MARK^{III+} Electric Fire Pump Controllers

STARTING METHOD

◯ ***FTA1000*** Full Voltage Fire Pump Controllers are intended for use with electric motor driven fire pumps where the capacity of the power source permits full voltage starting. Full voltage is applied to the motor as soon as the controller is actuated. The controller monitors, displays and records fire pump system information.

Full voltage starting is simple and low cost and is preferred whenever the utility or emergency generator set will permit this type of starting.

◯ ***FTA1250*** Part Winding Starting Fire Pump Controllers can be used where the characteristics of the power source do not permit full voltage starting. The controller monitors, displays and records fire pump system information.

When the controller is actuated via pressure, START push-button, deluge valve contact, etc., the first contactor closes, connecting one of the motor windings to the line. During starting, the motor will draw approximately 65% of its normal locked rotor current and develop approximately 42% of its normal starting torque. After a time delay, the second contactor closes, connecting the second winding in parallel with the first. The motor then draws its normal running current and develops its rated torque.

◯ ***FTA1300*** Wye-Delta, Open Transition Starting Fire Pump Controllers are used with delta-wound squirrel cage motors. FTA1300 controllers are of the open circuit transition type in which the motor circuit is opened during the transition from start to run. The controller monitors, displays and records fire pump system information.

Actuating the controller by the pressure switch, START push-button or deluge valve contact closes the start contactor connecting the motor to the line in the wye connection. The motor will draw approximately 33% of its normal inrush current and develop approximately 33% of its normal starting torque. After a time delay, the motor is automatically reconnected in delta, applying full voltage to the motor windings. These controllers are recommended especially for use with generator sets.

◯ ***FTA1350*** Wye-Delta, Closed Transition Starting Fire Pump Controllers are used with delta-wound squirrel cage motors. These controllers are of the closed circuit transition type in which the motor circuit remains closed during the transition from start to run. The controller monitors, displays and records fire pump system information.

Actuating the controller via pressure, START push-button or deluge valve contact closes the start contactor connecting the motor to the line in the wye connection. The motor will draw approximately 33% of its normal inrush current and develop approximately 33% of its normal starting torque. After a time delay, the motor is automatically reconnected in delta, applying full voltage to the motor windings. During this transition, a resistor is connected to each phase, minimizing line disturbances and voltage drop during starting. These controllers are recommended especially for use with generator sets.

◯ ***FTA1800*** Autotransformer Starting Fire Pump Controllers use an autotransformer to supply reduced voltage when starting the motor. The controller is of the closed circuit type where the motor circuit remains closed during the transition from start to run resulting in minimum line disturbance.
The controller monitors, displays and records fire pump system information.
The autotransformer has three taps for selection of starting current and torque; 50% tap for 150% current and 25% torque, 65% tap (factory setting) for 250% current and 42% torque and the 80% tap for 384% current and 64% torque.

◯ ***FTA1930*** Solid State Reduced Current Starting Fire Pump Controllers feature soft start, soft stop and system sensing capabilities that not only provide for reduced current starting, but also offer an improved level of hydro mechanical performance.

Approvals – Firetrol fire pump controllers are listed by Underwriters' Laboratories, Inc., in accordance with UL218, *Standard for Fire Pump Controllers*, CSA, *Standard for Industrial Control Equipment*, and approved by Factory Mutual. 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 controller:
- Voltage surge protector
- Main Disconnect Switch sized for connected motor horsepower and voltage
- Fire pump Circuit Breaker
- Single Handle Isolating Disconnect Switch/ Circuit Breaker mechanism
- Motor contactor
- Single Handle Emergency Manual Run Mechanism to mechanically close motor contactor contacts in an emergency condition
- Built-in Start and Stop push-buttons to bypass automatic start circuits
- Daylight Savings Time Option
- Elapsed Time Meter
- 7.0" LCD capacitive type color touch screen (HMI technology) software upgradeable operator interface powered by an embedded microcomputer with software PLC logic.
- 500 PSI Pressure Transducer (calibrated for 300 PSI (20.7 Bar))and Test Solenoid for fresh water applications, externally mounted with protective cover
- Audible alarm buzzer embedded in the MarkIII+
- Pump Room Ambient Temperature Switch, Display and Alarms
- Pressure and Event Recording with Date Stamp to System Memory Accessible VIA The User Interface and Downloadable to a USB Flash Drive
- Modbus Communications with TCP/IP frame format and a shielded female RJ45 connector
- NEMA Type 2 (IEC IP22) enclosure
- Suitable for use as Service Equipment
- The controller supplies visual indication of the following: Power Available • Motor Run • Periodic Test • Manual Start • Deluge Valve Start • Remote Automatic Start • Remote Manual Start • Emergency Start • Pump On Demand (Automatic Start) • Low Discharge Pressure • Pump Room Temp. • Lockout
- The controller displays visual indication for the following alarm conditions: Control Voltage Not Healthy • Fail To Start • Invalid Cut-In • Lock Rotor Current • Loss of Power • Low Ambient Temp. • Low Water Level • Motor Trouble • Phase Reversal • Overcurrent • Overvoltage • Phase Loss L1 / L2 / L3 • Phase Unbalanced • Pressure Transducer Fault Detected • Pump On Demand • Pump Room Alarm • Service Required • Undercurrent • Undervoltage • Check Test Solenoid • Weekly Test Cut-In Reached
- Audible and Visible Indication for Fail To Start.
- DPDT 8A, 250VAC remote alarm contacts are provided for: Power Available • Phase Reversal • Motor Run
  • Common Pump Room Alarm (Overvoltage / Undervoltage / Phase Unbalance / Low Pump Room Temp. / High Pump Room Temp)
  • Common Motor Trouble (Overcurrent / Fail To Start / Undercurrent / Ground Fault)
- Field Adjustable Timers with Visual Countdown for Minimum Run (Off Delay), Sequential Start (On Delay) and Weekly Test

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