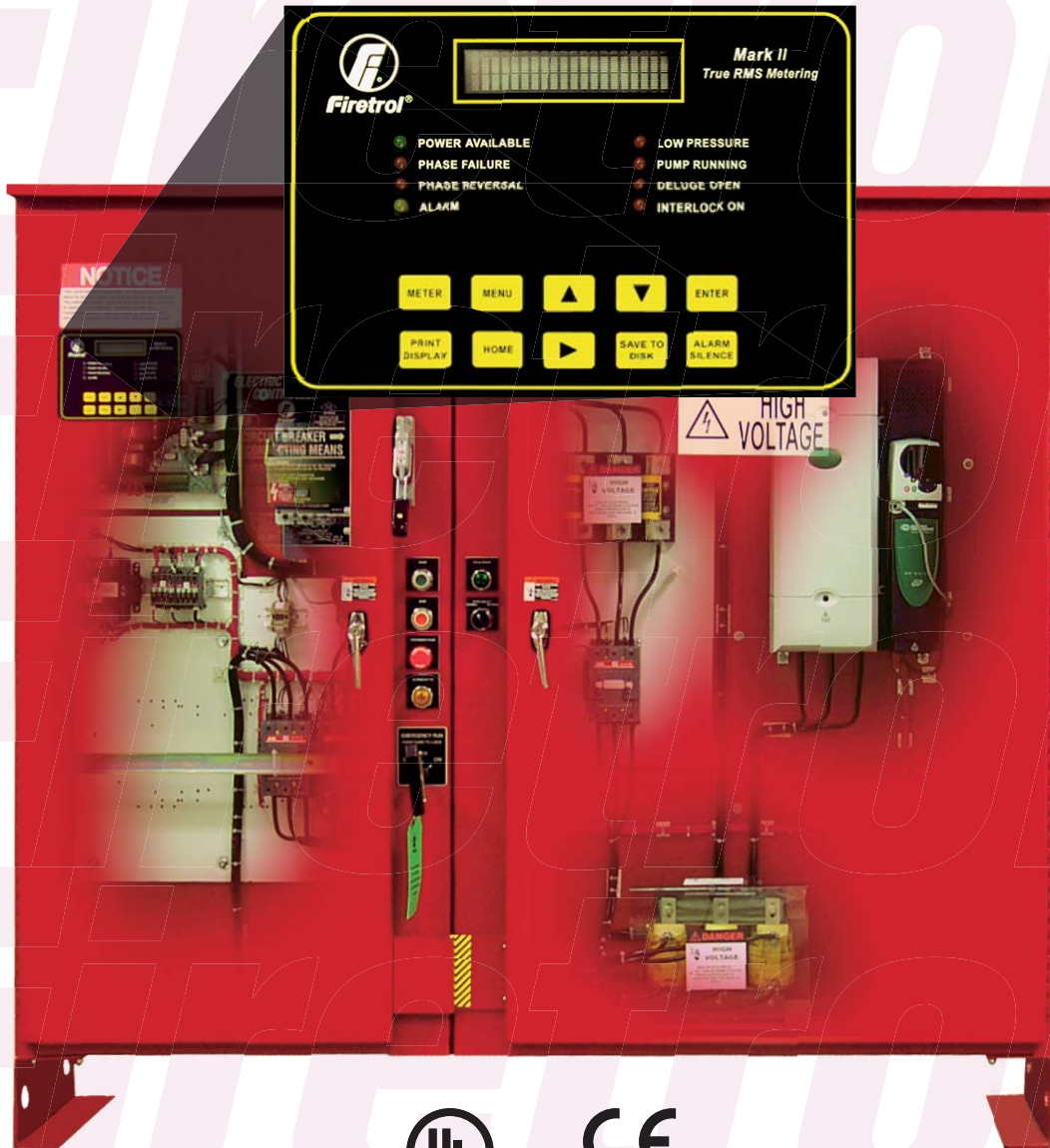


Variable Speed Electric Fire Pump Controllers



General Information

Variable Speed Electric Fire Pump Controllers

Firetrol® FTA3100 variable speed electric fire pump controllers provide a variable frequency drive (VFD) in a PID process control loop to control the speed of a centrifugal pump for the purpose of limiting the system pressure in a fire sprinkler system.

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* (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, *Standard for the Installation of Stationary Pumps for Fire Protection* 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).

USB Host Controller

The built-in USB Host Controller and Port allows events, alarms, pressures and other historical data to be written to a flash memory disk via the USB port. Depending on the size of the flash memory, the amount of history stored could easily cover the lifetime of the controller. Software updates can be installed by simply plugging in a Flash Memory Disk with the updated software program. No laptop computers or external devices are required.

Features

The Firetrol® Mark II fire pump controller monitors, displays and records fire pump system information. The system is standard on all Firetrol full service electric fire pump controllers (600 VAC Max.). The USB host controller and port for flash disk utilization is also included as standard.

The door mounted display/interface panel is rated for NEMA Type 4 applications and features a 40 Character Vacuum Fluorescent Display, Membrane Type User Control Push-buttons and easy to read LED indication of the following conditions:

- Power Available
- Phase Failure
- Phase Reversal
- Alarm
- Low Pressure
- Pump Running
- Deluge Open
- Interlock On

Additional LED's provided when the unit is ordered with an automatic transfer switch:

- Transfer Switch Normal
- Transfer Switch Emergency
- Emergency Isolating Switch Off

Serial Communications

The Mark II is equipped with a RS485 serial communications port. This port can be used with 2 wire or 4 wire Modbus RTU communications or with Modbus/TCP Ethernet LAN using optional 5150 module. A variety of communication protocol converters are commercially available to connect by other means.

Metering

- The controller provides True RMS metering of Amps and Volts. The two line display allows for simultaneous 3 phase display of both voltage and current.
- Pressure is displayed in PSI or Bars in 1 psi increments (0.1 bar). The controller is supplied as standard 0-300 psi (0-20.7 bars) and optionally, 0-600 psi (0-41.4 bars).
- Estimated motor speed is displayed in RPM along with system pressure to show the correlation between the two.

Bypass Mode Operation

The VFD is monitored by the Mark II. If the Mark II detects a problem with the drive, the controller is switched into bypass mode. In bypass mode, the VFD is isolated from the motor circuit and the motor is operated at full voltage resulting in full motor speed. The controller may also be placed in the bypass mode via a selector switch mounted on the outside of the enclosure. Also mounted on the flange of the enclosure are pilot lights for visual indication of DRIVE READY and BYPASS ACTIVE. Bypass mode starting can be full voltage starting as standard (FTA3100), or optionally as autotransformer (FTA3110) or soft start (FTA3120) reduced voltage starting.

Sequence

When the Mark II controller receives a call to start, the VFD will accelerate the motor in an attempt to reach the SET point pressure. Set pressure is then maintained by the PID Loop for the period of the Minimum Run Timer setting. When the minimum run time expires, the VFD will decrease the motor speed to verify that the pump is no longer required to operate. The motor speed will slow and the drive will hold for 5-10 seconds while the system pressure is monitored. If the system pressure remains above the start point setting, the drive then slows the motor to a stop. If a low pressure condition occurs during the deceleration or hold period, the motor will accelerate back up to set point pressure and the minimum run timer is reset.

The Variable Speed Fire Pump Controllers are currently available for voltages of 200 through 575 and horsepowers up to 400.

Consult factory for horsepowers not listed above.

Firetrol®

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CB3100-20 (5-31-06)

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Printed in the U.S.A.