNING LAW.** This agreement is governed by the substantive and procedural laws of California. You and Oracle agree to submit to the exclusive jurisdiction of, and venue in, the courts of San Francisco, or Santa Clara counties in California in any dispute arising out of or relating to this agreement.
11. **SEVERABILITY.** If any provision of this Agreement is held to be unenforceable, this Agreement will remain in effect with the provision omitted, unless omission would frustrate the intent of the parties, in which case this Agreement will immediately terminate.

12. **INTEGRATION.** This Agreement is the entire agreement between you and Oracle relating to its subject matter. It supersedes all prior or contemporaneous oral or written communications, proposals, representations and warranties and prevails over any conflicting or additional terms of any quote, order, acknowledgment, or other communication between the parties relating to its subject matter during the term of this Agreement. No modification of this Agreement will be binding, unless in writing and signed by an authorized representative of each party.

For more details, click <https://www.oracle.com/downloads/licenses/binary-code-license.html>

**Components:** Java Runtime environment 8

## Eclipse Public License - v 1.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

### 1. DEFINITIONS

"Contribution" means:

- a. in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and
- b. in the case of each subsequent Contributor:
- c. changes to the Program, and
- d. additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

## 2. GRANT OF RIGHTS

- a. Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.
- b. Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.
- c. Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.
- d. Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

## 3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

- a. A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:
- b. its license agreement:
  - (1) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;
  - (2) effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;
  - (3) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and
  - (4) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

- a. it must be made available under this Agreement; and
- b. a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

#### 4. **COMMERCIAL DISTRIBUTION**

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

#### 5. **NO WARRANTY**

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

#### 6. **DISCLAIMER OF LIABILITY**

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

## Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

## 1. DEFINITIONS

"Contribution" means:

- a. in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and
- b. in the case of each subsequent Contributor:
- c. changes to the Program, and
- d. additions to the Program;

where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

## 2. GRANT OF RIGHTS

- a. Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.
- b. Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.
- c. Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.
- d. Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.
- e. Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

### 3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

- a. the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and
- b. the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:
  - (1) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;
  - (2) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;
  - (3) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and
  - (4) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

- a. it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and
- b. a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ('notices') contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

#### 4. **COMMERCIAL DISTRIBUTION**

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

#### 5. **NO WARRANTY**

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

#### 6. **DISCLAIMER OF LIABILITY**

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Components: grizzly-http-server

## GNU Lesser General Public License v 2.1

Copyright (C) 1991, 1999 Free Software Foundation, Inc.  
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA  
Everyone is permitted to copy and distribute verbatim copies  
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts  
as the successor of the GNU Library Public License, version 2, hence  
the version number 2.1.]

### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General

Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

For more details on Terms and Conditions, click <https://www.gnu.org/licenses/old-licenses/lgpl-2.1.en.html>

Components: logback-classic

## GNU Lesser General Public License Version 3

Copyright © 2007 Free Software Foundation, Inc. <<https://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

### Additional Definitions

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

#### 1. Exception to Section 3 of the GNU GPL

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

## 2. Conveying Modified Versions

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

- a. under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or
- b. under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

## 3. Object Code Incorporating Material from Library Header Files

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a. Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
- b. Accompany the object code with a copy of the GNU GPL and this license document.

## 4. Combined Works

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

- a. Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.
- b. Accompany the Combined Work with a copy of the GNU GPL and this license document.
- c. For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.
- d. Do one of the following:
  - (1) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
  - (2) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.
- e. Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

## 5. Combined Libraries

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

- a. Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
- b. Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

## 6. Revised Versions of the GNU Lesser General Public License

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License “or any later version” applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

For more details, click <https://www.gnu.org/licenses/lgpl-3.0.en.html>

Components: jSerialcomm



Schneider Electric  
35 rue Joseph Monier  
92500 Rueil Malmaison  
France

+ 33 (0) 1 41 29 70 00

[www.se.com](http://www.se.com)

As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

© Schneider Electric. All rights reserved.

BQT2430900\_2.10.0