

Medium Voltage Distribution

FLUOKIT M24+

Withdrawable Functional Unit

Operation Maintenance
Instructions



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Operation and maintenance may only be carried out by personnel who have received suitable authorisation for the operations and manoeuvres they are responsible for performing.

If this is not the case, please refer to our Service Unit or Training Centre.

All locking-out operations must be performed according to the "General Safety Instructions booklet for Electrical Applications" UTE C 18 510 (or its equivalent outside FRANCE).

Our Service Unit: our specialists, and suitably adapted services...



- Guarantee extension contracts in relation to the selling of new equipment,
- Supervision of HVA switchgear installations,
- Technical advice, diagnoses of the facilities, expertise,
- Maintenance contracts adapted to the operational constraints,
- Systematic or conditional preventive maintenance,
- Corrective maintenance in case of partial or complete failure,
- Supply of spare parts,
- Overhauling of equipment and requalification of installations in order to benefit from new technologies and extend the life of your switchgear by limited investments.

Contact the Schneider Electric service unit for diagnoses and advice:
Working hours

☎ 33 (0)3 85 29 35 00
☎ 33 (0)3 85 29 36 30
or 33 (0)3 85 29 36 43

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Responsibilities

Our devices are quality controlled and tested at the factory in accordance with the standards and the regulations currently in force.

Apparatus efficiency and apparatus life depend on the compliance with the installation, commissioning and operation instructions described in this user manual. Non respect of these instructions is likely to invalidate any guarantee.

Local requirements especially about safety and which are in accordance with the indications given in this document, must be observed.

Schneider Electric declines any responsibility for the consequences:

- due to the non respect of the recommendations in this manual which make reference to the international regulations in force.
- due to the non respect of the instructions by the suppliers of cables and connection accessories during installation and fitting operations,
- of any possible aggressive climatic conditions (humidity, pollution, etc.) acting in the immediate environment of the materials that are neither suitably adapted nor protected for these effects.

This user manual does not list the locking-out procedures that must be applied. The interventions described are carried out on de-energized equipment (in the course of being installed) or locked out (non operational).

Particular instructions for operation and intervention with energized equipment

When commissioning and operating the equipment under normal conditions, the General safety instructions for electrical applications must be respected, (protective gloves, insulating stool, etc.), in addition to standard operating instructions.

All manipulations must be completed once started.

The durations (for completing the operations mentioned) given in the maintenance tables are purely an indication and depend on on-site conditions.

Other technical notices to be consulted

- | | | |
|----------------|------------------------------------|---|
| ■ AMTNoT017-02 | BLR-BLRM
Mechanical
controls | Operation - Maintenance |
| ■ AMTNoT055-02 | FP Circuit
Breaker | Installation - Commissioning - Operation -
Maintenance |
| ■ AMTNoT090-02 | Fluokit M24+ | Installation - Commissioning - Operation -
Maintenance |
| ■ AMTNoT093-02 | Fluokit M24+ | Civil Engineering Guide |

Tools and products (not supplied) required for the operations described in this user manual

- Ratchet handle + extension with socket sizes 10 and 13 mm
- Flat headed screwdriver
- Dry cloth
- Electrolube 2 GX - electrical contact grease from Comindus



Product code



Symbols & conventions



Code for a product recommended and marketed by Schneider Electric



Tightening torque value Example: 1.6 **daN.m**



Mark corresponding to a key



CAUTION! Remain vigilant!
Precautions to be taken in order to avoid any accident or injury



FORBIDDEN! Do not do it!
Compliance with this indication is compulsory, non compliance with this stipulation may damage the equipment.



INFORMATION - ADVICE
Your attention is drawn to a specific point or operation.

Tightening torque values for standard assemblies (nut + bolt)

Threaded fasteners without grease: assembly with ungreased washers.

Threaded fasteners with grease: mounted with the washer greased.

Use grease referenced:



Diameter	Zinc plated steel fasteners without grease (daN.m)		Stainless steel fasteners with grease (daN.m)
	Class 6.8	Class 8.8	A2-70
M 6	0.7	0.9	0.7
M8	1.6	2.1	1.6
M10	3.2	4.3	3.2
M12	5	6.6	5
M14	8.7	11.6	8.7
M16	13.4	17.9	13.4
M20	26.2	35	26.2



Handling of a withdrawn circuit breaker

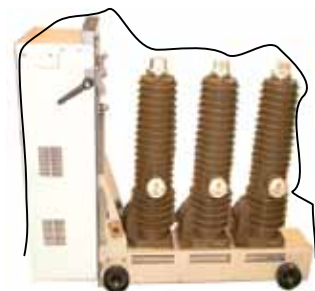
- Never lift up a circuit breaker by lifting it under its trolley.

- Never handle the circuit breaker by its plugging-in lugs.

- Handle the circuit breaker by holding it by its transport handle.

Prolonged storage conditions (longer than 1 week)

- Cover the circuit breaker in case of prolonged storage in order to avoid dust deposits.
- Apply the instructions described of the Fluokit M24+ general manual (see page 4).



Extraction of an FP circuit breaker in withdrawable PGB or PGC Units

- Apply the general safety instructions for electrical locking-out operations and the special rules for the network concerned.
- Respect the locking out procedures (wearing of protective gloves etc.) for energized interventions.
- The operations described below are carried out on de-energized equipment.

Preparation of the Functional Unit (example in a PGC)

- The Functional Unit is locked out.



- Lift up and remove the door panel.

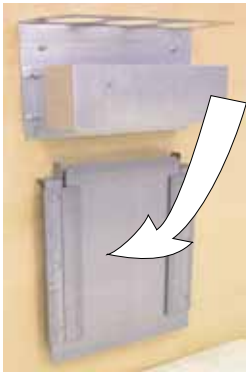


- Under the circuit breaker, unscrew the 4 H M6x25 fixing bolts from the front cross member (ratchet wrench + large extension + socket size 10).



- Remove the cross member by pulling it by its handle.

Extraction of an FP circuit breaker in withdrawable PGB or PGC Units (contd.)



- Unhook and recuperate the rolling floor from its wall support.



- Prepare and bring the rolling floor closer.



- Slightly lift up the front of the floor panel in order to fix it flush under the Functional Unit.



- Fix the rolling floor against the Functional Unit using 2 H M6x25 bolts.



Preparation of the circuit breaker

- Unscrew the mounting bolt on the upper cover (flat-headed screwdriver).

Extraction of an FP circuit breaker in withdrawable PGB or PGC Units (contd.)



- Slowly pull on the front of the cover.



- Let the cover slowly drop down against the front plate of the circuit breaker.



- Unscrew the mounting nut for the earthing braid (13 mm spanner).



- Disconnect by hand all of the LV lines.



- Recover the operating handle.

Extraction of an FP circuit breaker in withdrawable PGB or PGC Units (contd.)

Extraction of the circuit breaker

- Insert the handle into its hole on the right-hand side of the circuit breaker.
- Lift up the handle in order to unlock the Functional Unit circuit breaker.



- Handle down: circuit breaker locked against the functional unit.



- Handle up: circuit breaker unlocked.



- Extract the circuit breaker by pulling it towards the front by its handle.



Extraction of an FP circuit breaker in withdrawable PGB or PGC Units (contd.)



- Circuit breaker partially withdrawn.



- Circuit breaker entirely withdrawn.

Re-installation of the circuit breaker

Proceed with the operations in the reverse order for re-installing the circuit breaker.

Levels of maintenance

Definition	Levels
Operations recommended in the instructions manual "installation - operation - maintenance", carried out by suitably qualified personnel having received training allowing them to intervene whilst respecting the safety rules.	1
Complex operations, requiring specific expertise and the implementation of support equipment in accordance with Schneider Electric's procedures. These are carried out by Schneider Electric or by a specialised technician, trained by Schneider Electric in the implementation of procedures, and who is equipped with specific equipment.	2
All preventive and corrective maintenance, all renovation and reconstruction work is carried out by Schneider Electric.	3


Preventive maintenance for the mechanical control mechanism

Please refer to specific instructions (See page 4).

Preventive maintenance of the circuit breaker part

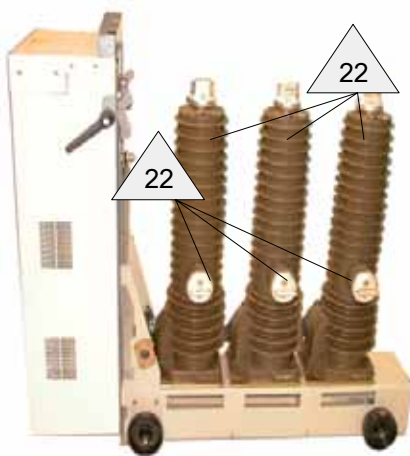
Please refer to specific instructions (See page 4).

Cleaning and greasing of the contact surfaces

 This maintenance operation is always to be carried out with a withdrawn circuit breaker

- For the grease reference, please refer to (See page 5).

- Clean and slightly grease the 6 plugging-in studs.



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