

Suggested Specification Model MP400 Electric Motor Fire Pump Controller

General Controller Description

The Fire Pump Controller shall be factory assembled, wired and tested as a unit and shall conform to all requirements of the latest edition

Controller Equipment Features

The controller shall include the following standard features:

- * NEMA Type 2 drip proof metal freestanding enclosure
- * The controller shall be designed for Primary Resistance starting. The controller shall start the motor in two steps, using heavy-duty st
- * AUTO, OFF, MANUAL, selector switch with colored LED's for controller mode condition
- * Operator Interface Device (OID) with 4 lines by 20 character display with large character backlit LCD capable of being read in both direc
- * 10 pushbuttons for easy screen navigation, system test, lamp test, alarm reset, and horn silencing
- * Multicolored LED's for alarm and mode annunciation
- * LEDs shall be labeled with removable labels to allow for easy field modification of language changes
- * All controller settings shall be programmable through the OID and shall be protected by two password levels
- * All features shall be enabled or disabled through the OID, no jumpers or external wires shall be needed or allowed to activate or de-acti
- * The system status data shall be displayed on the OID. The displayed items shall include: System pressure, Phase to Phase (AB, BC, AC) vo
- * Audible horn with silence feature for silencable alarms
- * Lamp test feature
- * Foreign languages selectable through the OID
- * Microprocessor based logic with real time/date clock capable of running a minimum of 14 days without AC power connected to controller and
- * Input and output status LED's to provide visual indication of each discrete input's or output's on/off status
- * One RS485 Serial Port
- * MODBUS Communication Protocol via RS485 port
- * All wiring terminals on PCB's shall be removable type
- * Service Entrance Rated
- * Weekly Test Start Solenoid

Auxiliary alarms

As standard the controller shall include 6 discrete auxiliary inputs, 9 form 'C' auxiliary relay outputs. These auxiliary inputs and outpu

The user can select any 9 of the following auxiliary alarms that can be programmed and recorded in the event log and annunciated with an OI

LOW PUMP ROOM TEMP
 RESERVOIR LOW
 RESERVOIR EMPTY
 RESERVOIR HIGH
 FLOW METER ON
 RELIEF VALVE OPEN
 LOW SUCTION PRESSURE
 HIGH PUMP ROOM TEMPERATURE
 LOW FIREWATER PRESSURE
 LOW PURGE PRESSURE
 LOW GEAR OIL PRESSURE
 HIGH GEAR OIL TEMPERATURE
 GAS DETECTION
 HIGH VIBRATION
 EMERGENCY POWER ON
 PUMP ROOM DOOR OPEN

Data logging

The controller shall have separate data logs for storing system data that is readable through the OID.

Pressure Log: The controller shall have a Pressure log with continuous pressure recording of 30 days of data. The pressure log samples sha

Event Log: The event log shall be capable of storing no less than 3000 events. These events shall include, but is not limited to, any of t

PUMP RUNNING
 POWER AVAILABLE
 PHASE REVERSAL
 MOTOR OVERLOAD
 REMOTE START
 LOCAL START
 PUMP ON DEMAND
 SYSTEM FAULT
 AUTO MODE
 MANUAL MODE
 OFF MODE
 PRESSURE TRANSDUCER FAULT
 PUMP FAILED TO START
 LOW INTAKE SHUTDOWN ALARM
 SUPERVISORY POWER FAILURE
 LOW PRESSURE
 AUTO WEEKLY TEST START
 UNDER FREQUENCY
 OVER FREQUENCY
 LOW ZONE / HIGH ZONE CONTACTS
 HIGH DISCHARGE PRESSURE
 NO LOAD CONDITION

Each event or alarm recorded in the event log shall have the following data recorded with the event/alarm:

- * Time and Date of Event or Alarm
- * System Pressure
- * Descriptive Text Message of the Event/Alarm
- * Motor Running Status
- * Phase to Phase Volts
- * Phase Amps

The internal logic of the controller shall be capable of operation in a temperature range of 0°C to 50°C and high, non-condensing, humidity

The controller shall be manufactured by Metron.

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