

Separately Mounted Automatic Power Transfer Switch for use with Electric Fire Pump Controller

FTA953 – Second Utility Source Alternate Supply Specifications

1.0 Separately Mounted Fire Pump Automatic Transfer Switch

Provides the transfer of 3-phase power to a fire pump controller between a utility on the normal side and a second utility on the alternate (emergency) side.

1.1 Standards, Listings & Approvals

The controller with transfer switch shall conform to all the requirements of the latest editions of:

NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*
NFPA 70, *National Electrical Code*.

The fire pump automatic transfer switch shall be factory assembled and wired and listed by Underwriters' Laboratories, Inc. for fire pump service.

1.2 Enclosure

The power transfer switch shall be housed within the fire pump controller enclosure or in a NEMA Type 2 (IEC IP22) drip-proof enclosure. The power transfer switch shall be factory assembled, wired and tested as a unit prior to shipment.

1.3 Disconnect/Isolating Means

Alternate (emergency) disconnecting means and overcurrent protective devices capable of indefinitely carrying the motor locked rotor current shall be supplied per NFPA 20. The disconnecting means shall be mechanically interlocked so that the enclosure door cannot be opened with the handle in the ON position, except by a hidden tool operated bypass mechanism. The enclosure door shall have a locking type handle and three point cam and roller type vault hardware. The disconnecting means and overcurrent protective devices required for the normal side of the transfer switch SHALL BE supplied, and shall meet the requirements of the latest edition of NFPA 20.

1.4 Operator Interface

The transfer switch control panel shall have a 4 line, 20 character LCD display and keypad for viewing all available data and setting desired operational parameters. Voltage and frequency on both the normal and emergency sources shall be continuously monitored. The normal source pick up shall be set at 95% of nominal voltage and the emergency source pick up set at 90% of nominal voltage and 95% nominal frequency. Source status screens shall be provided for both normal & emergency to provide digital readout of voltage, frequency and phase rotation on all 3 phases.

1.5 Automatic Transfer Switch

The automatic transfer switch shall consist of an inherently double throw power transfer switch mechanism and a microprocessor control panel to provide automatic operation. The transfer switch and control panel shall be of the same manufacturer. The automatic transfer switch shall be an ASCO 7000 series with a group 5 control panel. The transfer switch shall be electrically operated and mechanically held. The electrical operator shall be a momentarily energized, single solenoid mechanism. The switch shall be mechanically interlocked to ensure only two possible positions, normal or emergency. Switches having a neutral position shall not be permitted.

The switch shall be positively locked and unaffected by momentary outages, so that contact pressure is maintained at a constant value and contact temperature rise is minimized for maximum reliability and operating life. All main contacts shall be silver composition and inspection of all contacts shall be possible from the front of the switch

without disassembly of operating linkages and without disconnection of power. Designs utilizing components of molded case circuit breakers, contactors, or parts thereof, which are not intended for continuous duty, repetitive switching or transfer between two active power sources are not acceptable.

1.6 Remote Alarm Contacts

Remote alarm contacts shall be supplied as standard for the following conditions:

- Emergency Source Isolation Switch Open
- Normal Power Available
- Emergency Power Available
- Transfer Switch Position

1.7 Visual Indicators

Indicators, visible with the door closed, shall indicate:

- Transfer Switch in Normal
- Transfer Switch in Emergency
- Normal Source Accepted
- Emergency Source Accepted
- Emergency Isolation Switch Open

1.8 Audible Alarm Indication

An audible alarm shall sound for the following conditions:

- Emergency Isolation Switch Open
- Transfer Switch in Emergency

A Silence Alarm push-button shall be supplied.

1.9 Installation

The separately mounted transfer switch shall be installed by qualified personnel, having knowledge of fire pump controller and transfer switch installations and knowledge of the necessary wire connections between the transfer switch and the fire pump controller, including the load disconnect interlock to conform to NFPA 20.

2.0 Seismic Certification

The controller shall be certified to meet or exceed the requirements of the 2012 International Building Code and the 2013 California Building Code for Importance Factor 1.5 Electrical Equipment for Sds equal to 1.88 or less severe seismic regions. Qualifications shall be based upon successful tri-axial shake-table testing in accordance with ICC-ES AC-156. Certification without testing shall be unacceptable. Controller shall be clearly labeled as rated for installation in seismic areas and a Certificate of Conformance shall be provided with the controller.

2.1 Manufacturer

The transfer switch shall be a Firetrol brand.

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