

Operating Instructions

Disconnect Switch Type HAS

Part No.



Mersen

374 Merrimac street

Newburyport, MA 01950





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Warning

It is the responsibility of the customer and/or user to ensure proper use, installation, operation and maintenance of this high-voltage disconnect switch. Responsibilities shall include, but shall not be limited to, the following:

- Uses for High- Voltage Switches Ratings, limitations of NO-LOAD BREAK and NO-FAULT CLOSING switches, lightning and surge protection, adherence to standards such as IEC, ANSI or equivalent.
- Customer's Conductors and Conductor Terminations Ratings, support, electrical clearance and dielectric stress reduction.
- Personnel Safety Protection from electric shocks, equipment grounding and interlocks, system operation and safety procedures.
- Maintenance Scheduled inspections, cleaning of insulation and greasing of contacts depending on weather and other environmental conditions.



2 General Description

Type HAS Disconnect Switches are a **NO-LOAD MAKE and NO-FAULT CLOSING SWITCH** for indoor applications.

- Electrical contact by means of contact knives with embedded hard-silver contact rivets and silver-plated electrolytic copper plates
- > Large insulation gap and creepage path
- Self-cleaning blade contacts
- Visible make/break of each phases
- Rugged anti-torsion construction

The switch is operated by means of a motor with access for a hand crank for emergency manual operation.

The switch positions are indicated by auxiliary contacts located at the left end of the switch shaft (Two are factory-set for motor control).



4 Installation

The switch is shipped completely assembled and factory-set. The main components are: Switch completely mounted with auxiliary switches C2 (NO/NC) and motor drive

The switch should be visually inspected for shipping damage and if found, damage should be reported immediately to the delivering carrier.

Any other problems should be reported to Ferraz Shawmut immediately. Refer to the data on the nameplate when contacting the factory.

CAUTION: BEFORE INSTALLING THIS SWITCH, CUT OFF ALL POWER AND GROUND ALL CIRCUITS.

- 4.1 Mount the switch very carefully on a level surface. Mechanical tension in the frame caused by mounting on a surface that is not completely level will lead to friction between the frame and the shaft as well as higher actuating forces.
- 4.2 Motor and Controls
 - 4.2.1 Connect the auxiliary switches according to Plan 102579
 - 4.2.2 Open the switch manually to a point halfway between "OPEN" and "CLOSED"
 - 4.2.3 Connect the motor and check for correct rotation
- 4.3Connect power leads to the terminals. Use sufficiently supports close for the switch to prevent heavy stresses on it during short circuits.Be sure to observe proper strikinge distance between any live parts and any grounded members.

Any conductors to be connected to the switch should be precisely fitted with respect to positioning and spacing correspond to the mountings, boreholes and flat terminals of the switch assembly. This, in order to avoid any undue mechanical stress in the insulating foot pieces or insulating crossbeams when tightening. Use a torque wrench to fasten connection bolts.

4.4 Check settings of auxiliary contacts: To modify settings, loosen screw and adjust accordingly. Then retighten the screw.

CAUTION: ALL CAM SETTINGS MUST BE MADE WITH "POWER OFF."



5 Nameplate

For your permanent records, duplicate all nameplate data here and keep it in a convenient location.

When seeking information or replacement parts, refer to this data.



6 Maintenance

- 6.1 All mechanically and electrically stressed parts of the disconnect switch are of ample dimensions so that under normal operating conditions, maintenance can be restricted to periodic cleaning and lubricating of the stressed parts. Depending on the level of uncleanlinness, it is recommended that maintenance be performed once per year or once every two years.
- 6.2 Visual Inspection

Need to inspect stationary contacts and moveable contacts making sure they are clean and no pitting is occurring. Clean insulators. Make sure aux contacts are set properly.

- 6.3 Contact surfaces should be cleaned after every 1000 operations or as a minimum once a year. They should then be coated with a thin film of "OKS 240" contact grease (obtainable from Ferraz Shawmut).
- 6.4 Switches, which are used sporadically or not at all under operating conditions, must be switched on and off several times in order to keep contacts clean and to ensure proper operation.
- 6.5 After ten years of active operation or after 10,000 switching operations, the switch should undergo a general overhaul.



During the overhaul, all bearings and joints should be cleaned and lubricated with graphite lubricant.