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symbols and conventions

Caution: you will find all the symbols below throughout the document, indicating the hazard levels depending on the different types of situation.

DANGER

DANGER: failure to follow this instruction will result in death or serious injury.

WARNING

WARNING: failure to follow this instruction may result in death or serious injury.

CAUTION

CAUTION: failure to follow this instruction may result in injuries. This alert signal can also be used to indicate practices that could damage the SM6 unit.

INFORMATION-ADVICE

We draw your attention to this specific point.
contact the Schneider Electric service unit for diagnosis and advice

Call your sales representative who will put you in contact with the closest SCHNEIDER ELECTRIC group service centre. You can log on to: www.schneider—electric.com

distribution rules

The aim of this publication is to enable the SM6 unit to be installed correctly. This document is not a commercial document. It is a strictly technical document drawn up by Schneider Electric.

safety rules

CAUTION

All the operations described below must be performed in compliance with applicable safety standards, under the responsibility of a competent authority.

WARNING

The contractor must be certified and authorised to manipulate and perform work on the SM6 unit.

CAUTION

Only undertake the work after having read and understood all the explanations given in this document. If you have any difficulty complying with these rules, please contact Schneider Electric.
DM1 S: circuit-breaker cubicle

1: top busbar compartment
2: control cabinet
3: switchgear and line disconnector compartment
4: operating mechanism cabinet
5: cable connection compartment
A: earth bar connection pad
B: top busbar connection pads
C: inspection windows
D: SF1 type MV circuit-breaker
E: front panel

Front view
(with front panel removed)
F: voltage indicator
G: capacitive dividers
H: downstream earthing switch
J: MV cable connection pads
K: circuit-breaker operating mechanism front plate
L: motor mechanism neutralisation selector switch
M: phase-to-phase and earth faults protection relay
identifying the device
A: information plate
B: characteristics and designation
C: firm plate

NB: the circuit-breaker characteristics are marked on the firm plate.

Serial number:
D1: riveted to the operating mechanism cover
D2: stuck behind the low voltage compartment monitoring cover
D3: stuck on the frame upright

list and number of bags and accessories supplied with the cubicle

switchboard packing list
(if applicable, according to switchboard composition)
1 operating lever
2 end plates
1 bag of screws for end plates
S4: 3729744

DM1 S packing list
1 intercubicle connection bag
S1: 3729745
3 dry cable clamps
3 clamps supports
1 bag of screws S7: 3731664
2 earth bars
6 bars
2 busbar field distributors bags > 12 kV S2: 3729742
or 2 busbar fixing bags ≤ 12 kV
S6: 3729746
2 phase-to-phase insulators with 8 O’ring seals
(only for the 25 kA version)

dimensions/and mass

Overage weight for a fully equipped cubicle: 340Kg
weight

CAUTION

Do not grasp the operating mechanism front plate to manipulate the cubicle.

handling by slings

The handling (D) lugs are reserved solely for handling SM6 cubicles.

A : HM12 nuts and screws
B : Schneider Electric
MUL = 400 KG CE

MUL : Maximal Using Load

CAUTION

C : should the holes be deformed (ovalisation), replace the lugs, to propose you if required.

L = 750 mm min.
With low voltage case or wiring duct.

L = 1130 mm min.
Without low voltage case or wiring duct.
handling using a forklift

storage

- 40°C

70°C
switchgear ageing withstand in an MV substation depends on 3 main factors

- **The need for proper implementation of connections:** the new cold slip—on and retractable technologies offer ease of installation, thereby promoting withstand over time. Their design enables operation in polluted environments with harsh atmospheres.

- **The influence of the relative humidity factor:** installation of heating resistors is essential in climates with high relative humidity and large temperature differences.

- **Ventilation control:** the grids must be sized according to power loss in the substation. These grids must only be placed near the transformer, so as to prevent air circulating on the MV switchboard.

---

**operation**

Our service centre is at your disposal at all times:

- To conduct an installation diagnosis
- To suggest the appropriate maintenance operations
- To offer you maintenance contracts
- To suggest adaptations
preparing the cubicle prior to switchboard assembly

Delivery state:
- circuit-breaker open
- line disconnector in the earth position

: screw + washer
: screw + washer + nylstop nut

Remove the front panel A by lifting it and pulling it towards you. Remove the pallet B. (screws cannot be re-used).

Unscrew the four screws fixing the control cabinet cover C, and remove them.

Remove the 2 half-cross-members D on the control cabinet (cubicle without LV case).

Remove the 2 parts E and E' (16 screws).

Remove the 2 parts F. (12 screws on the roof of the device). (cubicle without LV case)

Remove the 2 or 4 handling parts G.
fitting the end plate

Refer to the switchboard parcel manual, as per the upgrade of the new standard IEC 62271–200.

assembling the switchboard

bag of screws S1: 3729745 (HM 6x16 screws)

: screw + washers + nut

Fix the cubicles to one another (the remaining screws are intended for mounting the earth bar).

Bolt mounting direction

K : left-hand cubicle
L : right-hand cubicle
M : join the 2 cubicles
HM6x60 screw to be moderately tightened to a tightening torque of 6 Nm.

Remove the wire metallic cover N. Mount the assembly screw P on the cubicle (Pay attention to LV wires), put back the wire metallic cover.

ground fixing

(screws to be provided by the contractor according to civil engineering)

Do not fit any ground fixing screws on the circuit-breaker side.
Installing the switchboard in the substation

Installing the switchboard to the right of the wall
(minimum dimension to ensure proper device operation)

Installing the switchboard to the left of the wall.

Fitting the busbar after installing the cubicles in their final position

General information

Bags of accessories:
S2: 3729742 or S6: 3729746

Tools:
1 torque wrench (1 to 50 Nm).
1 reduction gear (1/4 – 3/8).
1 socket connector (6mm).
1 hexagon male socket (6mm) or
1 hexagon female socket.

Version < 12 kV S6: 3729746
Mounting without field splitter.

Version > 12 kV S2: 3729742
Correct position of the field splitter.

Incorrect position: risk of damage.
Top busbar of a DM1 S

Note:
The spacers must only be installed for the 25 kA version, on the busbar section between the line disconnector and the insulators of the busbar compartment.

Install the two spacers so that they are centred on the busbar section.

Fit two O’ring seals A each side of the spacer between phases.

Busbar mounting.
Tightening torque: 28 Nm.

reassembling the cubicle
Re–use and put back in the same place the screws retrieved on disassembling

: screw + washer

: screw + washer + nylstop nut

Reassemble the two front roofs F.
Reassemble the two parts of rear roofs E and E’.
fitting the earth bar

The earth bars are connected to one another (HM 8x30 screws).

Two ways of substation frame earthing.

access to the connection of the LV auxiliaries

The cables are inserted on the connection terminal block via the openings D.

A : own current protection relay "VIP 35 or VIP 300" (for the setting, see overleaf).
B : user connection terminal block.
C : neutralisation selector switch.

<screw + washer>

After connection, put back the two half-cross-members of the control cabinet (cubicle without LV case).

Put back the control cabinet covers.
Connecting the MV cables in a DM1 S bag of screws S7: 3731664

Disassemble plinth A (4 screws).
Disassemble the toroid wiring protection plate B.
Cut the toroid provisional fixing bindings.
Place the toroids on their side.
Disassemble the bottom plates.

Mount the flange supports under the 3 plates 1, 2 and 3 with the HM6x16 screws.
The remaining screws are intended for cable flanging.

Install the cable (C) bushing and pass the toroid (D) around the cable (E).
The braid of the cable (F) must pass in the toroid (D).
Connect the cable to phase L1. The screws are already fitted. **Tightening torque: 50 Nm.**

Place the clamp on the clamp support, without tightening (HM8x50 screws). Fix plate 1 at the bottom of the cubicle. The toroid must be inside the cubicle, and the cable bushing in place on the plate. Tighten the clamp.

Note: plates 2 and 3 must be fixed as shown.

Fix plate 2 having first mounted the metal foil G on it. Mount phases L2 and L3 following the same instructions as for phase L1.
Fix the toroids (D) by folding back the fixing metal foils (G).
Fix the cable (F) earthing braids on earth bar (H).

Put back the toroid wiring protection plate B.
Put back plinth A.
**Setting the VIP – 35 relays**

**Is**: the phase operating current is adjusted directly in accordance with the transformer rating and the operating voltage.

**Io**: the earth current threshold is adjusted according to the network characteristics.

### Setting Value of the Is Phase Operating Current

<table>
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<th>Transformer Rating</th>
<th>Rated Voltage</th>
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<tr>
<td>50 75 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2900 3000</td>
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<tr>
<td>3</td>
<td>10 15 20 25 36 45 55 68 80 140 140 170 200</td>
<td></td>
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<tr>
<td>3.3</td>
<td>10 15 18 22 28 36 45 56 70 90 140 140 200</td>
<td></td>
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<tr>
<td>4.2</td>
<td>8 12 15 18 22 28 36 45 56 70 90 140 140 200</td>
<td></td>
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<tr>
<td>5.5</td>
<td>8 12 15 18 22 28 36 45 55 68 90 140 140 200</td>
<td></td>
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<tr>
<td>6</td>
<td>10 12 18 20 25 36 45 55 68 80 140 140 200 200</td>
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<tr>
<td>6.6</td>
<td>10 12 15 18 22 28 36 45 55 70 90 140 140 200</td>
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<tr>
<td>10</td>
<td>8 10 12 15 20 25 30 37 55 68 80 140 140 170</td>
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<td>11</td>
<td>10 12 15 18 22 28 36 45 55 68 90 140 140 170</td>
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<td>13.8</td>
<td>8 10 12 15 18 22 28 36 46 55 68 90 140 140</td>
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<td>15</td>
<td>8 10 15 18 20 25 36 45 55 68 80 140 140</td>
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<td>20</td>
<td>8 10 12 15 20 25 30 37 55 68 80 140</td>
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<td>22</td>
<td>8 10 12 15 18 22 28 36 45 55 68 80</td>
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VIP 35 protection of the HV/LV transformers
inverse time protection against phase-to-phase faults
definite time protection against earth faults

1 : phase protection zone.
The parts related to phase protection are combined in the upper half of the front panel.

2 : Is operating current.
The setting is carried out directly in amperes (primary current).
The time delayed tripping of the phase protection occurs starting from 1.2 times the Is operating current.

3 : earth protection zone.
The parts related to earth protection are combined in the lower half of the front panel.

4 : earth protection threshold Io>.
The setting is carried out directly in amperes.

5 : switching time delay.
This selector switch activates the switching time delay (1s).
This time delay avoids the earth protection tripping during the closure of the circuit breaker.
This time delay is only activated by the earth protection.

- in the OFF position :
the switching time delay is not in operation. The earth protection operates according to the setting of the selector switch (6).

- in the ON position :
the switching time delay is in operation. In this case when the circuit breaker is closed the earth protection tripping is time delayed to 1s.

When the VIP 35 is supplied for more than one second, the protection is time delayed according to the setting (6), implementation of the switching time delay.

If the time delay setting is below the values indicated in the table, activate the switching time delay.

threshold Io> . time delay to> .
0,8 to 0,9 Ia 0,2 s
0,6 to 0,8 Ia 0,3 s
0,2 to 0,4 Ia 0,4 s
0,4 to 0,6 Ia 0,5 s

Ia : nominal current of the transformer to be protected.

6 : earth protection time delay to>.
The setting of the earth protection time delay is carried out in seconds.

7 : plate bearing the gradings of the selector switches
Is and Io> (printed recto verso) 1)
8 – 80 A 1)
20 – 200 A

8 : connector for the test with the VAP 6
This connector allows for a fast and simplified test of the relay.
changing the VIP 35 rating

Carry out the wiring according to the rating.

Turn the recto verso graded plate of the Is and Io selector switch; this is situated behind the transparent part of the front panel, extract it from above using the hole in its upper side.

cabling for 8 to 80 A

cabling for 20 to 200 A
VIP 300 protection of the HV networks

Protection against phase-to-phase faults
Protection against earth faults
There are two protection thresholds:
- low inverse, definite and specific time thresholds
- high definite time thresholds

1: phase protection zone.
The parts related to phase protection are combined in the upper half of the front panel.

2: threshold overrun indicator light.
The flashing of the red light indicates that the phase protection low threshold time delay is in progress.
In this event, if the current does not decrease, the relay will trip.
- for the inverse time curves (SI, VI, EI) it lights up if the current is greater than 1.2 times the Is operating current.
- for the RI inverse time curve, it lights up if the current is greater than the Is setting.
- for the DT definite time curve, it lights up when the low threshold is crossed.

3: tripping indicator
it is normally black and turns yellow to indicate that the phase protection has tripped. It retains its state even when the relay is no longer supplied.

4: choosing the Is operating current
The setting is carried out directly in amperes.

5: choosing the curve type of the low threshold
DT (constant time)
SI (inverse time)
VI (very inverse time)
EI (extremely inverse time)
RI (specific curve)
OFF (low threshold is inhibited)

6: choosing the low threshold t>.
The threshold is adjusted in multiples of the operating current.
This setting is only active for the definite time threshold.
(selector switch 5 on DT).
For the other curves, this selector switch is not effective.

7: setting of the time delay of the low threshold t>.
If the tripping curve is at definite time (DT) this selector switch adjusts the time delay of the low threshold.
If the curve is at inverse time for a current (RI, SI, VI, EI), the displayed value is the time for the tripping of a phase current equal to 10 times the operating current.

8: low threshold time delay multiplier.
In the position x10, the displayed time delay on the selector switch 7 is multiplied by 10.
9: setting the high threshold. The high threshold is chosen in multiples of the operating current. In the OFF position the high threshold is inhibited.

10: setting the time delay of the high threshold t>. The time delay is adjusted directly in s.

11: earth protection zone. The parts related to earth protection are combined in the lower half of the front panel.

12: threshold overrun indicator light. The flashing of this red light indicates that the time delay of the low threshold of the earth protection is in progress. In this event, if the current does not decrease, the relay will trip.

17: setting the time delay of the low threshold to>. – if the tripping curve is at definite time (DT) this selector switch adjusts the low threshold time delay.

18: low threshold time delay multiplier. In position x10, the time delay displayed on the selector switch 17 is multiplied by 10.

19: setting the high threshold Io>. The setting of the high threshold is chosen in multiples of the current setting Ios. In the OFF position the high threshold is inhibited.

20: setting the high threshold time delay t>. The time delay is directly adjusted in s.

21: resetting the indicators. This button is accessible when the transparent cover is closed, pressing on the pushbutton triggers two actions.

13: tripping indicator. It is normally black and turns yellow to indicate that the earth protection has tripped. It retains its state even when the relay is no longer supplied.

14: choosing the Ios current setting. The setting is carried out directly in amperes.

15: choosing the curve type of the low threshold. DT (constant time) SI (inverse time) VI (very inverse time) EI (extremely inverse time) RI (specific curve) OFF (low threshold is inhibited)

16: choosing the low threshold 10>. The threshold is adjusted in multiples of the current setting. This setting is only active for the definite time threshold.

22: connector for the test with the VAP6. This connector allows for a fast and simplified test of the relays to be carried out.
The VAP6 portable test box connects to the VIP 35 or 300 in order to carry out a simplified test.

This test can be done in the 2 following examples:
- the VIP 35 or 300 is already supplied by the sensors.
- it the VIP 35 or 300 is not supplied.

In this instance the VAP6 batteries supply the relay.

### pushbuttons

**battery test:**
If the batteries are fine, the “on” indicator light lights up when there is pressure on this button.

**trip inhibition:**
press on this button if the VIP test must be carried out without tripping of the circuit breaker. As this button remains pressed down, the circuit breaker tripping is inhibited, even if the tripping order comes from a real fault.

### indicator lights

**on:**
this indicates that the batteries are in operation. It also lights up during the battery test by pressing on “battery test”.

**test in progress:**
confirms the dispatch of the test stimulus to the VIP.

**trip:**
this lights up when the VIP 30/35 sends a tripping order (circuit breaker inhibited or not).

Not to be taken into account for the VIP 300 test (it lights up intermittently when the VIP 300 sends a tripping order; circuit breaker inhibited or not).

### “external mitop” outlet

this can be used to connect a supplementary mitop intended, for example to stop a chronometer during functioning tests.

this mitop is tripped at the same time as the circuit breaker’s. It is not inhibited by pressing on the “trip inhibition” button.
The batteries are usually out of operation and are automatically activated when the VAP6 is connected to a VIP 35 or 300 and in the following cases:

- by pressing on the pushbutton “battery test”
- open the box, in order to load the batteries (4 screws on the lower panel).
- Ensure that the polarities are respected (3 batteries 9V 6LR61).

### Testing the Functioning of the VIP Relays

#### Description of the Tests

**VIP 35 Relays**
- inject a stimulus to simulate a short circuit fault
- inject a stimulus to simulate an earth fault (VIP 35)
- check the tripping
- check the tripping

**VIP 300 Relay**
- start up the cycle of automatic tests of the central unit of the VIP 300
- inject a stimulus to simulate a short circuit fault
- insert a stimulus to simulate an earth fault
- check the tripping

### Test Cycle

This test can be carried out equally in the absence or presence of current in the sensors.

During the test operations, all the settings of the VIP 35 and VIP 300 relay are effective.

The relay must behave in accordance with its settings.

During the test, the relay is still operational and gives a tripping order in case of fault (except where the “trip inhibition” button is pressed).

**VAP 6**

- Press on the “trip inhibition” button if the test must be done without the circuit breaker tripping.
- Ensure that the “trip inhibition” button is kept pressed down throughout the time that the stimulus is sent.
- Press on “phase overcurrent” to send the phase protection test stimulus.
- keep the button pressed down throughout the stimulus
- the VAP6 “test in progress” indicator light lights up to confirm the dispatch of the stimulus on the VIP 35 relay
- the VAP6 red “trip” indicator light lights up to indicate that the relay has tripped
- the circuit breaker trips if it is not inhibited

If the “phase overcurrent” button is kept pressed down after the tripping, the VIP 35 maintains its tripping order.

This operation is normal. In this case:

- the VAP6 “trip” indicator light remains on
- the mitop of the circuit breaker is supplied by the tripping order
- Press on “earth fault” to test whether the earth protection (VIP 35) is working.
- Follow the same procedure as in the phase protection test.
- Disconnect the VAP6.
- In order to economise the batteries do not leave it connected to the relay if it is not necessary.

Connect the VAP6 on the “VAP6 test plug”.

From this point onwards the VAP6 batteries are in operation and its “ON” indicator light is lit up.
VIP 300
Press on “reset” on the VIP 300.
- if the two “trip” indicators were yellow, they will turn black
- the 2 indicator lights I> and Io> light up for 3 seconds to indicate that the central unit has properly carried out its automatic tests.

VAP 6
Press on the “trip inhibition” button if the test must be done without the circuit breaker tripping.
Ensure that the “trip inhibition” button is kept pressed down throughout the dispatch of the stimulus.
Press on “phase overcurrent” to send the test stimulus of the phase protection.
- keep the button pressed down for the entire duration of the stimulus
- the VAP6 “test in progress” indicator light lights up to confirm the dispatch of the stimulus on the VIP300 relay
- the red indicator light I> of the VIP300 flashes during the time delay
- the phase “trip” indicator of the VIP300 turns yellow
- the circuit breaker trips if it is not inhibited

If the “phase overcurrent” button is kept pressed down after the tripping, the VIP300 starts its time delay/tripping cycle over again.
This is normal functioning.
In this case:
- the red “trip” indicator light of the VAP6 intermittently lights up at each tripping
- the red indicator light I> of the VIP300, depending on the time delay setting, can remain off or flash quickly and irregularly

Press on “earth fault” to test the functioning of the earth protection. The injected stimulus is equal to 20 times the Ios current setting.
Follow the same procedure as for the phase protection test.
Disconnect the VAP6.
In order to economise on the batteries do not leave it connected on the relay if it is not necessary.
checks before energising
Check that nothing has been left in the connection compartment.

Refit the front panel.

operating test before energizing

Operate the switch several times.
Operate the earthing switch several times.

energizing the incoming MV cables

The switchgear must be in open position.
(see: operating instructions)
voltage indicators

As soon as the cables have been energized, the voltage indicator lamps should go on.

A: voltage presence indicator lamp (1 for each phase).

B: connection point used to connect a phase concordance unit.

characteristics

The voltage presence indication is ensured in the voltage range defined by IEC 61958

phase concordance test

Remark: the control unit is similar to the concordance unit used for RM6.

Nota: in the case of a control between old presence of tension and new VPIS to use the adaptater: 51238293 FA

If the phases concord, the concordance unit lamp remains off.

If the phases do no concord, the concordance unit lamp goes on.

Phase concordance unit of the simplified type.
line disconnector operating handle positions

Position the lever as indicated for downward (opening) operations.  
Position the lever as indicated for upward (closing) operations.

circuit breaker operating tests before energising

Initial conditions:  
line disconnector in open or earthed position.  
circuit breaker locked in open position.

Lock the lever hole E of the line disconnector with the key in lock B.  
Remove the key from B and insert it in C. 
Unlock and then charge the operating mechanism of the circuit breaker.  
(see circuit breaker manual)

Close the circuit-breaker by pressing the I pushbutton.  
Open the circuit-breaker by pressing the O pushbutton.
Lock the circuit-breaker in the open position with the wrench in C by pressing the O pushbutton.

Remove the wrench in C and place it in B. Release the lever inlet E on the line disconnector.

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**energising the downstream part of the installation**

**initial status:**
The line disconnector is in the earth position.
The front panel is in place.

Move the line disconnector to the open position using the operating lever.
**Note:** the downstream earthing switch opens at the same time.

Move the line disconnector to the closed position then lock inlet E of the line disconnector with the wrench in A.

Remove the wrench in A and place it in C, then release the circuit-breaker. Charge the circuit-breaker. (see circuit-breaker "instructions for use").

Close the circuit-breaker by pressing the I pushbutton. The downstream part of the installation is energised.
de-energising the downstream part of the installation

initial status:
The line disconnector is in the closed position.
The circuit-breaker is closed.

Open the circuit-breaker by pressing the O pushbutton.

Lock the circuit-breaker in the open position with the wrench in C by pressing the O pushbutton.

Remove the wrench in C and place it in A.
Release the lever inlet E on the line disconnector.

Move the line disconnector to the open position.

Move the line disconnector to the earth position. The front panel can be removed. 
Note: the downstream earthing switch closes at the same time.
operating safety

Operation impossible when the circuit breaker is closed.

Line disconnector in the open or closed position: the front panel cannot be removed.

The front panel can only be removed or fitted when the line disconnector is in the earth position.

When the front panel has been removed, the line disconnector can be moved to the open position. However, it cannot be moved to the closed position.

padlocking the devices

1 to 3, 8mm diameter padlocks per point to be locked.

Padlocking the line disconnector in the earth position.

Padlocking the line disconnector in the open position.

Padlocking the line disconnector in the closed position.

Padlocking the front panel, (only 1 padlock).
**key-locking**

*(optional)*

- Refer to the locking installation and operation manual n°. 7896785.
- To install a lock on the circuit-breaker, refer to the manual for the device in question.
- If the lock option was not provided for on ordering, contact the Groupe Schneider Electric service centre.
preventive maintenance, cleaning instructions and power-up

If necessary: contact the Schneider Electric group service centre.

We strongly recommend that you carry out at regular intervals (at least roughly every 2 years) a few operating cycles on the switching devices.

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CAUTION

Never lubricate the disconnector operating mechanism. If necessary: contact the Schneider Electric group service centre. In normal operating conditions (temperature between −5°C and 40°C) no special maintenance is required.

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CAUTION

Never use solvents and alcohol. We recommend that you inspect each compartment (cable, fuse, busbar)* at regular intervals according to environmental conditions.

If the insulating parts are dusty, that you remove the dust using a dry cloth.

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example:

In harsher conditions (aggressive atmosphere, dust, temperature less than −5°C or greater than 40°C) consult the nearest Schneider Electric service centre.
Manually extract the voltage indicator unit: the switchboard may be energised.

Corrective maintenance
replacing a voltage indicator unit on a cubicle prior to 0040001U

Corrective maintenance
replacing a voltage indicator block
VIPS type on a cubicle after 0040001U removal
This operation can be conducted with an energised switch.

Remove the voltage indicator block and unplug the incoming connector (B) from it.

Fitting

On the electrical data label (C), make sure that the new block correctly corresponds to the rated network voltage
- 3 kV to 7.2 kV
- 10 kV to 24 kV

Install the new voltage indicator block in the reverse order for removal.
Tightening torque : 0.06 mdaN.
anomaly / solution table

- the voltage indicator does not come on
  - check the voltage indicator
  - check that the line disconnector and the circuit-breaker are closed (for an outgoing cubicle)
  - check that the incoming cables are energised

- the front panel does not open or cannot be fitted
  - check that the line disconnector is in the earth position

- the line disconnector cannot move to the earth position
  - check that the line disconnector is in the open position

- the line disconnector cannot move to the closed position
  - check that the line disconnector is in the open position

- circuit-breaker switching impossible
  - consult the circuit-breaker manual

- accidental manual closing of the downstream earthing switch arm
  - re-open the downstream earthing switch by operating the contact-holder arm, then re-initialise the system using a screwdriver to enable introduction of the operating lever.

options
(consult us)

- Auxiliary contacts on disconnector
- Control cabinet
- Key-locking
- Heating device

spare parts

- Voltage indicator
  (for other operations, consult us: see your nearest Groupe Schneider Electric service).
recovery of SF6 gas at end of life
for disconnector cubicle
The SF6 must be removed before any dismantling operation can be carried out in compliance with the procedures described in IEC–61634 and according to the following instructions.

The gas must be treated in compliance with IEC–60480.
- volume of gas to be recovered: 35 litres
- internal gauge pressure: 40 kP

NB : SF6 gas recycling at the end of circuit–breaker life, refer to its instruction for use.

control cover access

Remove the control cabinet cover (A).

Remove the mechanism cover (B).

Remove the 3 screws retaining the operating mechanism.
Cut the wiring to remove the operating mechanism.

Drill 2 holes in the filler valve safety cap
ø 4 mm, centreline 20 mm, max. depth 4 mm
CAUTION

pump the gas for at least 15 minutes.

Using a spanner wrench, remove the safety cap from the valve.

Connect the special pumping equipment (C).
group Schneider Electric service centers are there for:

- engineering and technical assistance
- start-up
- training
- preventive and corrective maintenance
- adaptation work
- spare parts

Call your sales representative who will put you in touch with your nearest group Schneider Electric service centers.