

SeT Series

MCS_eT

Digitally Native 24 kV

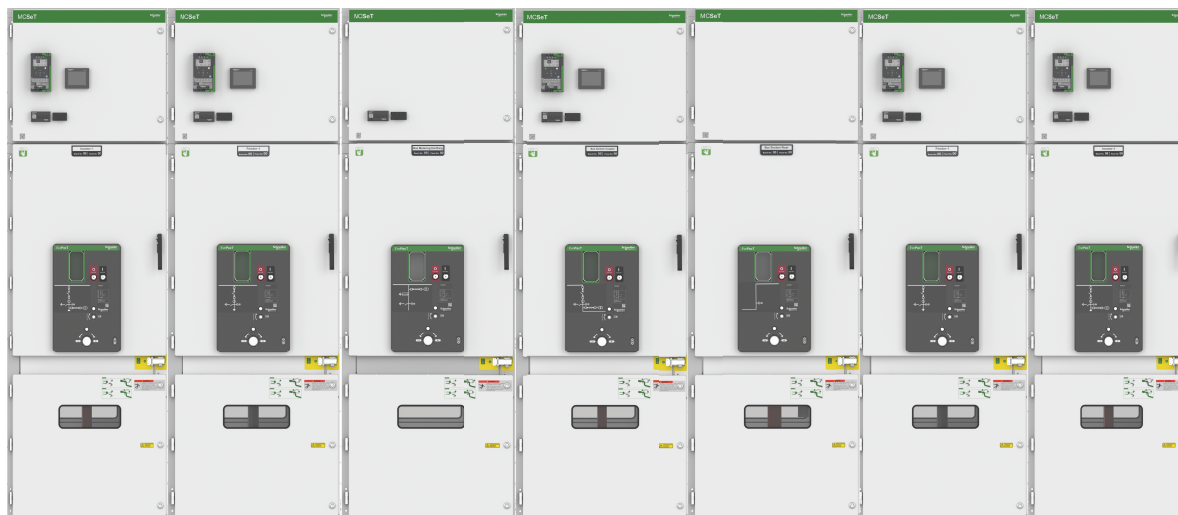
Air-insulated Switchgear

With EvoPacT HVX Vacuum Circuit Breaker

Receipt Guide

BQT8677900-00

07/2024



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SeT Series

Featuring outstanding medium-voltage (MV) and low-voltage (LV) switchboards, motor control centres and power distribution solutions for high-performance power applications, Schneider Electric's SeT Series is optimized solutions based on high levels of safety and an optimized footprint. Built on a modular architecture and incorporating smart connected devices for maximum safety, reliability, performance and energy efficiency, the SeT Series is delivered to customers directly from our Schneider Electric plants or via a global network of licensed partner panel builders, who are trained and audited to provide quality equipment and support.

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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.

About the Document

Intended Use

This receipt guide describes about air-insulated MV switchgear units of the MCSiT.

The operations described in this guide should be performed by a qualified personnel with proven experience regarding:

- The MCSiT series
- All relevant safety provisions

This receipt guide is the integral part of the product and should be stored such that it is readily accessible at all times and can be used by persons who work on the switchgear. If the switchgear is relocated to another site, this guide should be passed on to the new operator along with the unit.

This guide does not describe every imaginable individual case or every customer-specific version of the product. For more information, contact Schneider Electric.

Validity Note

This guide is valid only for MCSiT cubicle. The design provides easy rack-in/rack-out operation without the need for a separate trolley. It is an extension of the MCSiT range and delivers performances up to 24 kV/31.5 kA/2500 A. It is equipped with the EvoPacT Vacuum Circuit Breaker (VCB) and has other functional trolleys like the EvoPacT Metering Truck (MTX) and the Earthing Switch (E/S).

For product compliance and environmental information (RoHS, REACH, PEP, EOL, and so on), go to the [Green Premium](#) page on the Schneider Electric website.

The information contained in this guide is likely to be updated at any time. Schneider Electric strongly recommends that you have the most recent and up-to-date version available on <https://www.se.com/ww/en/download>.

The technical characteristics of the devices described in this guide also appear online. To access the information online, go to the Schneider Electric home page at www.se.com.

Product Related Information

Air-insulated MV units of the MCSiT series are designed exclusively for switching and distributing electrical power. They can only be used within the scope of the specified standards and the switchgear-specific technical data. Any other utilization constitutes improper use and can result in danger and damage.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The MCSiT switchgear must be used only in scope of specified standards and specific technical data.

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

Safety Provisions

Introduction

Before performing work on the cubicle, it is essential that you comply with the following instructions:

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Before removing covers and performing assembly or maintenance work:

- Ensure that the system is isolated from high voltage, supply voltage, and properly grounded.
- Ensure that the VCB is in test condition, the E/S is closed, and access is locked.
- Follow the Lock Out Tag Out (LOTO) process to perform any work on switchboard.
- Install barriers, cables, and polycarbonates in accordance with the design specifications wherever necessary.

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

WARNING

HAZARD OF MOVABLE PARTS IN MECHANICAL DRIVES

Before performing mounting and maintenance work, comply with the below safety rules:

- Isolate from the supply voltage.
- Release the energy-storing device of the VCB by performing the OFF-ON-OFF operation.
- Activate the make-proof E/S to ON position, to ensure that the equipment is ready for use (if any).
- Do not remove the mechanisms during maintenance work.

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

WARNING

HAZARD OF SHARP-EDGED SHEET METAL AND METAL PARTS

During installation and maintenance work, comply with the below safety rules:

- Apply appropriate Personal Protective Equipment (PPE) and follow safe electrical work practices. See standards or local equivalent.
- Always cover sharp edges.

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

Applicable Standards and Regulations:

The following are the applicable standards and regulations:

- Metal-enclosed AC switchgear for rated voltages > 1 kV up to including 52 kV: IEC 62271-200, Common Specification: IEC 62271-1.
- Comply with the locally applicable accident avoidance, operating, and work instructions.
- Assembly and maintenance: IEC 61936-1.
- Operation of electrical equipment: EN 50110-1.

NOTE:

- The national standards applicable in the country where the equipment is to be installed should be complied.
- Other standards or regulations have to be checked and accessed locally.

Behavior in case of Incidents or Accidents

If an internal arc fault occurs, the MCSeT switchgear is equipped with pressure relief absorbers or ports to help prevent the cubicles and switchgear from being blown off.

This receipt guide does not include information regarding the safety of buildings in case of internal faults (pressure load of the switchgear room and necessary pressure relief ports). Pressure calculations for switchgear rooms, including recommendations regarding pressure relief ports, can be provided upon request for a fee. For more details, contact Schneider Electric.

In case of fire or internal faults, toxic and caustic decomposition products may be produced. Comply with the locally applicable accident and safety provisions.

Make sure that first-aid measures are taken in case of injury to persons.

Dimensions and Weights

Cubicles Without Internal Arc Accessories

I/F, BSC, BSR, and BME Cubicles with 1 CT per Phase

Table 1 Dimensions of I/F, BSC, BSR, and BME Cubicles

Dimensions	I/F		BSC		BSR		BME	
Width W (mm)	800	1000	800	1000	800	1000	800	1000
Height H (mm) ⁽¹⁾	2400	2400	2400	2400	2400	2400	2400	2400
Depth D (mm) ⁽²⁾	1860	1860	1860	1860	1860	1860	1860	1860
Approximate weight with packing (kg) ⁽³⁾	1160	1470	1190	1510	800	1030	765	980
Approximate weight without packing (kg) ⁽³⁾	1020	1330	1120	1440	730	960	700	910
<p>(1) The height varies based on customer requirements.</p> <p>(2) The depth varies based on customer requirements.</p> <p>(3) Fully equipped cubicle.</p>								
<p>NOTE: All weights mentioned in this document may vary. The actual weights are specified on the cubicle packaging.</p>								

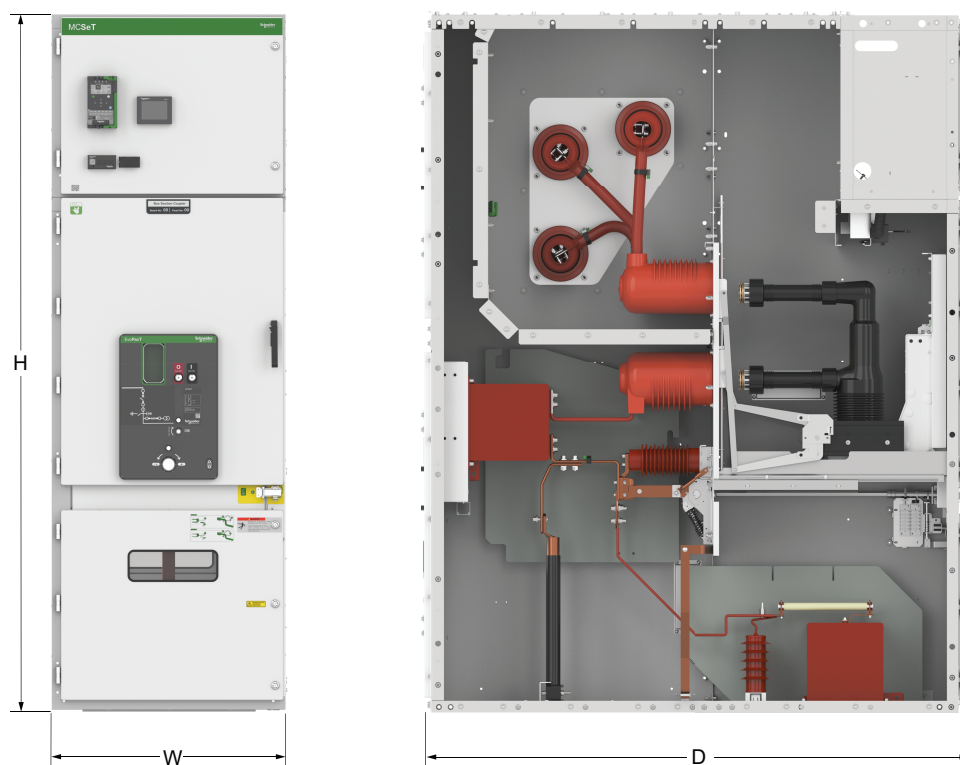


Figure 1
Dimensions of Cubicles

Refer to the below table for the weight of the cubicle and the VCB dispatched separately:

Table 2 Weights of Cubicle and VCB

Description	Weight (kg)
Cubicle without packaging	1162
Cubicle with packaging	1232
VCB without packaging	242
VCB with packaging	272

NOTE: For an I/F cubicle with a width of 1000 mm and a rated current of 2500 A, the VCB is dispatched in a separate box.

Dimensions of Internal Arc Accessories

Table 3 Dimensions of Internal and External Exhaust

Internal arc accessories	Dimension (mm)
Height of the tunnel T	460
Height of the tunnel T + Height of the absorber (internal/external) A	690



Figure 2
Dimension of External Exhaust

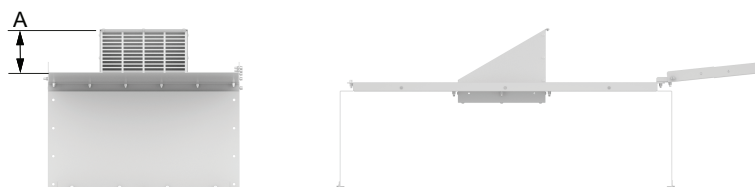




Figure 3
Dimension of Internal Exhaust

Transport Trolley for Vacuum Circuit Breaker

Table 4 Weight of Trolley with Accessories

Rated voltage U_r of the Cubicle (kV)	Cubicle width (mm)	Weight of trolley with accessories without packaging (kg)	Weight of trolley with accessories with packaging (kg)	View
24	800	56	86	
	1000	62	96	

NOTE: All operating handles and keys shall be dispatched inside the trolley.

Receipt Guidelines

Shipping Units

The following points are considered while shipping the units:

- The condition and the type of transport is stipulated in the contract details.
- The type of packaging depends on the type of transport and the storage conditions.
- The cubicles are dispatched individually and fastened on the pallets.
- The trolley and the VCB are dispatched in a separate box.
- The standard accessories are included.
- The cubicles are dispatched in upright position.

NOTE: The weight of the entire transport unit is indicated on the packaging.

Packing

The following points are considered while packing the units:

- If packed exclusively for land transport, the cubicles are dispatched on a pallet with cardboard box as shown in the Figure 4.
- For water or air transport, the units are packed in sealed aluminium foil with desiccant and in a closed wooden case with a tightly closed wooden base, as shown in the Figure 5.

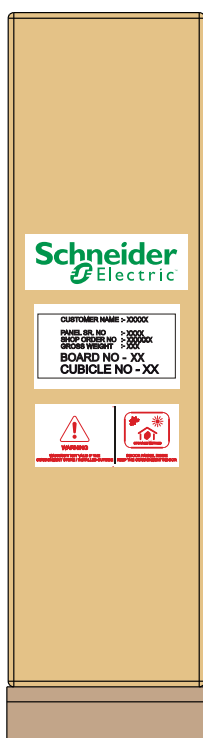


Figure 4
Packed in Cardboard Box, on a Pallet

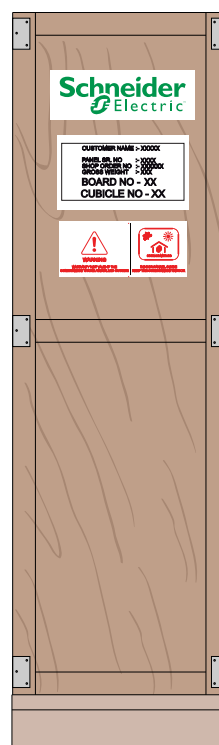


Figure 5
Packed in a Wooden Case

Unloading

Lifting Through Overhead Crane

⚠ WARNING

HAZARD OF FALLING OR TOPPLING LOADS

Transport unit must be secured sufficiently during transport to avoid slipping and tipping over.

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

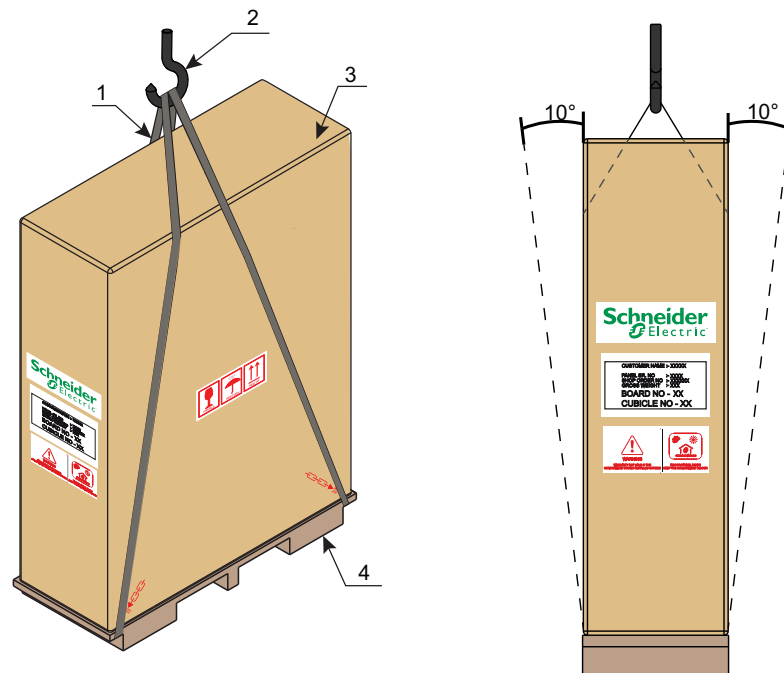


Figure 6
Lifting Through Overhead Crane

- | | |
|-----------------------|---------------------|
| 1 Belt (non-metallic) | 3 Cubicle |
| 2 Hook | 4 Wooden base frame |

Lifting Through Forklift

⚠ WARNING

HAZARD OF FALLING OR TOPPLING LOADS

Transport unit must be secured sufficiently during transport to avoid slipping and tipping over.

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

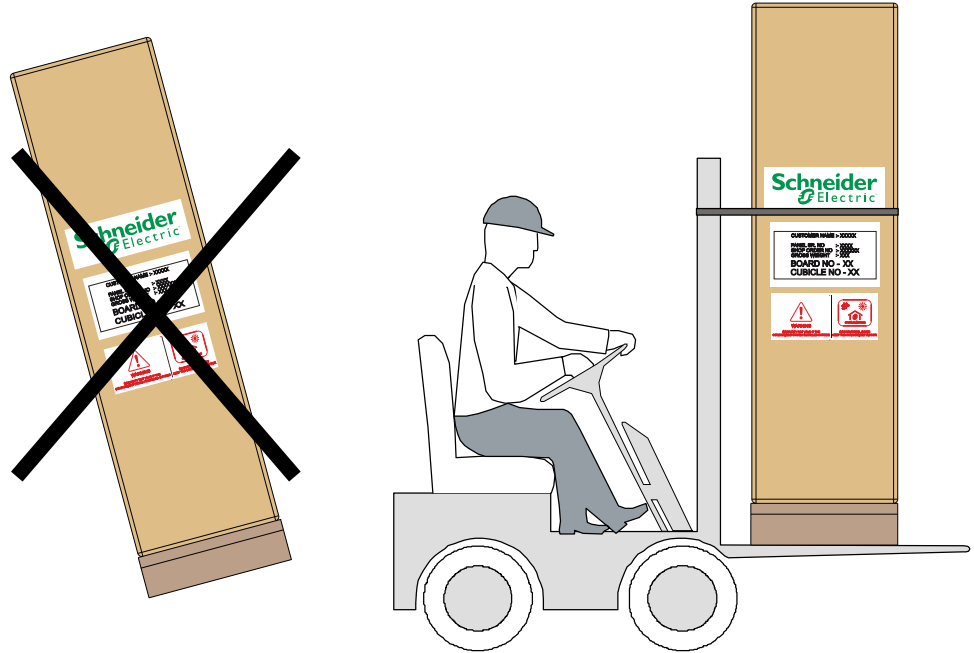


Figure 7
Lifting Through Forklift

Receipt and Inspection

Handle shipped units carefully during unloading and unpacking as follows:

- Shipped units should be checked for any damage, upon receipt. Any damage occurred in transit should be recorded and reported to Schneider Electric as soon as possible.
- Check the completeness of the consignment based on the transport documents. The supplier should be notified in writing about any possible deviations without delay.
- If packing box is damaged, report to the Schneider Electric as soon as possible.
- Loose materials per switchboard are dispatched in a separate box.
- The trolley and VCB above 2500 A will be dispatched in a separate box.
- The tunnel and the absorber are dispatched in a separate box.

For an example of representation, refer to Figure 8.

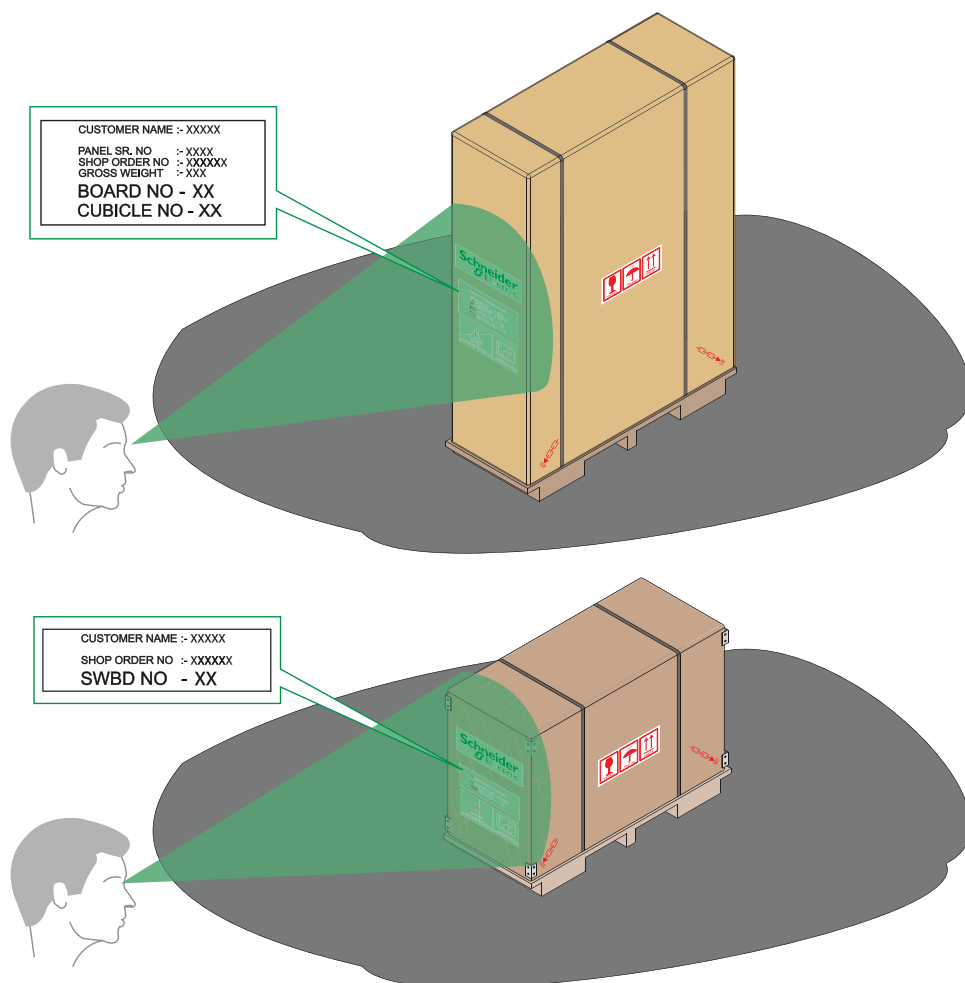


Figure 8
Inspection upon Receipt

Storage

⚠ WARNING

HAZARD OF STORING UNDER INAPPROPRIATE CONDITIONS

Ensure that the supporting area has sufficient stability and evenness.

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

If the cubicles are not installed immediately after delivery, they can be stored under the following conditions:

- Cubicles should only be stored in vertical position and should not be stacked.
- Indoor storage only is admissible.
- Switchgear and accessories should be stored, sealed with desiccants in aluminium foil, and packed in a wooden box (the storing time before installation is compliant with the warranty period in the terms and conditions).
- Pallet should not be removed until the installation.
- The storage room environment should be healthy, no rodents, humidity control $\leq 95\%$ / $\leq 90\%$ for 24 hours and 1 month respectively, and no water on the floor.

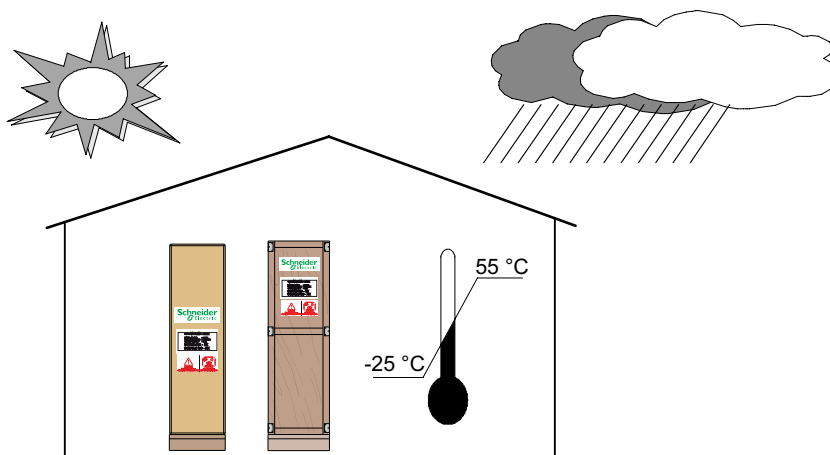


Figure 9
Storage Conditions

Intervention Levels

Table 5 Description of Personnel Skilled at Different Intervention Levels

Definition	Personnel	Levels
All qualified personnel with basic electrician skills performing operations according to instruction leaflet provided by Schneider Electric with the product.	Skilled	1
Skilled electrical professionals following Schneider Electric's documentation and processes, ideally formalized in a commercial agreement (audit, training, and no specific tools).	Independent panel builder	2A
Licensed electrical personnel carrying out tasks authorized by Schneider Electric as outlined in a compulsory commercial agreement (certification, training, and specific tools) relative to one or more ranges.	License panel builder	2B
Licensed electrical personnel carrying out tasks authorized by Schneider Electric as outlined in a compulsory commercial agreement (certification, heavy training, and specific tools).	EcoXpert	2
Local divisions of Schneider Electric responsible for providing services.	SE service	3

NOTE: For support on any of the above mentioned levels, contact Schneider Electric customer care.

Specific Instructions for Storage Less than 6 Months

Table 6 Skilled Personnel Intervention for Storage Less Than 6 Months

Definition	Levels				
	1	2A	2B	2	3
Packaging under plastic covers.	✓	✓	✓	✓	✓
Inspect the packaging periodically.	✓	✓	✓	✓	✓
While unpacking, check the mechanical operation by carrying out about several operations.	✓	✓	✓	✓	✓
Power frequency test for busbar (80% of power frequency value).	✓	✓	✓	✓	✓

Specific Instructions for Storage from 6 to 12 Months

Table 7 Skilled Personnel Intervention for Storage from 6 to 12 Months

Definition	Levels				
	1	2A	2B	2	3
Packaging under heat-sealable linen, with the presence of bags of desiccant ⁽¹⁾ .	✓	✓	✓	✓	✓
Inspect the packaging periodically (absence of perforation amongst others).	✓	✓	✓	✓	✓
While unpacking, check the mechanical operation by carrying out about several operations.	–	✓	✓	✓	✓
Test the minimum threshold level (AC, 85% rated Un; DC, 70% of Un) for electrical operation of the coils.	–	✓	✓	✓	✓
Power frequency test for complete Switchboard ⁽²⁾ (80% of power frequency value).	–	✓	✓	✓	✓
⁽¹⁾ Desiccant to be added by customer. For details, contact Schneider Electric.					
⁽²⁾ Necessary shorting of CTs, VTs, VDIS and so on to be taken care during the test.					

Specific Instructions for Storage from 12 to 24 Months

Table 8 Skilled Personnel Intervention for Storage from 12 to 24 Months

Definition	Levels				
	1	2A	2B	2	3
Packaging under heat-sealable linen, with inspection hatch to change the bags of desiccant ⁽¹⁾ .	✓	✓	✓	✓	✓
Inspect the packaging periodically (absence of perforation amongst others).	✓	✓	✓	✓	✓
Replace the bags of desiccant periodically.	✓	✓	✓	✓	✓
While unpacking, light maintenance work.	–	–	–	–	✓
<ul style="list-style-type: none"> Check the mechanical operation by carrying out about ten operations. Test the minimum threshold level (AC, 85% rated Un; DC, 70% of Un) for electrical operation of the coils. 	–	–	–	–	✓
Power frequency test for complete Switchboard ⁽²⁾ (80% of power frequency value).	–	–	–	–	✓
⁽¹⁾ Desiccant to be added by customer. For details, contact Schneider Electric.					
⁽²⁾ Necessary shorting of CTs, VTs, VDIS and so on to be taken care during the test.					

Glossary

B

BME: Busbar Metering and Earthing

BSC: Bus Section Coupler

BSR: Bus Section Riser

C

CT: Current Transformer

E

E/S: Earthing Switch

EvoPacT HVX: Vacuum Circuit Breaker

EvoPacT MTX: Metering Truck

F

F: Feeder

FU: Functional Unit (cubicle + mobile part)

I

I: Incomer

L

LV: Low Voltage

M

MV: Medium Voltage (voltage class up to 24 kV)

V

VCB: Vacuum Circuit Breaker

VDIS: Voltage Detecting and Indicating System

VT: Voltage Transformer

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