Mark IIxG
Diesel Engine Fire Pump Controllers

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FTA1100J
Compatible with mechanical and electronic engine types.

Firetrol® combined automatic and manual Mark IIxG based diesel engine fire pump controllers are intended for starting and monitoring fire pump diesel engines. The controller monitors, displays and records fire pump system information. Diesel engine fire pump controllers are available in 12 or 24 volts, work with lead acid or Nickel-Cadmium batteries and are designed to operate seamlessly with either mechanical or electronic engine types.

Battery Chargers
The controllers are supplied with two fully automatic, 200 amp hour, 4 step battery chargers. The chargers feature Switching Technology and 10Adc Pulse-Width Modulated Output Current. The 4 step charging cycle is as follows:

Step 1 - Qualification Stage
During this stage, the battery charger checks the batteries to ensure they can accept a fast charge. It also checks for missing or defective batteries. If a missing or defective battery is detected, a fault will be given.

Step 2 - Fast Charge Stage
Charges the batteries until they reach peak voltage.

Step 3 - Bulk Charge Stage
Charges the batteries at a constant potential of peak voltage until current reaches 500mA.

Step 4 - Float Charge Stage
Trickle charges the batteries to maintain peak potential.

Operator Interface
The fire pump controllers feature an operator interface with user keypad. The interface monitors and displays motor operating conditions, including all alarms, events, and pressure conditions. All alarms, events, and pressure conditions are displayed with a time and date stamp. The display is a 128x64 Backlit LCD capable of customized graphics and Cyrillic type character display. The display and interface are NEMA rated for Type 2, 3R, 4, 4X, and 12 protection and is fully accessible without opening the controller door. The user interface utilizes multiple levels of password protection for system security. A minimum of 3 password levels are provided.

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.

Digital Status/Alarm Messages
The digital display indicates text messages for the status and alarm conditions of:

- Engine Run
- Minimum Run Time / Off Delay Time
- Engine Fail to Start
- Low Suction Pressure
- Drive Not Installed
- Disk Error
- Disk Near Full
- Pressure Error
- Sequential Start Time
- Crank/Rest Time Cycle
- Low Engine Temp.
- Interstitial/Fuel Spill
- Remote Start
- System Battery Low
- Manual Engine Crank
- Electronic Control Module (ECM) Warning
- ECM Failure
- Low Suction Pressure
- PLD (pressure limiting driver)
- High Raw Water Temp.
- Clogged Raw Water Stainer

The Sequential Start Timer and Minimum Run Timer/Off Delay Times are displayed as numeric values reflecting the value of the remaining time.
AC Line and Battery Circuit Breakers
Manual-Off-Auto Selector Switch
Two (2) Manual Crank Push-Buttons
Two (2) 10 Amp Battery Chargers with 4 stage charging cycle, selectable AC voltage (110/220), selectable DC voltage (12/24) and selectable battery type (Lead Acid, Ni-Cad 9/18 Cell, Ni-Cad 10/20 Cell)
Minimum Run Timer/Off Delay Timer
Programmable Daylight Saving Time Option
Weekly Test Timer
Engine Run Time Meter
Digital Pressure Display
Solid State Pressure Transducer
Door mounted display/interface panel featuring a 128 x 64 pixel backlit LCD Graphical Display, Membrane Type User Control Push-buttons and easy to read LED Indicators for:
• AC POWER AVAILABLE
• ALARM
• MAIN SWITCH IN AUTO
• MAIN SWITCH IN MANUAL
• SYSTEM PRESSURE LOW
• ENGINE RUNNING
• ENGINE FAIL TO START
• ENGINE TEMPERATURE HIGH
• ENGINE OIL PRESSURE LOW
• ENGINE OVERSPEED
• ENGINE ALTERNATE ECM
• ENGINE FUEL INJECTOR MALFUNCTION
• FUEL LEVEL LOW
• AUTOMATIC SHUTDOWN DISABLED
• CHARGER MALFUNCTION
• BATTERY #1 TROUBLE
• BATTERY #2 TROUBLE
USB Host Controller and Port
Data Log
Event Log (3000 Events)
Simultaneous Display of Battery Voltages, Charging Rates, AC Volts, System Pressure and Alarm Messages
Disk Error message
Disk Near Full message
Pressure Error message
Fail To Start message
Low Suction Pressure message
Crank Cycle Status Indication (Displays Cranking Battery, Number of Starting Attempts and Crank/Rest Time Remaining)
300 psi (20.7 bar) wet parts (solid state pressure transducer, solenoid valve, plumbing) for fresh water applications
NEMA Type 2 enclosure
Suitable for use as Service Equipment
Each standard controller comes with user configurable options for:
• AC Power Loss Start • Interlock Alarm
• Low Pressure Audible • Low Suction Pressure
• Main Switch Mis-Set • Manual Test
• Pump Run Alarm • Remote Start
• User Defined Input • Weekly Test Setup
• Low Pump Room Temp • Low Reservoir
• Relief Valve Open • High Fuel Level
• High Reservoir
Also included (as required) are Audible/Visible alarm notifications for:
• Electronic Engine Control Module (ECM) Warning
• Electronic Engine Control Module (ECM) Failure
• Low Engine Temperature
• High Raw Cooling Water Temperature
• Low Raw Water Flow (Clogged Stainer)
• Fuel Spill (Interstitial Space Liquid Intrusion)
• Low Suction Pressure (At Variable Speed Suction Limiting Engine Controls)

Standard features include:
- AC Line and Battery Circuit Breakers
- Manual-Off-Auto Selector Switch
- Manual Test Push-Button
- Two (2) Manual Crank Push-Buttons
- Two (2) 10 Amp Battery Chargers with 4 stage charging cycle, selectable AC voltage (110/220), selectable DC voltage (12/24) and selectable battery type (Lead Acid, Ni-Cad 9/18 Cell, Ni-Cad 10/20 Cell)
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- Programmable Daylight Saving Time Option
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  - ALARM
  - MAIN SWITCH IN AUTO
  - MAIN SWITCH IN MANUAL
  - SYSTEM PRESSURE LOW
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  - ENGINE OVERSPEED
  - ENGINE ALTERNATE ECM
  - ENGINE FUEL INJECTOR MALFUNCTION
  - FUEL LEVEL LOW
  - AUTOMATIC SHUTDOWN DISABLED
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  - BATTERY #1 TROUBLE
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- USB Host Controller and Port
- Data Log
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- Battery Charger
- Manual-Off-Auto Selector Switch and Engine Test Push-button
- Circuit Breakers and Engine Connection Terminals
- Relay Board and Field Connection Terminals
- Pressure Transducer and Test Drain Solenoid Valve