

Limited Service Controllers and Power Transfer Switches



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Firetrol[®]


EMERSON
Network Power

General Information Limited Service Controllers and Power Transfer Switches



LIMITED SERVICE CONTROLLERS

Description

Firetrol® Limited Service Controllers may be used for the automatic control of small electrically driven fire pumps and booster pumps where they are acceptable to the authority having jurisdiction.

Approvals

Firetrol Limited Service Controllers are listed by Underwriters' Laboratories, Inc., in accordance with UL218, *Standard for Fire Pump Controllers*, and CSA, *Standard for Industrial Control Equipment* (cUL). They are built to meet or exceed the requirements of the approving authorities as well as NEMA and the latest editions of NFPA 20, *Installation of Centrifugal Fire Pumps*, and NFPA 70, *National Electrical Code*.

Enclosures

The standard enclosures are NEMA Type 2 (IEC IP11), drip-proof for installation in areas protected from direct sunlight with an ambient temperature above 41° F (5° C). Optional enclosure types include:
NEMA Type 3R - Raintight, weatherproof (IEC IP14)

NEMA Type 4 - Watertight, (Painted Steel) (IEC IP56)

NEMA Type 4X - Watertight, corrosion resistant (#304) stainless steel) (IEC IP56)

NEMA Type 12 - Industrial use, dust-tight, oil-tight (IEC IP52)

NEMA enclosures listed meet or exceed referenced IEC designations.

Standard Features

The following are included as standard with

each controller:

- Voltage surge protector
- Main thermal-magnetic circuit breaker for assigned motor horsepower and voltage
- Motor contactor
- Door mounted display/interface panel featuring a 40 Character Vacuum Fluorescent Display, Membrane Type User Control Push-buttons and easy to read LED Indicators.
- Visual LED Indication of *Power On, Pump Run, Phase Failure, Phase Reversal, Low Pressure, Deluge Open, Interlock On and Transfer Switch Position* (if ordered with power transfer switch).
- USB Host Controller and Port
- Minimum Run Timer/Off Delay Timer
- Weekly Test Timer
- True RMS Metering with simultaneous 3 phase display of amps and volts
- Solid State Pressure Transducer
- Built-in Start and Stop push-buttons to bypass automatic start circuits
- Minimum Run Timer for automatic stop
- Event Log (3000 Events)
- Field connection remote alarm terminals (normally open-close to alarm and normally closed-open to alarm) for each of the following: Pump Operating, Pump Power Failure, Phase Reversal
- Emergency Manual Run Mechanism to mechanically close motor contactor contacts in an emergency condition
- High Speed Open Serial Communications Port
- Suitable For Use As Service Equipment

Controller Short Circuit Current Rating

Firetrol Limited Service Controllers are available with the following short circuit current ratings:

Standard

200-240V - 65,000 Amps, RMS Sym.

380-480V - 25,000 Amps, RMS Sym.

550-600V - 14,000 Amps, RMS Sym.

Optional

200-240V - 85,000 Amps, RMS Sym.

380-480V - 65,000 Amps, RMS Sym.

550-600V - 25,000 Amps, RMS Sym.

POWER TRANSFER SWITCHES

Description

Firetrol® Power Transfer Switches are available completely assembled with Firetrol Limited Service Controllers. The power transfer switches are built in two versions:

FTA975 — For use when the normal power source is a utility and the emergency power source is a generator set.

FTA976 — For use when both the normal and emergency power sources are utilities.

The entire package of power transfer switch and controller is completely factory assembled, wired, tested and shipped as a complete unit for easy field connection to the power sources and the fire pump motor.



FTA975 Isolating Switch, ASCO Transfer Switch and Control Panel

Approvals

Firetrol power transfer switches are listed by Underwriters' Laboratories, Inc., in accordance with UL218, *Standard for Fire Pump Controllers*; UL1008, *Automatic Transfer Switches*; UL508, *Industrial Control Equipment* and CSA, *Standard for Industrial Control Equipment*. They are built to meet or exceed the requirements of the approving authorities as well as NEMA and the latest editions of NFPA 20, *Installation of Centrifugal Fire Pumps*, and NFPA 70, *National Electrical Code*.

Standard Features—The following are included as standard with each transfer switch:

- Emergency power source disconnect switch sized for connected motor horsepower and voltage
- (FTA975 only) molded case isolating switch
- (FTA976 only) thermal-magnetic circuit breaker
- 3-pole, double throw transfer switch mechanism, electrically operated, mechanically held
- Control module providing for the following:
 - Differential voltage sensing on all phases of the normal power source
 - Voltage sensing of the emergency power source
 - Frequency sensing of the emergency power source
 - Transfer time delay to compensate for momentary power outages of the normal source
 - Retransfer from emergency to normal source is automatically delayed unless the emergency source fails
 - Cool-down timer for unloaded running of the generator set after retransfer to the normal power source

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- Instantaneous retransfer to normal if the emergency source fails and the normal source is available
- 3 second transfer restart delay to reduce current surges when transferring to or from the emergency source
- NO and NC engine control contacts to start the generator set when the normal power source fails
- Transfer Switch Normal Pilot LED
- Transfer Switch Emergency Pilot LED
- Emergency Isolating Switch Open Pilot LED
- Test Selector Switch
- Transfer Bypass Switch
- Silence Alarm Push-button
- Emergency Isolating Switch Open and Transfer Switch in Emergency Audible Alarms
- Output contacts (NO and NC) for Generator Start, Emergency Isolating Switch Open and Transfer Switch position indicators

Transfer Switch Short Circuit Current Rating

Firetrol Transfer Switches for use with Limited Service Controllers are available with the following short circuit current ratings:

Standard - FTA975

200-480V - 22,000 Amps RMS Sym.

550-600V - 10,000 Amps RMS Sym.

These short circuit current ratings apply when the generator set is protected by a molded case circuit breaker (supplied in the generator control panel by the generator manufacturer).

The rating of the normal power source side of the transfer switch will be the same as the rating of the limited service controller assembled with the power transfer switch.

Standard - FTA976

The short circuit current rating for the normal power source and the emergency power source side of the power transfer switch will be the same as the rating of the limited service controller assembled with the power transfer switch.

Firetrol®

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ASCO Power
Technologies

(919) 460-5200 • www.firetrol.com • Sales Office: Cary, NC 27518 USA

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