EcoStruxure

Link150 Ethernet Gateway

User Guide

EcoStruxure offers simple, cost-effective serial-to-Ethernet connectivity.

DOCA0110EN-08
05/2025

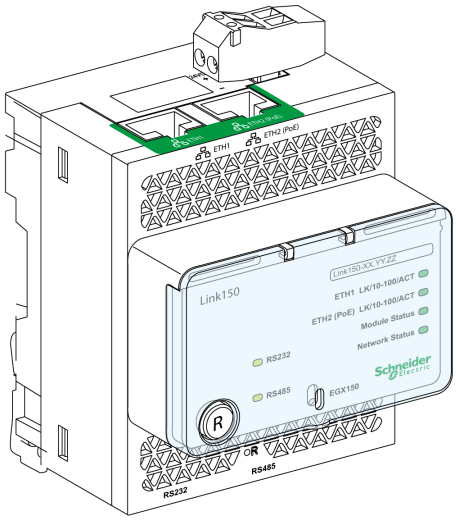

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Table of Contents

Safety Information

Important Information

Read these instructions carefully, and look at 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 documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to 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 follow 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.

⚠ 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.

Please Note

Electrical equipment should 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 and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

CYBERSECURITY SAFETY NOTICE

⚠WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

- Change default passwords at first use to help prevent unauthorized access to device settings, controls, and information.
- Disable unused ports/services and default accounts to help minimize pathways for malicious attackers.
- Place networked devices behind multiple layers of cyber defenses (such as firewalls, network segmentation, and network intrusion detection and protection).
- Use cybersecurity best practices (for example, least privilege, separation of duties) to help prevent unauthorized exposure, loss, modification of data and logs, or interruption of services.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designated to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

About the Book

Document Scope

The aim of this document is to provide the users, installers, and maintenance personnel with the technical information and procedures needed to access and maintain the Link150 web server.

Validity Note

This guide is valid for all firmware versions of the Link150 gateway.

Online Information

The characteristics of the products described in this document are intended to match the characteristics that are available on www.se.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.se.com, consider www.se.com to contain the latest information.

Related Documents

The following table lists the documents that are compatible with a Link150 gateway with the latest firmware version:

Title of Documentation	Publication date	Reference Number
Link150 Ethernet Gateway Firmware Release Note	05/2025	DOCA0182EN-07
Link150 Ethernet Gateway Instruction Sheet	11/2021	NHA50221-04
Link150 Ethernet Gateway Firmware Upgrade Tool — User Guide	05/2025	DOCA0223EN-02
Link150 Ethernet Gateway Firmware Upgrade Tool — Release Note	05/2025	DOCA0304EN-01

You can download these technical publications and other technical information from our website at www.se.com/ww/en/download/.

Link150 Presentation

What's in This Part

Link150 Ethernet Gateway Description

EcoStruxure Master Range

EcoStruxure is Schneider Electric's IoT-enabled, plug-and-play, open, interoperable architecture and platform, in Homes, Buildings, Data Centers, Infrastructure and Industries. Innovation at Every Level from Connected Products to Edge Control, and Apps, Analytics and Services.

Introduction to Link150 Ethernet Gateway

This manual is to be used with Link150 Ethernet Gateway. For installation information, see the *Ethernet Gateway Link150 Instruction Sheet*.

Link150 gateway is a communication device that provides connectivity between Ethernet (Modbus TCP/IP) and Modbus serial line devices, allowing Modbus TCP/IP clients to access information from serial slave devices. It also allows serial master devices to access information from slave devices distributed across an Ethernet network.

Link150 Ethernet Gateway Features

The Link150 gateway supports the following Ethernet protocols:

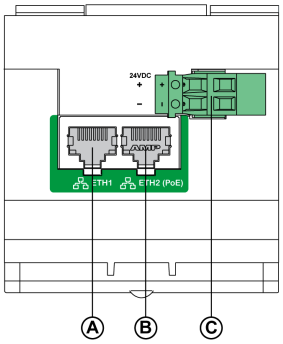
- **Modbus TCP/IP:** Modbus TCP/IP is a protocol, which provides master/slave communication between devices and TCP/IP that provides communications over an Ethernet connection. Modbus TCP/IP is used to exchange data between Link150 gateway and other compatible Modbus TCP/IP devices through TCP port 502.
- **Hypertext Transfer Protocol (HTTP):** HTTP is a network protocol that handles delivery of files and data on the World Wide Web. It provides web server functionality through TCP port 80. Remote configuration of Link150 gateway and viewing of diagnostic data is possible using a web browser.
- **Hypertext Transfer Protocol Secure (HTTPS):** HTTPS is a variant of the standard web transfer protocol (HTTP) that adds a layer of security on the data in transit through a Secure Socket Layer (SSL) or Transport Layer Security (TLS) protocol connection. HTTPS enables encrypted communication and secure connection between a remote user and the Link150 device.
- **File Transfer Protocol (FTP):** FTP is a network protocol that provides the ability to transfer files over the Internet from one PC to another. FTP is used to transfer firmware updates to Link150 gateway through TCP port 21.
- **Simple Network Management Protocol (SNMP):** Based on MIB2 format, SNMP provides the ability to store and send identifying and diagnostic information used for network management purposes through UDP port 161.
- **Address Resolution Protocol (ARP):** ARP is used to convert IP addresses to Ethernet addresses. ARP requests are sent by Link150 gateway to determine if its address is a duplicate IP address.
- **Rapid Spanning Tree Protocol (RSTP):** RSTP is the advanced version of Spanning Tree Protocol, is a link layer protocol executed within bridges or switches.
- **Devices Profile for Web Services (DPWS):** DPWS defines a minimal set of implementation constraints to enable secure web service messaging, discovery, description, and eventing on resource-constrained devices.

NOTE:

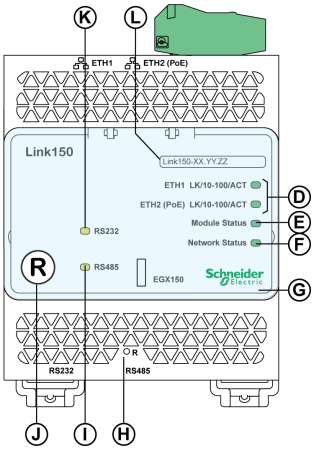
- HTTPS and RSTP protocols are applicable only from Link150 firmware version 005.001.015.
- FTP protocol is applicable only up to Link150 firmware version 005.000.029.

Hardware Description

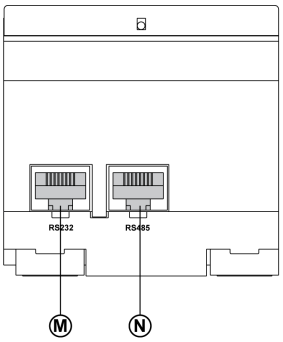
Top View



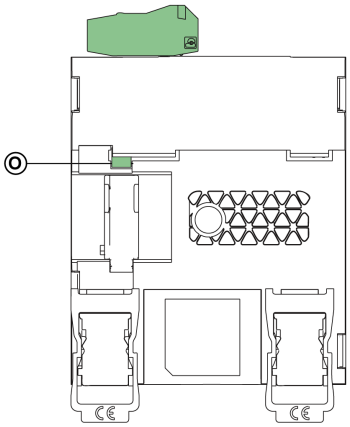
Front View



Bottom View



Rear View



A ETH1: Ethernet 1 communication port

B ETH2: Ethernet 2 (Power over Ethernet) communication port

C 24 Vdc power supply terminal block

D Ethernet communication LEDs

E Module status LED

F Network status LED

G Sealable transparent cover

H IP reset pin

I RS485 traffic status LED

J Device soft restart button (Accessible through closed cover)

K RS232 traffic status LED

L Device name label

M RS232 port

N RS485 port

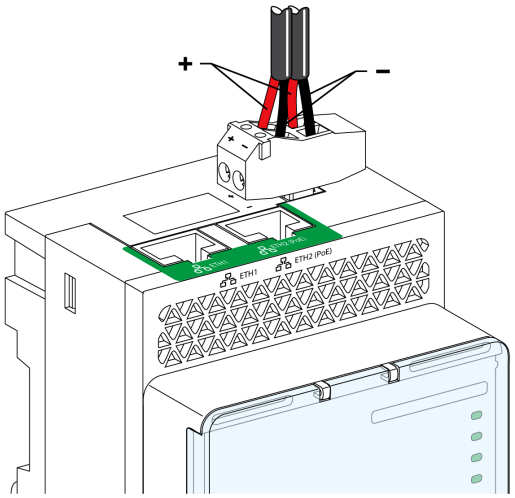
O Grounding connection

24 Vdc Power Supply Terminal Block

The Link150 gateway is powered by 24 Vdc or Power-over-Ethernet (PoE). We recommend a UL listed and UL recognized limited voltage/limited current or a Class 2 power supply with a 24 Vdc, 500 mA minimum.

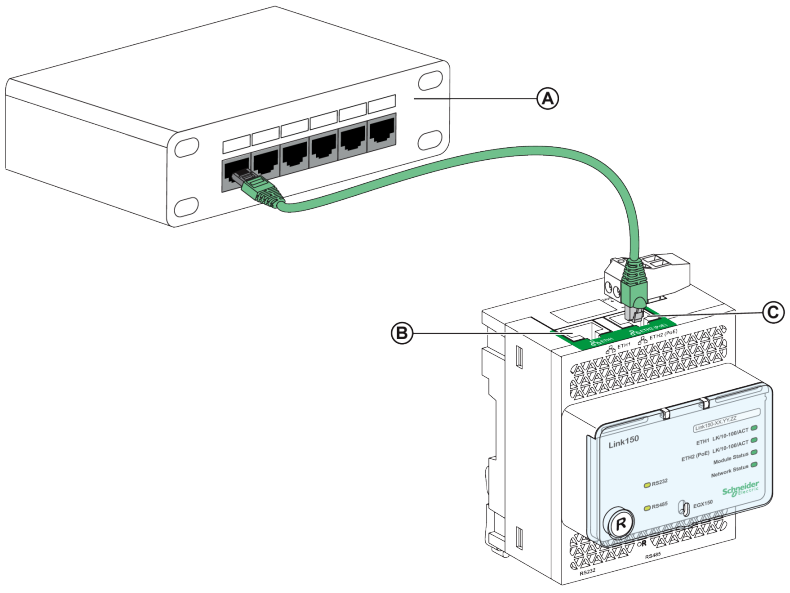
NOTE: When the module is connected with both PoE and 24 Vdc and if 24 Vdc is removed, there is a temporary communication loss until the device gets power from PoE.

For 24 Vdc power supply connection, use copper conductor only.



7 mm 0.27 in	0.2-1.5 mm² 24-16 AWG	0.8 N•m 7 lb-in	≤ 3 mm ≤ 0.12 in

Ethernet Switch with Endspan PoE Ports

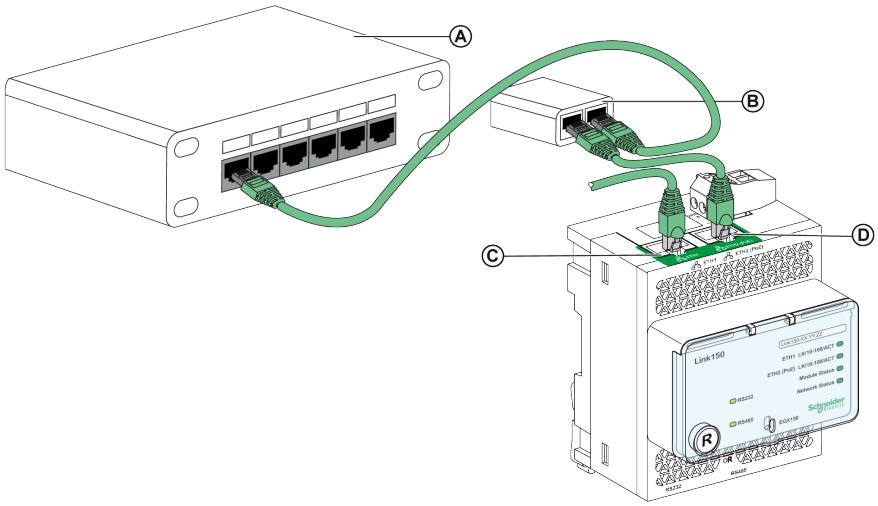


A Ethernet switch with Endspan PoE ports

B Ethernet 1 communication port

C Ethernet 2 (PoE) communication port

Ethernet Switch with Midspan PoE Ports



A Ethernet switch

B Midspan PoE injector

C Ethernet 1 communication port

D Ethernet 2 (PoE) communication port

Ethernet Communication LEDs

Ethernet dual color LEDs indicates the communication status of Ethernet ports ETH1 and ETH2.

LED indication	Status indication
Yellow	10 Mbps link
Yellow blink	10 Mbps activity
Green	100 Mbps link
Green blink	100 Mbps activity

Module Status LED

Module status dual color LED indicates the module status of Link150 gateway.

LED indication	Status indication
Steady off	No power
Steady green	Device operational
Steady red	Out of service
Flashing green (500 ms ON, 500 ms OFF)	Firmware corrupted
Flashing red	Degraded mode
Flashing green/red (250 ms green, 250 ms red)	Self-test

NOTE:

- If the IP reset pin is released after 5 seconds and before 10 seconds, the module status LED flashes green till the IP reset pin is released.
- If the IP reset pin is released after 15 seconds, the module status LED turns to steady green.

Network Status LED

Network status dual color LED indicates the network status of Link150 gateway.

LED indication	Status indication
Off	No power or no IP address
Steady green	Valid IP address
Steady red	Duplicated IP address
Blinking green/red (250 ms green, 250 ms red)	Self test in progress
Steady amber	Error in IP configuration or default IP address

RS232 Traffic LED

RS232 serial line traffic yellow LED indicates that the traffic is being transmitted or received over RS232 serial line network through the Link150 gateway. The LED blinks during the transmission and reception of the messages. Otherwise, the LED is OFF.

RS485 Traffic LED

RS485 serial line traffic yellow LED indicates that the traffic is being transmitted or received over RS485 serial line network through the Link150 gateway. The LED blinks during the transmission and reception of the messages. Otherwise, the LED is OFF.

IP Reset Pin

When the IP reset pin is pressed for 1 to 5 seconds, the IP acquisition mode is reset to the factory default (DHCP).

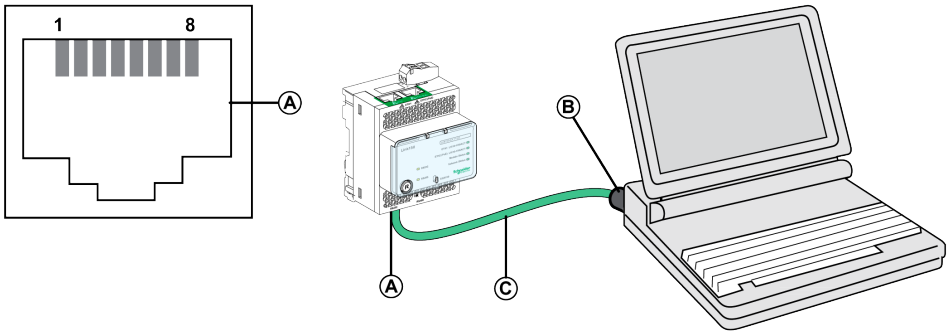
Factory Reset

When the IP reset pin is pressed for 10 to 15 seconds, all user-configurable information is reset to factory defaults.

Device Soft Restart Button

Press the device soft restart button for 10 to 15 seconds to soft restart the Link150 gateway. For more details refer to Troubleshooting, page 71 section.

RS232 Connection Diagram



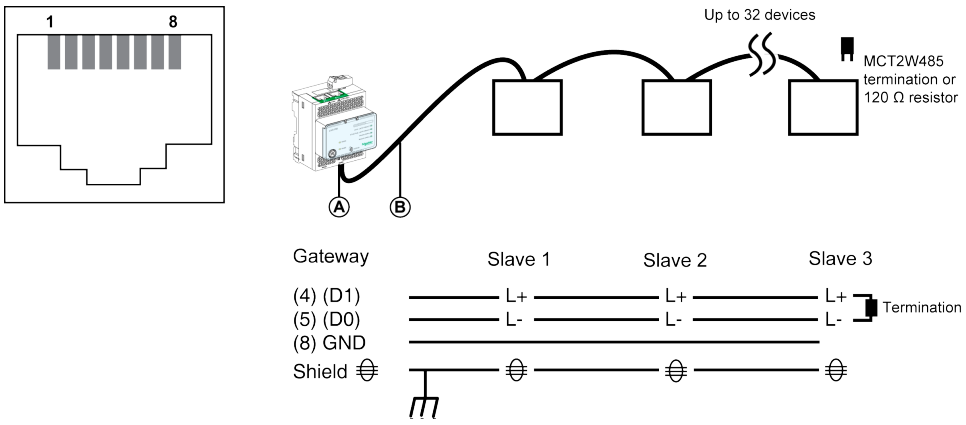
A RS232 serial port

B RJ45 to DB9

C RJ45 crossover cable

Pin Number	Signal Name	Description
1	DSR	Data Set Ready
2	DCD	Data Carrier Detect
3	DTR	Data Terminal Ready
4	GND	Ground
5	RX	Receive Data
6	TX	Transmit Data
7	CTS	Clear to Send
8	RTS	Request to Send

RS485 2-Wire Connection Diagram



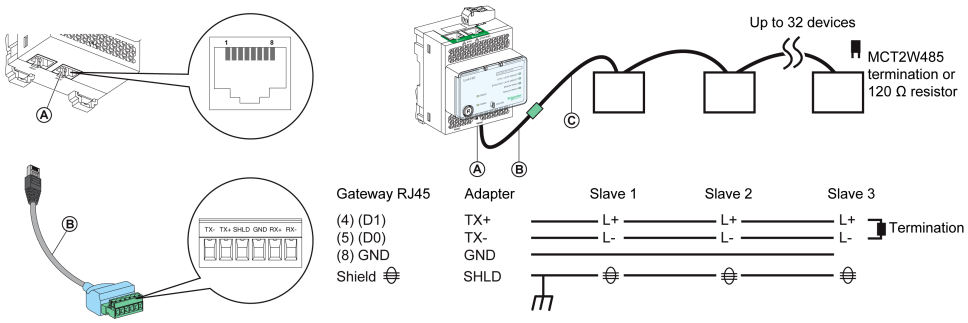
A RS485 serial port

B RJ45 cable (VW3A8306D30 is an accessory for RJ45 connection)

Pin Number	Signal Name	Description
1	D1	No Connection
2	D0	No Connection
3	NC	No Connection
4	D1	Data+
5	D0	Data-

Pin Number	Signal Name	Description
6	NC	No Connection
7	NC	No Connection
8	GND	Ground
	Shield	Shield

RS485 2-Wire with Link150 Cable Adapter Connection Diagram



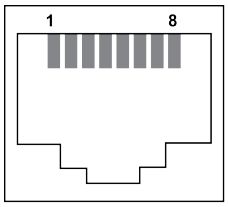
A RS485 serial port

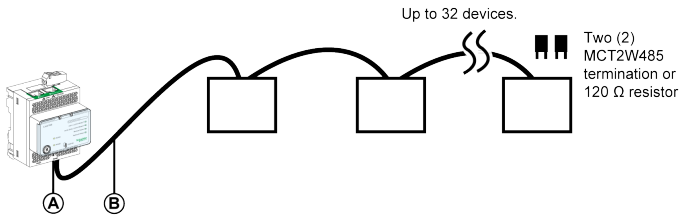
B Link150 cable adapter (PH68385 is an accessory for RJ45 connection)

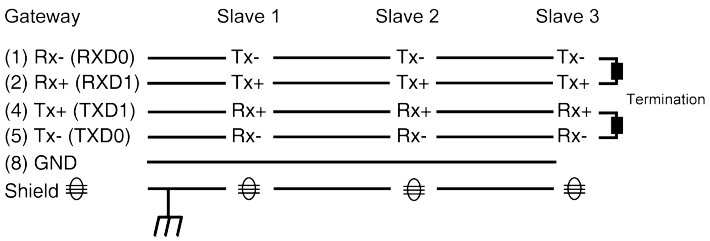
C Belden 9841

Pin Number for Gateway RJ45 and Adapter	Signal Name	Description
1	D1	No Connection
2	D0	No Connection
3	NC	No Connection
4	D1	Data+
5	D0	Data-
6	NC	No Connection
7	NC	No Connection
8	GND	Ground
	Shield	Shield

RS485 4-Wire Connection Diagram





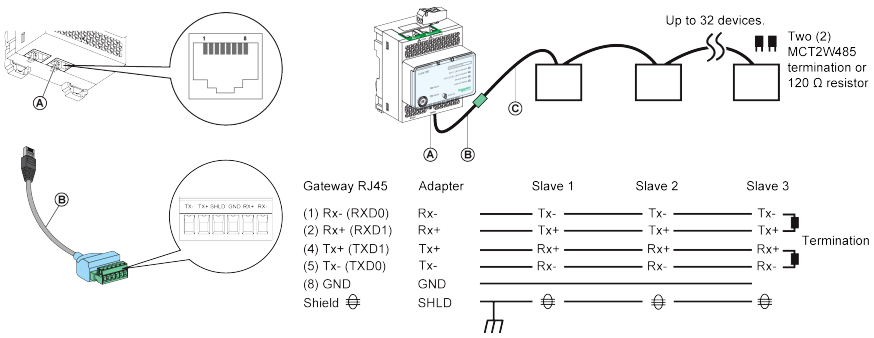


A RS485 serial port

B RJ45 cable (VW3A8306D30 is an accessory for RJ45 connection)

Pin Number	Signal Name	Description
1	RX-	Receive Data-
2	RX+	Receive Data+
3	NC	No Connection
4	TX+	Transmit Data+
5	TX-	Transmit Data-
6	NC	No Connection
7	NC	No Connection
8	GND	Ground
	Shield	Shield

RS485 4-Wire with Link150 Cable Adapter Connection Diagram



A RS485 serial port

B Link150 cable adapter (PH68385 is an accessory for RJ45 connection)

C Belden 8723 or 9842

Pin Number for Gateway RJ45 and Adapter	Signal Name	Description
1	RX-	Receive Data-
2	RX+	Receive Data+
3	NC	No Connection
4	TX+	Transmit Data+
5	TX-	Transmit Data-
6	NC	No Connection
7	NC	No Connection
8	GND	Ground
	Shield	Shield

Ethernet Gateway Link150 Characteristics

Environmental Characteristics

Characteristics		Value
Conforming to standards		• IEC/UL 60950 • AS/ZNS 60950
		• CSA C22.2 • IEC/UL 61010-2-201 • EN55024 • EN55022 • IEC61000-6-2 Ed.2
Certification		• cULus, CE, RCM, and FCC marking
Ambient temperature	Storage	-40 to +85 °C (-40 to +185 °F)
	Operation	-25 to +70 °C (-13 to +158 °F)
Pollution		Level 2

Mechanical Characteristics

Characteristics	Value
Shock resistance	Conforming to IEC 60068-2-27 15 g/11 ms, 1/2 sinusoidal
Resistance to sinusoidal vibrations	Conforming to IEC/EN 60068-2-6

Electrical Characteristics

Characteristics		Value	
		24 Vdc mode	**POE mode**
Power Supply		24 Vdc, -20%/+10% (19.2 Vdc -26.4 Vdc	As per IEEE 802.3af compliant
Consumption	Typical	24 Vdc, 130 mA at 20 °C	48 Vdc, 65 mA at 20 °C

Physical Characteristics

Characteristics	Value
Dimensions	72 x 105 x 71 mm (2.83 x 4.13 x 2.79 in)
Mounting	DIN rail
Weight	175 g without packing
Degree of protection of the installed module	• On the front panel (wall-mounted enclosure): IP4x • Connectors: IP2x • Other parts: IP3x
Connections	• Screw type terminal block for 24 Vdc power • RJ45 for communication
Installation type	Open type equipment

Link150 Ethernet Gateway Firmware Update

Description

The Link150 firmware can be updated to the latest firmware via the web interface or by Link150 Firmware Upgrade Tool.

The latest version of the Link150 Firmware Upgrade Tool can be downloaded from Schneider Electric website at www.se.com/ww/en/download/.

NOTICE
HAZARD OF EQUIPMENT DAMAGE Do not power off or disconnect the network cable during firmware upgrade. **Failure to follow these instructions can result in equipment damage.**

Upgrading the Firmware

1. Check the current version of the firmware. Refer section Checking the Executable Binary Component Firmware Version, page 21.
2. For firmware version 005.001.018 or earlier, use the Link150 Firmware Upgrade Tool to update the firmware. Refer section Firmware Upgrade via Firmware Upgrade Tool, page 22 for more details.
3. For firmware version 005.002.005 or later, use either the webpage or the firmware upgrade tool to update the firmware. Refer section Firmware Upgrade via Webpage, page 22 or Firmware Upgrade via Firmware Upgrade Tool, page 22 accordingly.

The below table lists the different firmware versions and the supported tools to be used for firmware update:

Firmware version	Webpage	Firmware Upgrade Tool
≤ 005.000.011	Not applicable	✓
005.000.021 to 005.000.032	Not applicable	✓
005.001.015	Not applicable	✓
005.001.015 to 005.001.026	✓	✓
005.001.026 to ≥ 005.002.005	Not applicable	✓

Checking the Executable Binary Component Firmware Version

Step	Action	Result
1	Open the web browser and log in to the Link150 gateway.	Opens the Link150 home page.
2	• For checking the firmware version 005.001.015 or later, go to the **Home** menu, in the **Device Identification** page, locate the firmware version. • For checking the firmware version up to 005.000.029, go to the **Diagnostics** menu, in the **Device Information** page, locate the firmware version **NOTE:** If you have updated the firmware recently, press **F5** to refresh the webpage and update the displayed firmware number.	Determines the firmware version of the Link150 gateway.

Firmware Upgrade via Webpage

Step	Action	Result
1	Open Link150 device webpage using any web browser *http or https:// <<IP Address>>* or discover Link150 device in Windows network tab. **NOTE:** • Default IP address = `169.254.YY.ZZ` • Default login user name = `Administrator` • Default password = **MAC address** (Make sure that the `Administrator` password is not empty.) Refer to User Accounts, page 67.	Opens the Link150 home page.
2	To upgrade the firmware version, select the **Maintenance** menu, go to **Upgrade** submenu, click **Firmware**, and then click **Browse...** button.	Opens the **Choose File Open** dialog box.
3	Select the Link150 delivery package from unzipped firmware release folder `../Binaries/Link150_Delivery_Package_Vxxx_yyy_zzz.zip` file.	Selects the delivery package file.
4	Click **Upgrade** button.	Displays the upload progress bar and **Do you want to apply the firmware upgrade now?** pop-up message once upload is completed.
5	Click **Yes** to apply the firmware upgrade.	Displays upgrade progress bar and successfully completes the firmware upgrade.

NOTE:

- YY.ZZ are the last 2 bytes of the Link150 MAC address (to be found on the Link150 device side label).
- After successful firmware upgrade, Link150 gateway takes 40 seconds to restart.

  If firmware upgrade is not successful, then Link150 gateway displays errors.

Firmware Upgrade via Firmware Upgrade Tool

The Link150 Firmware Upgrade Tool provides the software solution to update the Link150 gateway to the latest firmware version irrespective of the initial version.

The tool is included inside the Link150 firmware update (v5.3.7) package, available as a ZIP file. Once extracted, the Mass Upgrade tool can be used to initiate the firmware upgrade.

You can download the latest version of this tool from the Schneider Electric website: https://www.se.com/in/en/download/document/FW_v5.3.7/. For the latest version number of the tool, refer DOCA0304EN – Link 150 Ethernet Gateway Firmware Upgrade Tool Release Notes.

The firmware update procedure is detailed in DOCA0223EN – *Link150 Ethernet Gateway Firmware Upgrade Tool – User Guide*.

Schneider Electric Green Premium™ Ecolabel

Description

Green Premium by Schneider Electric is a label that allows you to develop and promote an environmental policy while preserving your business efficiency. This ecolabel is compliant with up-to-date environmental regulations.

Accessing Green Premium

Green Premium data on labeled products can be accessed online through any of the following ways:

- By navigating to the Green Premium page on the Schneider Electric website.
- By scanning the QR code displayed in the following image:

Checking Products Through the Schneider Electric Website

To check the environmental criteria of a product using a PC or smartphone, follow these steps:

Step	Action
1	From www.se.com, select **Support > Additional Links > Green Premium Eco Label**.
2	Click **Find Green Premium Products** to open the search tool webpage.
3	Fill in the fields: • Enter the commercial reference or product range of the product to search for. • Optional: Enter the manufacturing date code of the product with format **YYWW**. By default, this field is filled with the date of the search.
4	To search for several products simultaneously, click the **Add product** button, and then fill in the fields.
5	Click **Check product(s)** to generate a report of the environmental criteria available for the products with the entered commercial references.

Environmental Criteria

The Green Premium ecolabel provides documentation on the following criteria about the environmental impact of the products:

- RoHs: European Union Restriction of Hazardous Substances (RoHS) directive.
- REACh: European Union Registration, Evaluation, Authorization, and Restriction of Chemicals regulation.

- PEP: Product Environmental Profile.
- EoLI: End of Life Instructions.

RoHs

Schneider Electric products are subject to RoHS requirements at a worldwide level, even for the many products that are not required to comply with the terms of the regulation. Compliance certificates are available for products that fulfill the criteria of this European initiative, which aims to eliminate hazardous substances.

REACh

Schneider Electric applies the strict REACh regulation on its products at a worldwide level, and discloses extensive information concerning the presence of SVHC (Substances of Very High Concern) in all of these products.

PEP

Schneider Electric publishes complete set of environmental data, including carbon footprint and energy consumption data for each of the life cycle phases on all of its products, in compliance with the ISO 14025 PEP ecopassport program. PEP is especially useful for monitoring, controlling, saving energy, and/or reducing carbon emissions.

EoLI

These instructions provide:

- Recyclability rates for Schneider Electric products.
- Guidance to mitigate personnel hazards during the dismantling of products and before recycling operations.
- Part identification for recycling or for selective treatment, to mitigate environmental hazards/incompatibility with standard recycling processes.

Link150 Web Server

What's in This Part

Link150 Ethernet Gateway

What's in This Chapter

Access to Link150 Webpages

Supported Web Browsers

Browser	Version with Windows 10
Firefox	20.0
Chrome (recommended)	24.0 and later
Microsoft Edge	24.0 and later

First Access to the Link150 Webpages

The Link150 gateway name should be configured during the first access to the Link150 webpages.

⚠WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

Change default passwords at first use to help prevent unauthorized access to device settings, controls, and information.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

The procedure to access the Link150 webpages for the first time depends on the operating system of a PC:

- Windows 10, or newer operating systems

  NOTE:

  - The Link150 device has a self-signed security certificate and by default it is in HTTPS enabled mode.Therefore, connecting to the Link150 interface displays a security message. Before accepting, confirm that communication with the Link150 has been established.
  - HTTPS Redirection is enabled by default. It is recommended to leave this setting enabled to secure communications between PC and the Link150 gateway.

First Access Through PC with Windows 10, or Newer Operating Systems

Step	Action
1	Disconnect the PC from the local area network (LAN) and switch off Wi-Fi if any.
2	Connect an Ethernet cable from the PC to the Link150 gateway or to the Ethernet switch inside the panel. **NOTE:** Perform this action when the device goes to fallback ip.
3	Open web browser.
4	Click **Network** and the **Link150-XXYYZZ** appears in the list of devices. **NOTE:** If the Link150-name is not displayed in the list of devices in **Windows Explorer**, verify that the PC Link150 are connected through the router.
5	Double-click the selected **Link150-XXYYZZ**. The login page automatically opens in the browser. **NOTE:** • If the Link150 device is not discovered by the PC, then enter the IP address manually.

Step	Action
	• YY.ZZ are the last 2 bytes of the Link150 MAC address (to be found on the Link150 device side label). For example, A Link150 gateway with MAC address 00-B0-D0-86-BB-F7 (hexadecimal) or 0-176-208-134-187-247 (decimal), set the IP address as 169.254.187.247 in the batch file.
6	Enter `Administrator` as the user name and **MAC address** as the default password (Refer to User Accounts, page 67). The home page opens in the browser. **NOTE:** The user name and password are case-sensitive. The Administrator user name cannot be changed as it is a default user name for administrator role.
7	To change the default password, click **Change Password** under Administrator user name. The Password Modification page is displayed.
8	Enter **Old Password**, **Password**, and **Confirm Password**, and then click **Apply Changes**.
9	To locate the Link150-XXYYZZ, select the **Home** menu, go to **Device Physical Location** submenu, and then turn ON the **Identify Device** toggle key. The RS485 LED of the selected Link150-XXYYZZ blinks for 15 seconds with 1 s ON and 1 s OFF (test mode).
10	To name the **Link150-XXYYZZ**, select the **Settings** menu, go to **General** submenu, click **Identification**, go to **Device Identification**, and then enter **Link150-XXYYZZ** in **User Application Name** box and click **Apply Changes** to set the Link150 gateway name.
11	Write the Link150 name on a blank device name label and stick it on the existing one.

NOTE:

- Follow the preceding procedure when link150 gateway goes to fallback IP due to duplicate IP detection or due to any other case.
- XXYYZZ are the last 3 bytes of the MAC address in hexadecimal format.
- Check the firewall settings if DPWS is not enabled.

Access to Webpages

Follow the Network Discovery, Name Browsing, and IP Address Browsing process to access the webpages.

Webpage access depends on the IT infrastructure.

Network Discovery

Follow the below procedure to access the Link150 webpages after the Link150 gateway name has been configured.

Step	Action
1	Connect the Link150 gateway or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Click **Network**. The Link150-name gets displayed in the list of devices. **NOTE:** If the Link150-name is not displayed in the list of devices in **Windows Explorer**. Verify that the PC Link150 are connected through the router.
4	Double-click the Link150-name.The login page automatically opens in the browser.

NOTE: The preceding procedure is applicable for windows 10 or later.

Name Browsing

DNS server is mandatory to browse by name. For more details about DNS, refer to DNS.

Step	Action
1	Connect the Link150 gateway or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Start the web browser.
4	In the address box, type the Link150-name that is written on the sticker located on the front face of the selected Link150 gateway.
5	Press **Enter** and the login page automatically opens in the browser. **NOTE:** If the Link150-name does not appear in the list of devices in **Windows Explorer**. Verify that the PC Link150 are connected through the router.

IP Address Browsing

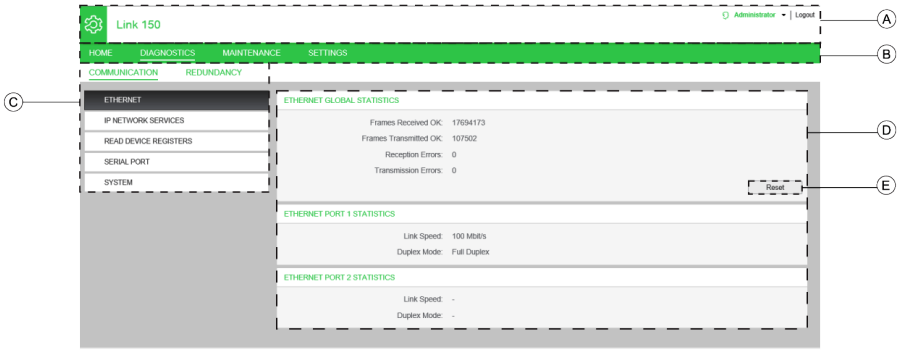
In IP Address Browsing, IP configuration can be done manually or it gets configured through DHCP or BootP.

Step	Action
1	Connect the Link150 gateway or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Start the web browser.
4	In the address box, enter the IP address given by the IT administrator.
5	Press **Enter** and the login page automatically opens in the browser. **NOTE:** If the login page in the web browser does not open or does not display correctly, verify the path. For example: In the Chrome browser, verify that **Chrome\Tools\Compatibility View Settings\Display Intranet sites in Compatibility View** are checked.

Link150 User Interface Layout

Overview

This graphic shows the Link150 user interface layout.



A Banner

B Main Tabs

C Sub Tabs

D Display Zone

E Action Buttons

Banner

The banner displays the following information at the top of all the pages.

Generic information	Description
User name	Name of the user who has logged in
Logout	To log out the Link150 session, click **Logout** or close your browser. It is recommended to log out from the Link150 gateway when it is not in use.

Main Tabs

The main tabs are:

- Home
- Diagnostics
- Maintenance
- Settings

Sub Tabs

The sub tabs display the sub menus under the selected main tab.

Action Buttons

The action buttons correspond to the selected tab.

The following table describes the interface buttons:

Button	Action
Apply Changes	Applies the changes.
Cancel Changes	Cancels the modifications to return to the last saved settings.
Reset	Resets the values to factory settings. Values in all the fields of the selected sub tab are reset to 0
Read	Allows Link150 gateway to read the Modbus registers from the selected device, according to the selected configuration.
Default	Restores the values that are manually changed in **Settings > Communication > Advanced Ethernet Settings** to the default values. For example, if you change the default value of **Time to Live** from 60 Hops to 70 Hops, clicking **Default** will restore the value to 60.
Upgrade	Upgrades the Link150 firmware to the selected version, from the **Maintenance** tab.
Add User	Lets you add new users.

Display Zone

The display zone shows the selected sub tab in detail with all related fields.

Link150 Webpage Description

Home Tab

Webpage for the **Home** tab displays the following fields:

Field	Description
Device Identification, page 35	Lists the following information about Link150 gateway: • User Application Name • Product Range • Product Model • Serial Number • Firmware Revision • Unique Identifier • MAC Address • IPv4 Address • IPv6 Link-local Address • Manufacture Date
Device Physical Location, page 36	Locates the Link150-XXYYZZ when you turn ON the **Identify Device** toggle key. The RS485 LED of the selected Link150-XXYYZZ blinks for 15 seconds with 1 s ON and 1 s OFF (test mode.)

Diagnostics Tab

Webpage for the **Diagnostics** tab contains the following sub tabs:

Diagnostics Sub Tab	Navigation Menu Webpage	Description
Communication	**Ethernet**, page 38	Displays the following Ethernet statistics for troubleshoot network-related issues: • **Ethernet Global Statistics** (Click **Reset** to restore the values to factory settings. • **Ethernet Port 1 Statistics** • **Ethernet Port 2 Statistics**
	IP Network Services, page 39	Displays the diagnostic data for Modbus TCP/IP clients connected to the Link150 gateway.
	Read Device Registers, page 40	Displays register data for devices connected locally to the Link150 gateway.
	Serial Port, page 41	Displays the diagnostic data for the devices connected to the serial port. Click **Reset** to restore the values to factory settings.
	System, page 42	Displays the status of system statistics.
Redundancy	**RSTP Bridge**, page 43	Displays the diagnostic data of RSTP bridge.
	RSTP Ports, page 44	Displays the diagnostic data of RSTP ports.

Maintenance Tab

The **Maintenance** tab displays the **Firmware Upgrade**, page 45 webpage.

Settings Tab

Webpage for the **Settings** tab contains the following sub tabs:

Settings Sub Tab	Navigation Menu Webpage	Description
General	**Device Identification**, page 47	Configures the Link150 User Application Name.
	Date/Time, page 48	Enables the user to manually set the date and time.
Communication	**Ethernet Configuration (Dual Port)**, page 49	Configures the Ethernet ports.
	IP Configuration, page 51	Configures the IP parameters including IPv4, IPv6, and DNS settings.
	Serial Port, page 53	Configures serial communication parameters.
	Device List, page 55	Configures the Modbus devices.
	IP Network Services, page 58	Enables or disables the IP network services parameters.
	Modbus TCP/IP Filtering , page 60	Configures the maximum number of Modbus TCP/IP client connections. Configures the IP addresses that can access the Link150 gateway through Modbus TCP/IP.
	SNMP, page 63	Configures Simple Network Management Protocol (SNMP).
	Advanced Ethernet Settings, page 64	Configures the advanced Ethernet settings.
Redundancy	**RSTP**, page 65	Displays the diagnostic data of RSTP.
User Management	**User Accounts**, page 67	Manages the existing and newly added user accounts.
Security	Security, page 69	Manages the product certificates.

Link150 Web Server - Home Page

What's in This Chapter

Device Identification

Description

This page shows the details of Link150 gateway. The details are user application name, product range, product model, serial number, firmware revision, unique identifier, MAC address, IPv4 address, IPv6 link local address, and manufacture date.

Device Identification Procedure

Step	Action	Result
1	From the **Link150** menu bar, select **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **General** submenu, click **Identification**.	Displays the Device Identification details.
3	Enter the Link150 gateway name in the **User Application Name** box, and click **Apply Changes**.	Changes the **User Application Name** (Device Name).

List of Parameters in Device Identification

Parameter	Description
User Application Name	Device name that is assigned by the user.
Product Range	Name of the device type.
Product Model	Device model number.
Serial Number	Device serial number.
Firmware Revision	Current firmware version.
Unique Identifier	Combination of MAC address and the time.
MAC Address	Unique MAC address.
IPv4 Address	Addressing scheme to specify the source and destination addresses.
IPv6 Link-local Address	Address used to communicate on the local network.
Manufacture Date	Date when the device was manufactured.

Device Physical Location

Device Locating Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Home**.	Opens the **Home** webpage.
2	In the **Device Physical Location** section, click **ON** for the **Identify Device** toggle key.	Locates the Link150-XXYYZZ. The RS485 LED of the selected Link150- XXYYZZ blinks for 15 seconds with 1 s ON and 1 s OFF (test mode.)

NOTE: This functionality temporarily overrides the LED blinking pattern of Modbus RS485 communication (if this communication exists).

Link150 Web Server - Diagnostics Pages

What's in This Chapter

Ethernet

Description

This page shows the Ethernet readings accumulated since the Link150 gateway was last activated. If the power to the Link150 gateway is terminated or the device is reset due to a configuration change or other event, all cumulative values are reset to 0.

Reset Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Communication** submenu, click **Ethernet**.	Displays the Ethernet statistics
3	Click **Reset** in the **Ethernet Global Statistics** section.	Resets the Link150 cumulative diagnostic data to 0.

Interpreting Ethernet Statistics

Ethernet Statistic	Description
Frames Transmitted OK	Number of frames transmitted
Frames Received OK	Number of frames received
Reception Errors	Number of errors frame during reception
Transmission Errors	Number of errors frame during transmission

Statistic Per Port	Description
Ethernet Port 1 and 2 Statistics	
Link Speed	Operational speed (10 Mbps or 100 Mbit/s)
Duplex mode	Current mode of operation (full duplex or half duplex)

IP Network Services

Description

This page displays the diagnostic data for Modbus TCP/IP clients connected to the Link150 gateway.

Modbus TCP Diagnostic Data Display Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Communication** submenu, click **IP Network Services**.	Displays the Modbus TCP port statistics.
3	Click **Reset** in the **ModbusTCP Port Connections** section.	Resets the Link150 gateway number of messages and errors to 0.

Interpreting Modbus TCP Port Statistics

NOTE: The following table is not applicable for ION protocol.

Statistic	Description
Port status	Status of the connected Ethernet port
Opened TCP connections[1]	Number of active connections **NOTE:** This parameter is not available for slave mode statistics.
Received messages	Number of messages received
Transmitted messages	Number of messages transmitted
(1) Available when the device is in master mode.	

Interpreting ModbusTCP Port Connections Statistics

Statistics	Description
Remote IP	Remote IP address
Remote port	Remote port number
Local port	Local port number
Transmitted messages	Number of messages transmitted
Received messages	Number of messages received
sent errors	Number of error messages sent
Reset	Resets the transmitted messages, received messages, and sent errors

NOTE:

- Statistics on TCP port connections are not available for slave mode.
- Remote IP connection displays only MODBUS TCP Clients IP addresses. It does not show the IP addresses of the Webserver connections.

Read Device Registers

Description

This page allows the Link150 gateway to read Modbus registers from the selected device.

Read Procedure

Step	Action	Result
1	On the **Link150** menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Communication** submenu, click **Read Device Registers**.	Opens the **Read Device Registers** page.
3	Select the device from the **Device Name** list.	Selects the device from the list.
4	Enter **Local ID** (or choose from the defined device list), **Starting Register**, and then **Number of Registers**.	Enters the registers to read from the specified device. **NOTE:** The **Local ID** parameter is disabled in slave mode.
5	Select the **Data Type**.	Selects the appropriate data type.
6	To change how Modbus data is displayed in the **Value** column, select **Decimal**, **Hexadecimal**, **Binary**, or **ASCII**.	Selects how the data values are displayed.
7	Click **Read**.	Reads the device register according to the selected configuration.

Link150 Read Device Register Parameters

Parameter	Description	Settings
Device Name	Selects a device to read from the list of previously added devices. **NOTE:** When the device is in slave mode, the **Read** button is available even if a name is not selected from the **Device Name** list.	-
Local ID	The address (Local ID) of the device that is to be read. **NOTE:** The **Local ID** parameter is disabled in slave mode.	1 (Factory setting)
Starting Register	Register number in decimal.	• 0–65535 • 1000 (Factory setting)
Number of Registers	The number of registers to read.	• 1–125 • 10 (Factory setting)
Register	Lists the register numbers in decimal.	-
Value	Lists the data stored for a register. Values retrieved depend on the device connected to the Link150 gateway. Refer to the documentation for the connected device for more information about stored register values.	-
Data Type	Lists the data types available for the device.	• **Holding Registers** (Factory setting) • **Input Registers** • **Input Coils** • **Output Coils**
Decimal, Hexadecimal, Binary, ASCII options	Selects an option to specify how the **Value** column data is displayed.	Decimal (Factory setting)

Serial Port

Description

This page displays the diagnostic data for the devices connected to the serial port.

Serial Port Reset Procedure

Step	Action	Result
1.	From the **Link150** menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2.	From the **Diagnostics** menu, in the **Communication** submenu, click **Serial Port**.	Displays the transmitted, received, and error messages.
3.	Click **Reset**.	Resets the number of messages to 0.

Serial Port Parameters

Parameter	Description	Settings
Transmitted Messages	Number of messages transmitted.	
Received Messages	Number of messages received.	
Error Messages	Number of error messages displayed.	
Reset	Resets the transmitted, received, and error messages.	

System

Description

This page displays the status of system statistics.

Displaying System Statistics Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Communication** submenu, click **System**.	Displays the System statistics

Interpreting System Statistics

Statistic	Description
CPU	Status of the CPU: • Nominal • Degraded • Out of service
Boot Memory	Healthiness of the boot memory: • Nominal • Degraded • Out of service
EEPROM	Healthiness of EEPROM: • Nominal • Degraded • Out of service
File System	Healthiness of the file system: • Nominal • Degraded • Out of service
Ethernet PHY 1	Healthiness of PHY 1 hardware: • Nominal • Degraded • Out of service
Ethernet PHY 2	Healthiness of PHY 2 hardware: • Nominal • Degraded • Out of service
DDR	Healthiness of the execution memory: • Nominal • Degraded • Out of service

RSTP Bridge

Description

This page displays the diagnostic data of RSTP bridge.

RSTP Bridge Configuration Procedure

Step	Action	Result
1	From the Link150 menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Redundancy** submenu, click **RSTP Bridge**.	Opens the **RSTP Bridge** page.

General Parameters

Parameter	Description	Setting
Bridge Status	Status of RSTP feature. It is either enabled or disabled based on the configuration.	Enabled Disabled (Factory Setting)
Bridge ID	Unique identifier of this Bridge. It is a combination of MAC address and Bridge Priority of this device.	<Priority><MAC Address>
Root ID	Unique identifier of the Root Bridge. Combination of MAC address and Root Bridge Priority of the Root device	<Priority><MAC Address>
Root Port	The port number of the port that offers the lowest cost path from this bridge to the root bridge. **NOTE:** For the Root Bridge, the value is always 0. For other devices, either 1 or 2.	1 or 2 - no root port
Root Path Cost	The cost of the path to the root as seen from this bridge.	0 - 4294967295
Total Topology Changes	Total number of topology changes detected by this bridge since the last reset counters.	0 - 4294967295

Configured/Learned Parameters

Parameter	Description	Setting
Configured Bridge Hello Time	The value of Hello Time configured at this Bridge.	1 – 2 s Default setting: 2 s
Learned Bridge Hello Time	The actual Hello Time used by the bridge currently. This is the configured Hello Time of the Root Bridge.	0 - 255 s
Configured Bridge Forward Delay	The value of Forward Delay configured at this Bridge.	4 - 30 s Default setting: 21 s
Learned Bridge Forward Delay	The actual Forward Delay used by the bridge currently. This is the configured Forward Delay of the Root Bridge.	0 - 255 s
Configured Bridge Max Age Time	The value of Max Age Time configured at this Bridge.	6 - 40 s Default setting: 40 s
Learned Bridge Max Age Time	The actual Max Age Time used by the bridge currently. This is the configured Max Age Time of the Root Bridge.	0 - 255 s

RSTP Ports

Description

This page displays the diagnostic data of RSTP ports.

RSTP Configuration Procedure

Step	Action	Result
1	From the Link150 menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Redundancy** submenu, click **RSTP Ports**.	Opens the **RSTP Ports** page.

Port 1 and 2 Parameters

Parameter	Description	Setting
State	Current state of the port. By default, it is disabled, blocking, and forwarding. **NOTE:** Other states like listening, learning are intermediate states which are not visible to the user.	0 to disable RSTP 1 to enable RSTP Default setting: 0
Role	Current role of the port in the ring. If the port state is disabled, the role can be either Root or Designated. If the port state is disabled (Ethernet link is down) then the Role is Unknown.	-
Priority	The value of the port priority is contained in Port Identifier. All ports of a bridge will have a port identifier with `format: [1 byte port number][1 byte port priority]`. **NOTE:** The below points are provided for understanding the usage of port priority (port identifier). • Port that carries packets to root bridge is root port. When there are multiple such ports exist, one with least Port Identifier becomes the root port, and others will become alternate ports. • Port Number: Port number cannot be configured. In the device the port Number (interface number) for port-1 is 1 and port number for port-2 is 2.	0 - 240 (in steps of 16) Default setting: 128
Port Path Cost	The contribution of this port to the path cost of paths towards the Root bridge which includes this port.	For Auto mode, the default value of the port path cost changes based on the Link Speed. i.e for 100 mbps the default value is 200000 and for 10 mbps the default value is 2000000. These are the speeds supported by the device.
Received RST (BPDUs)	Total number of RSTP BPBUs received by this port since the last reset counters.	-
Transmitted RST (BPDUs)	Total number of RSTP BPBUs transmitted by this port since the last reset counters.	-
Received TCN (BPDUs)	Total number of Topology Change BPBUs received by this port since the last reset counters.	-
Transmitted TCN (BPDUs)	Total number of Topology Change BPBUs transmitted by this port since the last reset counters.	-

Link150 Web Server - Maintenance Page

What's in This Chapter

Firmware

Firmware Upgrade

Verify the **Link150** firmware version, refer Upgrading the Firmware, page 21 before upgrading to the latest version.

For firmware upgrade procedure, refer Firmware Upgrade via Webpage, page 22.

Link150 Web Server - Settings Pages

What's in This Chapter

Identification

Description

This page displays the details of Link150 gateway. The details are user application name, product range, product model, serial number, firmware revision, unique identifier.

Date and Time Configuration Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **General** submenu, click **Identification**.	Displays the Device Identification details.
3	Enter the Link150 gateway name in the **User Application Name** box, and click **Apply Changes**.	Changes the **User Application Name** (Device Name.)

Device Identification Parameters

Parameter	Description
User Application Name	Device name that is assigned by the user.
Product Range	Name of the device type.
Product Model	Device model number.
Serial number	Device serial number.
Firmware Revision	Current firmware version.
Unique Identifier	Combination of MAC address and the time.

Date and Time

Description

This page allows to enter the local date and time manually.

NOTE: As there is no SNTP or RTC, the date or time needs to be reset in the event of power loss.

Date and Time Configuration Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **General** submenu, click **Date/Time**.	Displays the Date and Time.
3	Enter **Date** and **Time**.	Enters the current date and current time.
4	Click **Apply Changes**.	Updates current date and time of Link150 gateway.

Date and Time Parameters

Parameter	Description	Setting
Date(yyyy/mm/dd)	Allows you to set the present date.	Date format: yyyy/mm/dd
Time(hh:mm:ss)	Allows you to set the present time.	Time format: hh:mm:ss

Ethernet Configuration (Dual Port)

Description

This page allows to configure the Ethernet ports.

Ethernet Ports Configuration Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Communication** submenu, click **Ethernet Configuration (Dual Port)**.	Displays the Ethernet port settings options.
3	Select frame format, speed and mode for Ethernet port 1 and port 2, and protection level.	Selects the Ethernet port options.
4	Click **Apply Changes**.	Updates the Ethernet port settings of Link150 gateway.

Ethernet

Parameter	Description	Settings
MAC address	A unique media access control address of the Link150 gateway. The MAC address is printed on the side label of the Link150 gateway.	-
Frame format	Used to select the format for data sent over an Ethernet connection.	• Ethernet II • 802.3 • Auto (Factory setting)

Ethernet Port 1 Control

Parameter	Description
Port 1 Enable	Allows Ethernet port 1 to be disabled if unused. This option is not available if Ethernet port 2 is disabled, or if both ports have active links.
Speed and Mode	Allows to select different speed and transmission mode. For the auto-negotiation option, the Link150 gateway automatically negotiates the physical Ethernet connection speed and transmission mode for Ethernet port 1.

Ethernet Port 2 Control

Parameter	Description
Port 2 Enable	Allows Ethernet port 2 to be disabled if unused. This option is not available if Ethernet port 1 is disabled, or if both ports have active links.
Speed and Mode	Allows to select different speed and transmission mode. For the auto-negotiation option, the Link150 gateway automatically negotiates the physical Ethernet connection speed and transmission for Ethernet port 2.

Broadcast Storm Protection

Parameter	Description	Settings
Enable	Enables the broadcast storm protection.	-
Protection Level	Defines the storm protection level. The Link150 gateway limits the amount of information it broadcasts or rebroadcasts (based on this setting) to reduce collisions or network traffic. **NOTE:** If the level is changed, you are prompted to restart the device to implement changes.	• Highest • High • Medium high • Medium low • Low • Lowest

IP Configuration

Description

This page allows to configure the IP parameters including IPv4, IPv6, and DNS settings.

IPConfiguration Procedure

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Communication** submenu, click **IP Configuration**.	Displays the IP parameters settings.
3	Enter **IPv4**, **IPv6**, and **DNS** parameters.	Enters the IPv4, IPv6, and DNS parameters.
4	Click **Apply Changes**.	Updates IP configuration settings of Link150 gateway.

IPv4 Configuration

Parameter	Description	Settings
Automatic	Used to select the mode for assigning IPv4 parameters. Obtain IPv4 parameters automatically using BOOTP or DHCP.	• DHCP (Factory setting) • BOOTP
Manual IP Address	Used to enter the static IP address of the Link150 gateway.	169.254.X.Y (Factory setting) **NOTE:** X and Y are the decimal equivalent of last two hexadecimal bytes of Link150 Mac address (found on the Link150 label).
Manual Subnet Mask	Used to enter the Ethernet IP subnet mask address of your network.	255.255.0.0 (Factory setting)
Manual Default Gateway	Used to enter the gateway (router) IP address used for wide area network (WAN) communication.	169.254.2.1 (Factory setting)

IPv6 Configuration

Parameter	Description	Settings
Enable	Defines the IPv6 configuration.	Enabled (Factory setting)
IPv6 Link-local Address	Displays the IP address in IPv6 format. You can use this IP address to open the Link150 homepage.	–

DNS

Parameter	Description	Setting
Obtain DNS Addresses Automatically via DHCP/BOOTP	Defines the dynamic behavior of the DNS server address configuration. Used to obtain the IP address from the DNS server automatically. **NOTE:** Domain Name System (DNS) is the naming system for PCs and devices connected to a local area network (LAN) or the Internet.	–
Manual Primary DNS Server	Defines the IPv4 address of the primary DNS server.	–
Manual Secondary DNS Server	Defines the IPv4 address of the secondary DNS server. Used to perform a DNS resolution when the resolution fails with the primary DNS server.	–

Duplicate IP Address Detection

While connected to your network, the Link150 gateway publishes its IP address. To avoid any duplicate IP address conflicts, the Link150 gateway uses the address resolution protocol (ARP) to see if any other device on your network is using the same IP address. The table below explains how the Link150 gateway handles a duplicate IP address when it is detected.

Duplicate IP Address Scenario

Scenario	Duplicate IP Handling	Network Status LED
Ethernet link detected	Reverts to the default IP address, subnet mask, and gateway address. ARP requests are sent once every 15 seconds until the IP address is available. Link150 gateway uses the IP address when it is available.	Steady red
Manual address change	Reverts to the default IP address, subnet mask, and gateway address. The ARP requests are sent once every 15 seconds until the IP address is available. The Link150 gateway uses the IP address when it is available.	Steady red
Receives an ARP request	If more than one ARP request is detected within 10 seconds, initiate the process to reacquire the IP.	OFF

Serial Port

Description

This page displays the diagnostic data for the devices connected to the serial port.

Setting Procedure

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **Communication** submenu, click **Serial Port**.	Displays the serial port settings options.
3.	Select your mode, physical interface, transmission mode, baud rate, parity, termination, biasing, stop bits and response timeout.	Selects the serial port options.
4.	If you select **Slave** mode, enter the IP addresses and TCP port for the remotely connected devices.	Enters the IP addresses and TCP port of the remote devices.
5.	Click **Apply Changes**.	Updates the serial port settings of Link150 gateway.

Serial Port Settings

Parameter	Description	Settings
Mode(Device reboots on mode change)	Selects how the serial COM port on the Link150 gateway is utilized (master or slave). **NOTE:** When you change the mode and click **Apply**, the Link150 gateway reboots and clears the device list configuration.	• **Master** (Factory setting) • **Slave** **NOTE:** ION protocol supports only **Master** mode.
Physical Interface	Selects how the Link150 gateway serial port is physically wired.	• **RS485 2-wire** (Factory setting) • **RS485 4-wire** • **RS232**
Transmission Mode	Selects how data is transmitted over a serial connection.	• For master mode: ◦ **Automatic** (Factory setting) ◦ **Modbus ASCII** **NOTE: Transmission Mode** is disabled for ION protocol. • For slave mode: ◦ **Modbus RTU** (Factory setting) ◦ **Modbus ASCII** **NOTE:** Modbus Automatic mode allows you to communicate to Modbus RTU, Jbus, and PowerLogic™ (SY/MAX) slave devices on the same daisy chain.
Baud Rate	Used to select the data transmission speed over a serial connection.	• **19200** bps (Factory setting) • **2400** bps • **4800** bps • **9600** bps • **38400** bps • **56000** bps [1] • **57600** bps [1]
Parity	Used to select if data is checked for accuracy using a parity bit.	• **Even** (Factory setting) • **Odd** • **None**

1. Only available when **Physical Interface** is set to **RS232** and **Transmission Mode** is set to **Modbus ASCII**.

Parameter	Description	Settings
Stop bits	Stop bits sent at the end of every character allow the receiving signal hardware to detect the end of a character and to re synchronize with the character stream.	• **Auto** (Factory setting) • **1 bit** • **2 bits** **NOTE: Auto** sets stop bit as 1 when you set **Parity** to **Even** or **Odd** and as 2 when you set **Parity** to **None**.
Termination [2]	Used to terminate the RS485 line in order to prevent reflections. Setting **Termination** to Enabled enables the termination resistor.	• **Enabled** (Factory setting) • **Disabled**
Biasing [2]	Used to prevent invalid data bits by forcing the transmission line into a known state. The transmission line into the RS-485 port enters an indeterminate state when it is not being transmitted to. This indeterminate state causes the receivers to receive invalid data bits from the noise picked up on the cable.	• **Enabled** (Factory setting) • **Disabled**
Response Timeout [3]	Used to select how long the Link150 gateway waits to receive a response from a serial device. **NOTE:** The **Response Timeout** parameter is disabled if the **Mode** is set to Slave.	• **3 seconds** (Factory setting) • **0.1** to **10** seconds
Remote Device Connections (in slave mode only)	Used to define a list of Modbus TCP/IP addresses for the Link150 gateway to use during slave mode communications.	-
Port (in slave mode only)	Used to select the Modbus TCP/IP port of the remote device connection.	• 502 (Factory setting) • 1–65535 available settings

2. Only available when **Physical Interface** is set to **RS485 4-wire** or **RS485 2-wire**.
3. This parameter is not available for ION protocol.

Device List

Description

The device list is used for defining the list of devices connected to the Ethernet port or serial port.

The list of connected devices is defined manually by adding individual devices.

Master Mode Device List Setup

For **Master** mode, the usage of the COM port is:

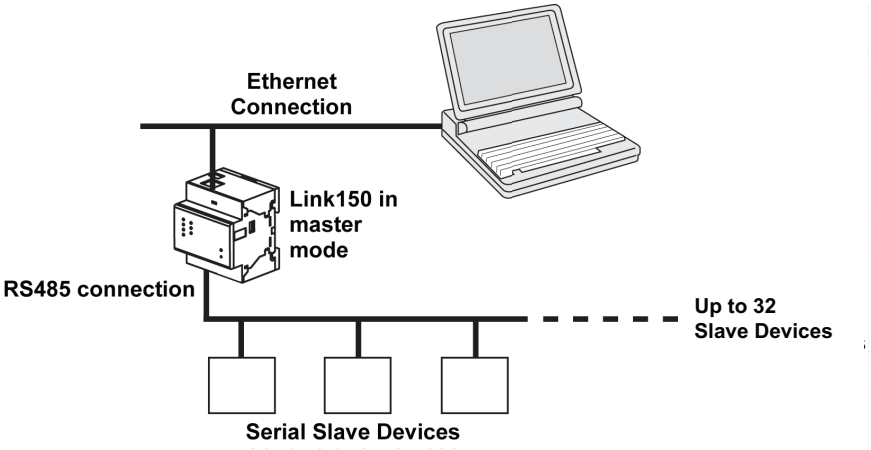
- Modbus RTU devices do not have to be defined in the **Device List**, but it helps you manage your system.
- PowerLogic™ protocol (SY/MAX) devices must be defined in the **Device List**.

NOTE: If none of the protocols are defined, Modbus RTU is available as a default protocol.

NOTE: The number of devices supported can be viewed using the number of viewable devices. Response timeout can be configured in serial port page under the **Settings > Communication** tab.

NOTE: Do not use the serial slave addresses 1 or 16 in automatic transmission mode on a daisy chain with mixed protocols. For example, a single daisy chain with some devices using PowerLogic™ protocol and others using Modbus RTU/Jbus protocol.

The following figure shows Link150 gateway in master mode topology:



NOTE: In specific case the maximum number of slave devices can be extended to 128 devices by using repeater.

If you selected **Master** mode on the **Serial Port** page, follow the steps to set up the device list:

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **Communication** submenu, click **Device List**.	Displays the Device List page.
3.	Select the number of viewable devices (16 to 128) and click **Apply Changes**.	Based on the number of viewable devices selected, the number of rows in the device list page appears. **NOTE:** System communication degrades as the number of devices grow.
4.	Select the **Protocol**.	Selects the protocol of the connected device.
5.	Enter the **Device Name**.	Enters the name of the device.
6.	In the **Local ID** box, type the local ID (address) of the serial slave device.	Enters the local address of the device.

Step	Action	Result
7.	Repeat steps from 4 to 6 until all of the devices are entered.	Enters all of the connected devices.
8.	Click **Apply Changes**.	Updates the **Device List** settings.

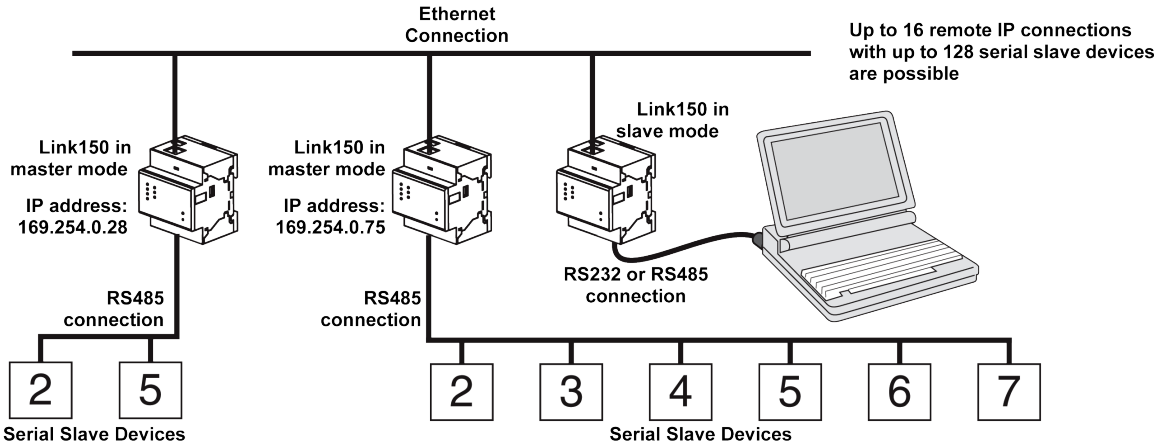
Device List Parameters for Master Mode

Parameters	Description	Settings
Number of Viewable Devices	The maximum number of viewable devices displayed on the webpage.	16, 32, 48, 64, 80, 96, 112, or 128
Protocol	Selects the protocol type.	• **Modbus** (Factory setting) • **PowerLogic** • **JBus**
Device Name	Denotes the name of the slave device.	– **NOTE:** Device Name must be a unique value.
Local ID	The local address of the device connected to the Link150 gateway.	For serial port: 1–247 and 255 **NOTE:** Local ID must be a unique value.

Slave Mode Device List Setup

Serial port slave mode allows the serial Modbus master devices to access information from serial slave devices across a TCP/IP network.

The following figure shows Link150 gateway in slave mode topology:



If you selected Slave mode on the **Serial Port** page, follow the steps below to set up the device list:

NOTE: Before configuring the device list in slave mode the remote device IP address needs to configured in the **Serial Port** page

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **Communication** submenu, click **Device List**.	Displays the Device List page.
3.	Select the number of viewable devices (1 to 128), and click **Apply**.	Selects the number of viewable locations that can be used to define serial slave devices connected to the Link150 gateway.
4.	Select the **Connection**	Selects the Modbus TCP/IP address to associate with the remote ID.
5.	Enter the **Device Name**.	Displays the name of the device.

Step	Action	Result
6.	In the **Local ID** box, enter the local ID (address) of the serial slave device.	Enters the address of the device that the local Modbus master device will use to access the remote device.
7.	In the **Remote ID** box, enter the remote ID (address) of the serial slave device.	Enters the serial slave address of the remotely connected device.
8.	Repeat steps 4 to 7 until all of the devices are entered.	Enters all of the mapping information for the Link150 gateway to communicate to the remote devices.
9.	Click **Apply Changes**.	Updates the **Device List** settings

Device List Parameters for Slave Mode

Parameters	Description	Settings
Number of Viewable Devices	The maximum number of viewable devices displayed on the webpage.	16, 32, 48, 64, 80, 96, 112, or 128
Connection	Selects the Modbus TCP/IP address to associate with the remote ID.	The Remote Device IPs configured in the **Serial Port** page.
Device Name	Denotes the name of the slave device.	– **NOTE:** Device Name must be a unique value.
Local ID	The local address of the device connected to the Link150 gateway.	For serial port: 1–247 **NOTE:** Local ID must be a unique value.
Remote ID	The remote ID (address) of the serial slave device that is remotely connected.	1–247 and 255 **NOTE:** Remote ID must be a unique value for the same connection.

IP Network Services

Description

This page allows you to configure the settings and activate the IP network services.

IP Network Services Configuration Procedure

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **Communication** submenu, click **IP Network Services**.	Displays the IP Network Services configuration options.
3.	Enter HTTP/Web, HTTPS, Modbus TCP, ION Pass Through, Modbus TCP proxy (for slave mode), Discovery, DNS and SNMP port parameters.	Selects the IP Network Services port options.
4.	Click **Apply Changes**.	Updates the IP Network Services port settings of Link150 gateway.

IP Network Services Parameters

Parameter	Description	Settings
HTTP/Web Port	Allows you to set the port number of the HTTP/Web server.	1–65534 Default setting: 80
HTTPS Port	Allows you to enable or disable the HTTPS service and to set the port number of the HTTPS server.	1–65534 Default setting: 443
Modbus TCP	Allows you to enable or disable the Modbus/TCP service.	1–65534 Default setting: 502
ION Pass Through	Allows you to enable or disable the ION PassThrough service.	Enabled Disabled (Factory Setting)
Modbus TCP Proxy	Allows Modbus TCP master to get the data from slave of Link150 gateway. This is applicable only if Link150 gateway is in slave mode.	Enabled Disabled (Factory Setting)
Client connection timeout	Amount of time the Link150 will wait for a remote Modbus TCP/ IP device to respond to a Modbus TCP/IP connection request initiated by the Link150. This is applicable only if Link150 gateway is in slave mode.	0.1–10 seconds Default: 3 seconds (Factory setting)
Client message timeout	Amount of time the Link150 will wait for a remote Modbus TCP/ IP device to respond to a Modbus TCP/IP request initiated by the Link150. This is applicable only if Link150 gateway is in slave mode.	0.1–10 seconds Default: 2 seconds (Factory setting)
Discovery	Allows you to enable or disable the DPWS service.	Enabled (Factory Setting) Disabled
	Allows you to enable and disable the silent mode and also to set the port number.	1– 65534 Default setting: 5357
DNS	Allows you to set the port number of the DNS server.	1– 65534 Default setting: 53
SNMP	Allows you to enable or disable the SNMP service.	Enabled Disabled (Factory Setting)
	Allows you to set the listening and notification ports.	Listening Port: • 1– 65534 • Default setting: 161 Notification Port: • 1– 65534 • Default setting: 162

Modbus TCP/IP Filtering

Description

This page allows you to define the level of access for Modbus TCP/IP clients connected to Link150 gateway.

Modbus TCP/IP Filtering Configuration Procedure

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **Communication** submenu, click **Modbus TCP/IP Filtering**.	Displays the Modbus TCP/IP Filtering configuration options.
3.	Select **Enable Modbus TCP/IP Filtering** checkbox.	Enables the Modbus TCP/IP filtering.
4.	In the **IP Filtering Exception List** section, click **Add Exception**	Displays Add IP Filtering Rules details.
5.	In the **IP Address/Range** box, enter IP address and select access level from the **Access Level** list, and then click **Add**.	Adds the IP address filtering rules.
6.	Click **Apply Changes**.	Updates the Modbus TCP/IP Filtering settings of Link150 gateway.

Connections

The maximum number of connections supported is 32.

IP Filtering

Parameter	Description	Setting
Enable Modbus/TCP IP Filtering	Activates IP address filtering and assigns the designated level of access.	• Enabled • Disabled (Factory setting)
IP Address/IP Range	List of user-defined IP addresses to be granted or denied access to connected devices.	10 addresses (Maximum allowed IP addresses) **NOTE:** It also allows you to enter the IP address with the wildcard character (*). For Example, 10.***.***.***
Access Level	Defines the access level for the corresponding IP address.	• **Read**: The following Modbus TCP/IP function codes are allowed: ◦ 1 (0x01) ◦ 2 (0x02) ◦ 3 (0x03) ◦ 4 (0x04) ◦ 7 (0x07) ◦ 8 (0x08) ◦ 11 (0x0B) ◦ 12 (0x0C) ◦ 17 (0x11) ◦ 20 (0x14) ◦ 24 (0x18) ◦ 43 (0x2B), with subfunction codes 14 (0x0E), 15 (0x0F), and 16 (0x10). ◦ 100 (0x64) • **None**: Access to the IP address is blocked. • **Read/Write**: Full access is provided.

System Log Configuration

Configuring the system log

This page allows the user to set a **system log server** to receive the various log events on a specific interval.

You can choose the category and severity of events to be received.

NOTE: By default, all the **Security** events will be sent to the server if the service is enabled.

1. Click **Settings > Communication > System Log**.
2. Modify the parameters as required.

Parameter		Values	Description
System Log Service	**Enable**	-	Enable or disable the system log service.
System Log Server Settings	**System Log server Address**	-	Enter the server name or IP address.
	Connection Mode	• **TCP/TLS** • **TCP** • **UDP**	Select the mode.
	System Log Server Port	**1 to 65534**	Enter the system log server port number.
System Log Export Settings	**Export Interval**	**0 to 3600** **NOTE:** Default 60	Enter the interval duration for exporting the log data in seconds.
	Export Filters	**Category** • **Application** • **Security** • **System** • **Other** • **All**	Select the category of the events. **NOTE:** The events with category Security are always transferred irrespective of the selection in severity filters.
		Severity: • **Alert** • **Critical** • **Debug** • **Emergency** • **Error** • **Information** • **Notice** • **Warning** • **All**	Select the severity of the event.
System Log Test		-	Test connection

SNMP

SNMP Managers

The Link150 gateway supports SNMP, allowing a network administrator to access Link150 gateway remotely with an SNMP manager and view the networking status and diagnostics of the Link150 gateway in the MIB-II format.

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Communication** submenu, click **SNMP**.	Displays the SNMP parameters.
3	Enter the SNMP **System Location**.	Enters the system location.
4	Enter the name of the SNMP **System Contact** person.	Enters the name of SNMP system contact person.
5	Select the **Automatic Configuration of System Name** button.	Selects the system name automatically.
6	Select **Manual Configuration of System Name** button to enter the **System Name** manually.	Enters the system name.
7	Enter the SNMP **Get Community Name**.	Enters the Get community name.
8	Enter the SNMP **Set Community Name**.	Enters the Set community name.
9	Enter the **Trap Community** information to configure and trap the community name.	alert (Factory setting)
10	Enter the IP address of SNMP **Manager #1**.	Enters the IP address of SNMP manager one.
11	Enter the IP address of SNMP **Manager #2**.	Enters the IP address of SNMP manager two.
12	Click **Apply Changes**.	Updates and saves the SNMP setting.

NOTE: It is recommended to avoid using default community strings and use different community names during installation.

Enabled Traps

Enabled Traps allows you to select any of the following traps, which are disabled by default:

Parameter	Description
Cold Start Trap	Generates a trap when the Link150 gateway is powered ON.
Warm Start Trap	Generates a trap when SNMP is enabled.
Link Down Trap	Generates a trap when an Ethernet port communication link is disconnected.
Link Up Trap	Generates a trap when an Ethernet port communication link is reconnected.
Authentication Failure Trap	Generates a trap when an SNMP manager is accessing the Link150 gateway with incorrect authentication.

Advanced Ethernet Settings

Configuring Advanced Ethernet Settings

This page allows you to configure the advanced Ethernet settings.

NOTICE
Only qualified personnel should modify the advanced Ethernet settings of the Link150 gateway. Perform such modifications only after you have read and understood the advanced Ethernet settings. **Failure to follow these instructions can result in equipment damage.**

Step	Action	Result
1	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Communication** submenu, click **Advanced Ethernet Setting**.	Displays the advanced Ethernet settings.
3	Configure the advanced Ethernet settings, and then click **Apply Changes**.	Updates Link150 Ethernet and TCP/IP settings.

NOTE: Click the **Defaults** button to change the advanced Ethernet settings to default value.

List of Link150 Advanced Ethernet Settings

Option	Description	Settings
Time to Live	Identifies the number of routers a TCP packet can pass.	**1** to **255** (hops) **60** hops (Factory setting)
Enable TCP Keep Alive	Allows you to enable or disable the TCP keep alive transmissions. If disabled, the keep alive packets do not get sent and the connection remains open untill it gets closed.	• **Enabled** (Factory setting) • **Disabled**
Time	A timer that detects when a connected device on an idle connection becomes unavailable due to events such as a reboot or shutdown.	**1** to **65,000** s **30** s (Factory setting)
ARP Cache Timeout	Allows you to specify how long the entries can be kept in the Address Resolution Protocol (ARP) cache.	**1** to **65,000** m **15** m (Factory setting)

RSTP

Description

This page displays the diagnostic data of RSTP bridge and RSTP port details.

RSTP Configuration Procedure

Step	Action	Result
1	From the Link150 menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Redundancy** submenu, click **RSTP**.	Opens the **RSTP** page.

RSTP Parameters

Parameter	Description	Setting
Enable	Allows you to enable or disable RSTP bridge and port settings.	-

RSTP Bridge Settings Parameters

Parameter	Description	Setting
Bridge Priority	16 bit priority which forms the bridge id.	0 – 61440 Default setting: 32768
Bridge Hello Time	Configuration BPDU emission interval	1– 2 s Default setting: 2 s
Bridge Max Age Time	Time that a configuration BPDU remains valid after being issued by the Root bridge in STP. Not used in RSTP.	6 – 40 s Default setting: 40 s
Transmit Hold Count	Value used by the Port Transmit state machine to limit the maximum BPDU transmission rate. Not more than Transmit Count BPDUs are transmitted in any Hello Time.	3 – 100 messages Default setting: 6 messages
Bridge Forward Delay	Delay used by STP bridges to transition blocked ports to forwarding. Not used in RSTP.	4 – 30 s Default setting: 21 s

RSTP Port 1 and Port 2 Settings Parameters

Parameter	Description	Setting
Port 1 Priority	8 bit priority value which is a part of port id	0 – 240 (in step of 16) Default setting: 128
Port 1 Cost	The contribution of this port to the path cost of paths towards the Root bridge which includes this port.	1 – 200,000,000 according to link speed Default setting: 0 (Auto) RSTP calculates the value based on the link speed of the Ethernet port. When the value is auto, the cost is set with the default value based on the Link Speed. Ie. For 100 mbps, the default value is 200000 and for 10 mbps, the default value is 2000000.

NOTE: If Link150 gateway is not accessible after enabling RSTP, then check with your network administrator if RSTP port is blocked.

User Accounts

Description

The Link150 users are assigned user names and passwords. Each user belongs to a group, and each group has access rights to the Link150 webpages assigned by the Link150 administrator.

There are two pre-defined user accounts:

- **Administrator** (default password is **MAC address**)

  NOTE: MAC address which is unique for each LINK150. Enter the MAC address of the device without colon in capital letter (For example: if the MAC address of the LINK150 is 00:80:f4:02:14:38, then password is 0080F4021438)

- **Guest** (default password is **Guest**)

⚠WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

Change default passwords at first use to help prevent unauthorized access to device settings, controls, and information.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

User Accounts Configuration Procedure

Step	Action	Result
1.	From the **Link150** menu bar, click **Settings**.	Opens the **Settings** menu.
2.	From the **Settings** menu, in the **User Management** submenu, click **User Accounts**.	Displays the user accounts details.
3.	Click **Add User** and enter **User Name**, **Password**, **Confirm Password** and then select **Role**	Enters the new user account name, password, and role.
4.	Click **Apply Changes**.	Creates the new user account for Link150 gateway.

Users

In addition to the two default user accounts, you can create up to 10 user accounts.

Parameter	Description
User Name	Enter a name between 4 and 16 characters for a new user. **NOTE:** User names is case-sensitive and white space characters are not allowed.
Password	Enter a password between 8 and 16 characters for a new user. **NOTE:** Password is case-sensitive and must contain at least 1 number, 1 capital letter, and 1 special character.
Confirm Password	Re-enter a password for confirmation. **NOTE:** Password is case-sensitive.
Role	Select a role for the new user.

Link150 Accounts and Passwords

Accounts	Password
Administrator	**MAC address** **NOTE: MAC address** which is unique for each LINK150. Enter the MAC address of the device without colon in capital letter (For example: if the MAC address of the LINK150 is 00:80:f4:02:14:38, then password is 0080F4021438)
Guest	**Guest**
User-defined accounts (10 accounts possible)	User-defined passwords

User Account lockout policy

After the 5th consecutive invalid login attempt, the webpage login is locked for 2 minutes. After 2 minutes (expiry), the webpage is unlocked. Alternately you can perform power cycle or soft restart or factory reset to unlock the user account.

NOTE: If you perform factory reset, all user accounts except Administrator and Guest are deleted and the webpage user account goes back to factory default settings.

Security

Description

This page allows you to view the current HTTPS security certificate, to upload a user-supplied certificate issued by certificate authority, and to re-install the default self-signed certificate.

Default Certificate Configuration Procedure

Step	Action	Result
1	From the Link150 menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Security** submenu, click **Product Certificate**.	Opens the **Product Certificate** page.
3	Click **Default Certificate** to install the certificate and then click **Yes** in the **Product Certificate** pop-up window.	Installs the default self-signed certificate.
4	Click **Reconnect** and then log in.	Ends the current connection and initiates a new one using the default self-signed certificate.

User-Supplied Certificate Configuration Procedure

Step	Action	Result
1	From the Link150 menu bar, click **Settings**.	Opens the **Settings** menu.
2	From the **Settings** menu, in the **Security** submenu, click **Product Certificate**.	Opens the **Product Certificate** page.
3	Click **Import Certificate** and then click **Browse** to select the user-supplied certificate.	Selects the user-supplied certificate.
4	Enter the certificate password and click **Apply Changes**.	Imports the certificate.
5	Click **Reconnect** and then log in.	Ends the current connection and initiates a new one using the user-supplied certificate.

Product Certificate Parameters

Parameter	Description	Setting
Certificate Type	Indicates the type of HTTPS security certificate.	• **Self Signed** • **User Supplied**
Subject	Provides the available certificate attribute information.	• **CN**: Common name • **OU**: Organizational unit • **O**: Organization • **L**: Locality • **S**: State or province name • **C**: Country name
Issuer	Displays the certificate authority that issued the certificate.	–
Creation Date	Displays the start date of certificate validity.	–
Expiration Date	Displays the end date of certificate validity.	–
Certificate Package	Allows you to import the certificate package.	–
Password	Allows you to enter the certificate password.	–

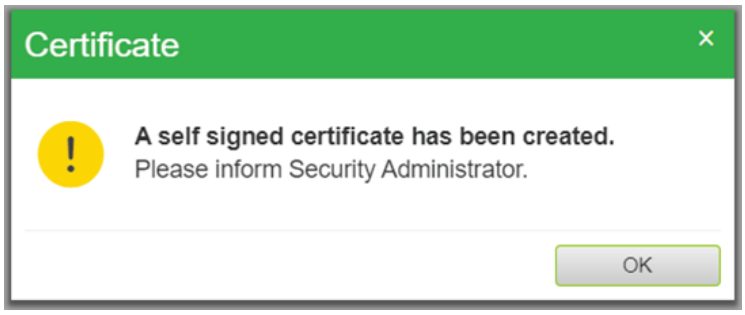
Certificate related modifications

As per the latest TLS library update, only **.pem** type certificate import will be supported further. Users with old format **.pfx** can use the below steps to convert the certificate to **.pem** before importing.

To convert **.pfx** file into **.pem** file, use **openssl** commands – **openssl pkcs12 -in cert.pfx -out cert.pem** after that remove the bag attributes from the output file.

If the user has already a user signed certificate imported in the previous version, then on upgrade the user signed certificate will get deleted and a self-signed certificate will get generated and a user will we informed through a Pop-Up message.

For version lesser than 5.1.x and 5.2.x **.pfx** is supported and for 5.3.x supported format is **.pem**



Troubleshooting

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA or applicable local standards.
- Turn off all power supplies to this device and equipment in which it is installed before working on the device or equipment.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Do not exceed the device's rating above specified maximum limits.
- Connect protective ground (earth) before turning on any power supply to this device.

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

⚠WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOTION, OR ARC FLASH

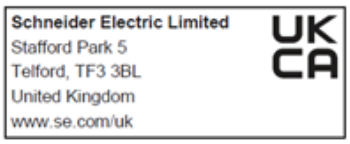
- This equipment must only be installed and serviced by qualified personnel.
- Qualified persons performing diagnostics or troubleshooting that require electrical conductors to be energized must comply with and follow safe electrical work practices. For example, in the USA, see NFPA 70E.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Problem	Possible cause	Solution
Module status LED blinking green (500 ms ON, 500 ms OFF)	Link150 firmware is corrupted	Upgrade the firmware. ReferLink150 Ethernet Gateway Firmware Update, page 21. **NOTE:** If an error message is displayed while deleting the *gateway.bin* file, then try to copy and paste the *gateway.bin* file for firmware upgrade.
Module status LED blinking red (500 ms ON, 500 ms OFF)	Link150 firmware is in degraded mode	Replace Link150 gateway in the next maintenance cycle.
Steady red Module Status LED	Link150 gateway is out of service	Call your local service representative for assistance.
Steady red Network Status LED	Duplicated IP address in Link150 gateway	Assign a new IP address to the Link150 gateway. If the problem persists, call your local network administrator for assistance.
Steady amber in Network Status LED	Error found in IP configuration of Link150 gateway	• Verify that all IP parameters are correct. Cross reference to IP configuration page. OR • Call your local network administrator for assistance.
Unable to browse the Link150 webpage.	Incorrect network configuration	Verify that all IP parameters are correct.
		Verify that Link150 gateway receives requests (ping Link150in the DOS prompt. Type **ping** and Link150 IP address. For example, ping `169.254.0.10`).
		Verify that all connection settings in your browser Internet options are correct.
	Lost HTTP port number	Perform factory reset.
None of the LEDs are lit.	Source power is not applied or is not stable	Apply power or check power source.
One of the LEDs is not lit.	The LED is burned out	Call your local service representative for assistance.
Ethernet communication LED is not lit.	Proper link is not established	Make sure that the proper cable is used and connected.

NOTE: Clear cookies if the applied changes are not reflected.

Standards

Regulation	Standard	Objective
UKCA Marking		**Manufacturer:** Schneider Electric Industries SAS 35, rue Joseph Monier CS 30323 F – 92506 Rueil Malmaison cadex www.se.com **Importer:** Schneider Electric Limited Stafford Park 5 Telford, TF3 3BL United Kingdom

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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