FUSIBLE SHUNT TRIP SWITCH

APPLICATION GUIDE

FUSIBLE SHUNT TRIP SWITCH FOR USE IN FIRE SAFETY AND ELEVATOR CONTROL

Applicable Codes and Standards:
NFPA 13, 8.14.5
NFPA 72 6.15.4.4
ANSI/ASME A17.1
NEC 620.91

Mersen's Fusible Shunt Trip Switch is an all-in-one solution that meets many different code requirements with the protection and safety in elevator shafts. According to NFPA 13, 8.14.5, sprinkler protection is required at the top and bottom of elevator shafts. With that being said, NFPA 13 requires the installation of sprinklers in the elevator machine room. Once a sprinkler system has been introduced to either the elevator shaft or elevator machine room, you are now installing these per the State-Adopted Elevator Code ANSI/ASME A17.1.

To summarize ASME A17.1, Safety Code for Elevators and Escalators, Rule 102.2 (c) (3) requires the shutdown of power to the elevator prior to the application of water in the elevator machine room and or hoistway.

The shutdown of power is accomplished by a shunt trip device in the elevator circuit. This reduces the risk of any potential electrical shock once the water is released into the system. This will also reduce the risk of any elevator car slippage once the cables and hoist system become saturated from the release of water. In addition to turning off the power, 2002 NFPA 72 6.15.4.4 (Fire Alarm Code) requires:

"Control circuits to shut down elevator power shall be monitored for the presence of operating voltage. Loss of voltage to the control circuit for the disconnecting means shall cause a supervisory signal to be indicated at the control unit and required remote annunciation."

This is achieved with the Fire Monitoring Relay (FR Relay), a standard feature in Mersen's Fusible Shunt Trip Device.

In the event of a power loss, at which point a back up power supply is introduced to the system, you are now required to meet NEC Article 620.91 paragraph (C) emergency or standby power system. This is accomplished with a set of mechanical interlock auxiliary contacts which comes standard as 1-N/O and 1-N/C contact. The auxiliary contacts prevent the elevator from descending down and injuring any workers that could be working in the elevator shaft. This also allows the elevator to move to the next convenient location and open the doors to let any passengers out in the event of an emergency.

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