

ELECTRIC FIRE PUMP CONTROLLER WITH AUTOMATIC TRANSFER SWITCH

General



Joslyn Clark Controls Fire Pump Controllers with Automatic Transfer Switch modification "T" complies with the National Fire Protection Association standard NFPA-20 and are listed by Underwriters' Laboratories. All full service Fire Pump Controllers and Limited Service Controllers may be ordered with an Automatic Transfer Switch.

The Automatic Transfer Switch is housed in a barred compartment of the Fire Pump Controller. This complete assembly, consisting of Fire Pump Controller and Automatic Transfer Switch is factory assembled, wired, tested and shipped as a single unit.

Fire Pump Controllers with Automatic Transfer Switches provide for power connections to the fire pump motor from the primary power source or an alternate emergency generator. If the primary power supply fails, an automatic transfer is made to the emergency supply. Automatic retransfer to normal power supply will occur after restoration of normal power.



Transfer Switch Controller

Standard Features

Doors open out away from each other for convenience during installation, checkout and service.

NEMA 2 enclosure constructed from heavy gauge formed steel, with top drip hood to protect front devices from overhead dripping water.

Enclosure steel is phosphate cleaned, electrostatic-spray enameled and oven baked to withstand effect of dampness.

LED's are provided to indicate the transfer switch position, green for normal power source and red for emergency.

All control push buttons are centrally located on center trim for convenience.

Time delay for:

- Preventing transfer on momentary power loss.
- Fire Pump Motor Load Transfer.
- Retransfer to Normal Power Source.
- Unloaded cool-down running time for engine.



Fire Pump Controller

With Transfer Switch
Type D10600

ELECTRIC FIRE PUMP CONTROLLER WITH AUTOMATIC TRANSFER SWITCH

Automatic Transfer Switch

The Automatic Transfer Switch is electrically operated and mechanically held. Manual transfer of the switch may be accomplished with a handle which is provided on the switch.

Pilot Light Monitoring

Standard features include a red pilot and audible alarm with silence push button to monitor the opening of the emergency supply isolation switch. Also, N.O. and N.C. contacts are provided for remote signal of this switch position.

LED's are provided to indicate the transfer switch position, green for normal power source and red for emergency. LED's also indicate source availability, green for normal and red for emergency.

Voltage Sensor

The Automatic Transfer Switch System includes a close differential voltage sensor to monitor all ungrounded lines of the normal power source. When the voltage on any phase falls below the values listed on Table 1 below, a signal is initiated to automatically start the transfer sequence to the alternate power source.

Momentary Power Loss

A 3 second time delay in starting the emergency generator is provided to prevent nuisance starting in the event of momentary dips and interruptions of the normal source. Following the 3 second time delay a signal from a contact in the transfer switch panel will initiate the transfer sequence. The emergency supply isolation switch includes an auxiliary contact which will prevent the engine start and disable the transfer sequence when the switch is open.

Emergency Supply Monitoring

Emergency supply voltage and frequency monitoring is provided thru sensors in the controller. Transfer to the alternate source will be made after the pickup voltage and frequency, as listed in Table 1 below, are attained.

Load Transfer Delay

To prevent higher than normal inrush currents when transferring the fire pump motor from one source to the other, an adjustable time delay relay is provided. It is factory set at 3 seconds.

Retransfer To Normal

Retransfer to normal will automatically occur 30 minutes after restoration of normal power. This time delay may be by-passed for convenience during checkout by placing test selector switch momentarily in normal position. The time delay is automatically by-passed if the alternate source fails and normal source is available.

For emergency engine generator cool-down, a 5 minute unloaded running time is provided by the controller.

Test Switch

A momentary test switch, located on enclosure door, is provided as standard to simulate a normal power source failure and initiate the transfer sequence for check out.

Short-Circuit Current Rating

The complete assembly, consisting of the Fire Pump Controller and Automatic transfer switch carries the same short-circuit current rating as the fire pump controller when the transfer switch is connected to the **Normal Power Supply**.

For controllers ordered with Transfer Switch modification "T", where the emergency supply is not protected by the circuit breaker within the controller, the **Emergency Side** will have the ratings listed below provided the external circuit breaker interrupting ratings are at least equal to those shown below.

Emergency Side Short Circuit Current Rating, Amps RMS Symmetrical	Maximum HP at Rated Voltage			
	208	240	480	600
10,000	25	30	60	75
22,000	75	100	100	350
35,000	100	125	250	---
42,000	200	250	500	500

Controllers ordered with Transfer Switch modification "TU" are designed for two utility power supplies. The short-circuit current ratings are the same as the fire pump controller when connected to either the Normal or Emergency Supply.

Table 1. Voltage and Frequency Sensing and Time Delays

Motor Volts & Frequency	Voltage and Frequency Sensing				Time Delays			
	Normal Source		Emergency Source		Momentary Override Seconds	Retransfer To Normal	Unloaded Running Minutes	Transfer To Emergency Seconds
	Pick-Up Volts	Drop-Out Volts	Pick-Up Volts	Pick-Up Hz				
200V 60 Hz	190 95%	180 90%	190 95%	57 95%	3	30	5	3
230V 60 Hz	218 95%	207 90%	218 95%	57 95%	3	30	5	3
460 V 60 Hz	437 95%	414 90%	437 95%	57 95%	3	30	5	3
575 V 60 Hz	546 95%	517 90%	546 95%	57 95%	3	30	5	3
380 V 50 Hz	361 95%	342 90%	361 95%	47.5 95%	3	30	5	3
415V 50 Hz	394 95%	373 90%	394 95%	47.5 95%	3	30	5	3

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