FIREPUMP CONTROLS AND ACCESSORIES

Diesel Fire Pump Controller Series
FD5 Microprocessor based with
Touch Screen Display

PATENT
design and technology

FD5 SERIES

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Compact Lightweight Design
H 56cm x W 41cm x D 31cm, Only 28.5kg

GENERAL DESCRIPTION

The Metron Model FD5 controller is designed to specifically meet the latest NFPA 20 and UL 218 standards for Diesel Engine Fire Pump Controllers. This controller implements the latest component and microprocessor logic technology available. It incorporates years of experience in the design and manufacture of fire pump control systems. The components are installed in a NEMA 4 watertight enclosure.

Manual start and stop pushbuttons are located within the touch screen located on the door of the enclosure. The battery disconnect switches are located on the main mounting panel inside the enclosure. 600 PSI rated as standard.

The controller's logic is based on discrete components using the latest technology with high quality, highly reliable printed circuit boards (PCBs) and PCB mounted relays. The controller uses a microprocessor to control automatic engine and alternation between batteries during cranking. It also monitors and records system alarms and pressure, battery voltage and engine functions. This controller is suitable for all engine types with either energized to run or energize to stop fuel solenoids. Inside the controller are two independent fully automatic microprocessor controlled battery chargers rated at 10 Amps each. The battery chargers operate in such a manner as to

ensure that the engine batteries are fully charged within 24 hours. PCB mounted LED's are provided for indication of AC Power On, and Battery Power On.

The controller is supplied with wall mounting brackets as standard.

Controllers are completely wired, assembled, and tested at the factory before shipment and ready for immediate installation.

The FD5 conforms to all requirements of the latest edition of NFPA 20 and is listed by Underwriters Laboratories (UL) and approved by Factory Mutual (FM). The controller is available for either 12VDC or 24VDC operation. Included as a standard, the controller is suitable for 120 to 230VAC input power at no additional cost.

UL LISTED
UL218

FM APPROVED
FM 1321/1323

NEMA MEMBERS
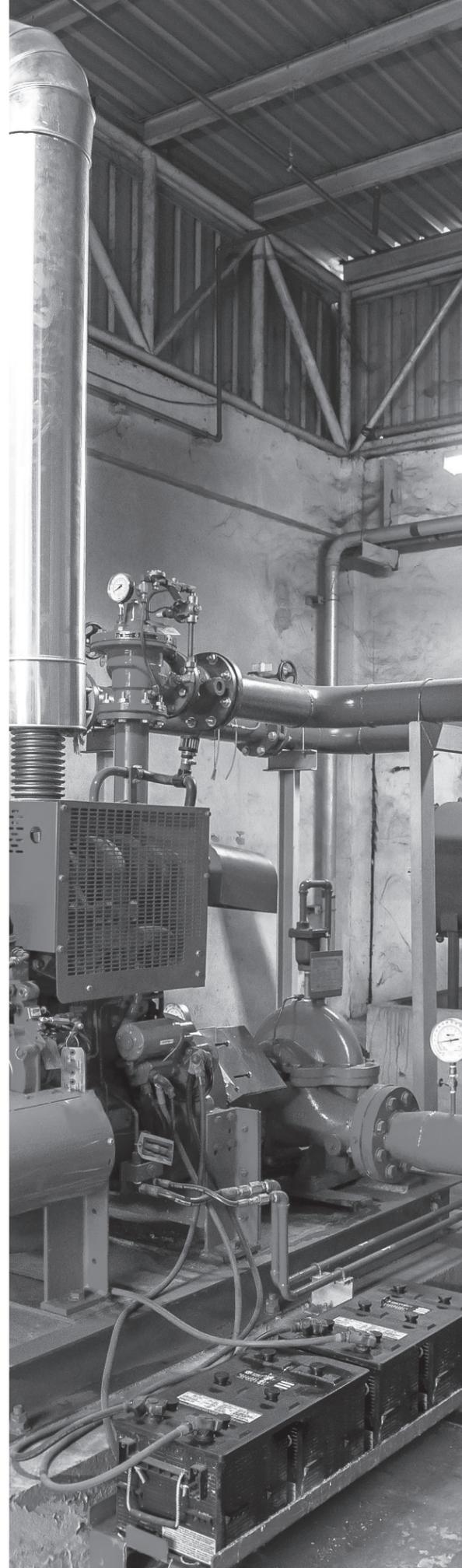
CONTROLLER STANDARD FEATURES

- The controller includes two 10 Amp battery chargers that are temperature compensated and includes integral LED's for indication of charge AC Failure, and Battery Power On.

- Outer door mounted AUTO, OFF, MANUAL selector switch with mode condition indicated within the touch screen display.

- All controller settings are programmable through the touch screen. Programming changes are protected by two levels of passwords to prevent unauthorized modification.
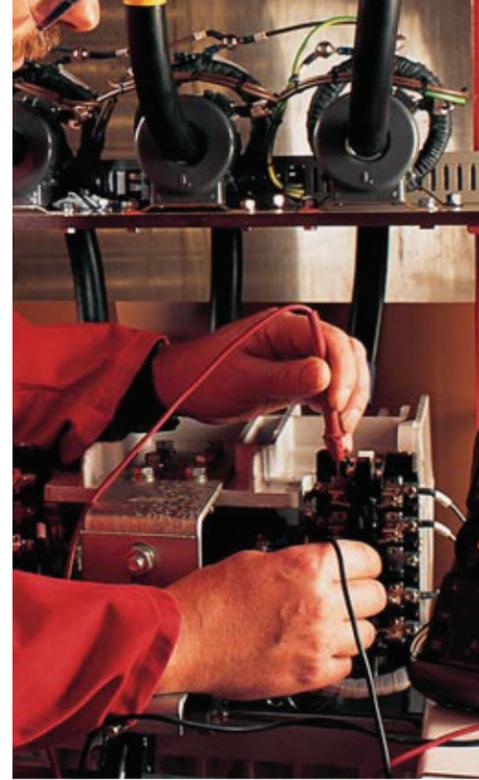
CONTROLLER - AUXILIARY ALARMS

As standard the controller includes 1 discrete auxiliary input, 2 form 'C' auxiliary relay outputs. These auxiliary inputs and outputs are in addition to those mandated by NFPA 20. All auxiliary inputs and outputs are field programmable making it very easy to make changes to the controller in the field. Through the touch screen the operator can select any of the following auxiliary alarms which will be recorded in the event/alarm logs and annunciated with an screen text and/or output relay contact of the following auxiliary alarms which will be recorded in the event/alarm logs and annunciated with a screen text and/or output relay contact

- Engine Quit Fault
- Pressure Transducer Fault
- Pump On Demand
- Low Discharge Pressure
- HIgh Discharge Pressure
- Remote Start Signal
- Deluge Valve Start
- High Fuel Level
- High Engine Oil Temp
- Low Jacket Water Flow
- Low Jacket Water Level
- Low Hydraulic Pressure
- Gas Detection
- Low Firewater Pressure
- Air Damper Closed
- Air Damper Open
- Fuel Spill

- Fuel Tank Rupture
- Low Pump Room Temp
- Reservoir Low
- Reservoir Empty
- Reservoir High
- Flow Meter On
- Relief Valve Open
- Low Suction Pressure
- Low Purge Pressure
- Low Gear Oil Pressure
- Low Coolant Level
- High Gear Oil Temp
- High Vibration
- Low Fuel Pressure
- High Exhaust Temp
- High Fuel Temp
- Pump On Demand

LCD TOUCHSCREEN

- Large 7" color LCD touch screen

- Simultaneous display on Home screen for Battery 1 & 2 voltage and amperage, System pressure, Start Pressure, Stop pressure, System status, Alarm status, Date and Time

- View data log/event history in Calendar screen to easily find a specific event by touching the day on the calendar month
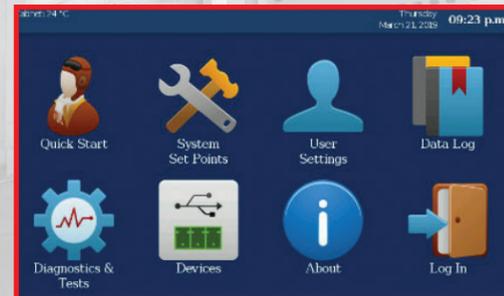
Let Metron's "Pilot" feature guide you through the controllers startup settings.

- On-screen Icons for **Pilot/Quick Start**, **System Set Points**, **User Settings**, **Data Log**, **Diagnostics**, and others for ease of installation and data log/event history retrieval.

- The "**Pilot**" feature guides the user automatically step-by-step through the settings required at start up. Searching through multiple menus to locate settings is eliminated. "Pilot" appears on the touch screen on initial power up, or by pressing the "Pilot" Icon.

MICROPROCESSOR FEATURES

The Microprocessor based logic with real time/date clock capable of running 7+ years without AC power includes low battery indicator.

The on-board data log memory can store up to 18 months of event history (approx. 112,000 events), and over 10 years of event history with a 2G USB Flash Drive. Data/Event log can store over 10+ years of time and date stamped events. Real time clock is accurate to plus/minus 2 minutes per year over the full temperature range. The event history can be viewed by scrolling on the display or by saving it to a USB flash drive. The event history is recorded as a .CSV file and can be easily opened as an Excel file.

- Multi level password protection
- Rated 50°C standard
- For added safety a through door USB port is provided to access data logs/event history without opening the controller door.

- Internal controller temperature monitored and data logged as standard
- Status LED's on PB board inputs/outputs provide visual indication of on/off status
- Pressure transducer fault LED
- System Self Test on power up
- Serial communication to PC boards reduces number of wire for improved reliability.
- Monitoring of the PC board inputs/outputs through the touch screen
- Modbus communication Protocol via RS485 port
- 600 PSI rating provided as standard. Utilizes a manifold block for the pressure transducer and drain solenoid valve that eliminates the need for copper plumbing with Teflon tape, significantly reducing the possibility of water leaks.

AUXILIARY PROGRAMS

The controller includes as standard one (1) discrete auxiliary inputs and two (2) outputs. These auxiliary I/O are in addition to those required by NFPA 20 UL and FM. All auxiliary I/O can be field programmed on the touch screen. Expandable 12 channel I/O board for additional alarms, expandable to 48 I/O. All 48 aux programs can have a custom message.

EVENTS AND ALARMS

Each Record Tracks:
- Date and Time
- Pressure

- Voltage and current for connected source
- Login state
- Pressure
- Internal temperature
- State of every alarm
- The I/O state of all PCBs (excluding any add-on boards).
- Active start conditions.
- The state of all aux programs (48 aux programs available).
- Power available