

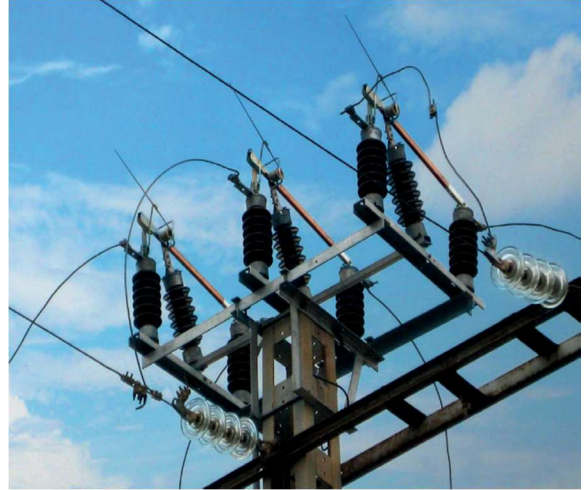
Overhead switch-disconnector

Manual command (IACM)



P-94 / P-94P 24kV and 36kV

- Overhead switch-disconnector
- Simple and robust design
- Large electrical isolating distance
- Insulator leakage distance class III (IEC60815)
- Good performance to short-circuit currents.
- Visible disconnection in open position



General description

The P-94 switch-disconnectors are designed for overhead distribution networks (up to 36 kV). This air break switch makes possible to isolate the part of the network downstream in case of an incident, and to ensure maintenance operations in complete safety.

In this device, the classic overhead switch pantograph has been replaced by a copper contact knife. Its "U" profile gives it great elasticity, guaranteeing perfect electrical contact, both on the "break" side (fixed contacts) and on the "articulation" side. The movement of the contact knife is ensured by the tilting of the mobile insulator.

There are two versions of this switch :

- P-94, with porcelain insulators.
- P-94P, with polymeric insulators.

The screws and metal parts in steel are treated by hot-dip galvanizing. A version with extra protection is available, with epoxy and polyurethane protection paint, and stainless steel screws. In this case, the catalog ref. are respectively P94sp and P-94Psp.

This sp version provides exceptional resistance in severe chemical pollution conditions and in aggressive climatic environment (seaside, sandstorm, etc)

Operating principle

When closing the device, the kinematics are designed in such a way that the whip is only engaged in its hook once contact between the blades and the fixed contact has been firmly established.

When the appliance is opened, the whip is released abruptly, as in all systems of this type. Braking at the end of whip movement is obtained thanks to the relaxation of the spring, whose coils will have been loaded during the closing.

Thanks to the large angular displacement of the whip, its end travels in extremely short times a distance much greater than that traveled by the fixed whips of conventional systems.

The breaking capacities of this system are markedly higher and the arcing times extremely reduced.

Description of references

| Description | Reference |
|--|-----------|
| Switch-disconnector IACM III type P-94 24kV/400A with supp. brackets and control system | 0420001 |
| Switch-disconnector IACM III type P-94P 24kV/400A with supp. brackets and control system | 0630002 |
| Switch-disconnector IACM III type P-94 36kV/400A with supp. brackets and control system | 0530002 |
| Switch-disconnector IACM III type P-94P 36kV/400A with supp.brackets and control system | 0630002 |

Please consult us for "sp" versions

Mechanical characteristics

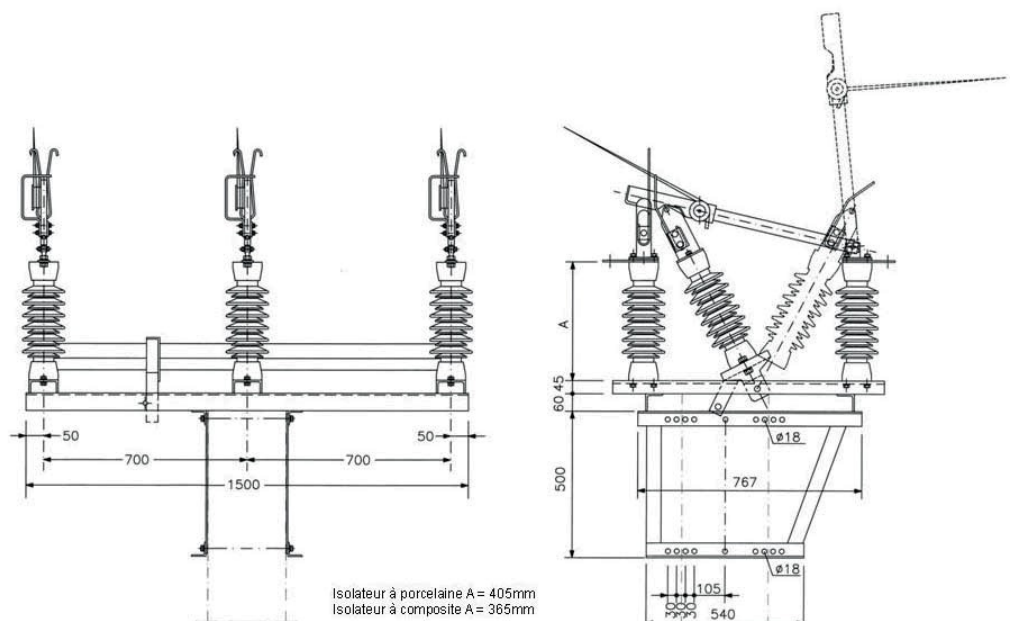
- According to IEC 62271-1 and IEC 62271-103, standards for high voltage switchgears
- One-piece chassis fitted and assembled in the factory, ensuring synchronized operation of the three poles. Made of hot dip galvanized steel according to standard EN ISO 1461. Units for heavily polluted areas are specially treated with additional epoxy and polyurethane paint
- Joints by means of bronze-aluminum bearings
- Screws in galvanized steel or in stainless steel (depending of version)
- Zicral whip (aluminum, zinc and magnesium alloy) giving it great resistance, mounted on a stainless steel spring.
- Brown porcelain insulators, in accordance with IEC 60168 standard, with externally cap in casting hot-dip galvanized steel.
- Synthetic insulators according to standard IEC 61952, gray colour, injected on a fiberglass core and hot-dip galvanized steel fittings.
- Contact blade in hardened copper, U profile, silver plated on the contact surface.
- Fixed contact elements in cast bronze-aluminum alloy with 1.5 micron silvered coating and connection pads in tinned copper.
- Two symmetrical support brackets in hot-dip galvanized steel (or with specific treatment for highly polluted atmospheric conditions) for fixing on posts
- Control linkages in hot-dip galvanized steel (or with specific treatment for highly polluted atmospheric conditions) with intermediate insulator in epoxy or cycloaliphatic resin (depending on version).
- Control with insulated handle resistant to UV rays and possibility of padlocking in the open or closed position.

Electrical features

| | | 24kV | | 36kV | |
|----------------------------|-----------------------|---------------------|-------|------|-------|
| | | P-94 | P-94P | P-94 | P-94P |
| Rated voltage Ur | kV | 24 | | 36 | |
| Rated current Ir | A | 400 | | | |
| Cutout power | A | 50 | | | |
| Rated frequency Fr | Hz | 50 | | | |
| Isolation level | Earth/phase | At 50 Hz in rain | kV | 50 | 70 |
| | | On lightning strike | kV | 125 | 170 |
| | Over opening distance | At 50 Hz in rain | kV | 60 | 80 |
| | | On lightning strike | kV | 145 | 195 |
| Short period current (1 s) | kA | 10 | | | |
| Max. peak current | kA | 25 | | | |
| Creepage distance | mm | 600 | 900 | 900 | 900 |
| Weight | Kgrs | 119 | 92 | 144 | 92 |

Dimensions

| | A mm |
|------------|---------|
| P-94 24kV | 270 |
| P-94P 24kV | 365 |
| P-94 36kV | 405 |
| P-94P 36kV | 365 |



Version with closing power

There is a version of this switch with closing capacity, only for horizontal mounting



Detail

IACM with ceramic insulators and closing power



Detail

IACM with polymeric insulators and closing power



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