



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 insure 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.

**Firetrol designed
4-stage battery
charger.**



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.



USB Host Port and Flash Disk

LED Visual Indicators

LED indicators, visible with the door closed, indicate:

•AC Power Available •Alarm •Main Sw. in Auto
•Main Sw. 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 Malfunc-
tion •Fuel Level Low •Automatic Shutdown
Disabled •Charger Malfunction •Battery #1
Trouble •Battery #2 Trouble

Data Logging

The user interface monitors the system and logs the following data:

•Number Calls/Starts •Engine Total Run
Time •Last Run Time •Controller Power On
Time •Last Start •Minimum System Pres-
sure •Maximum System Pressure •Last High
Temperature •Last Low Oil Pressure •Last
Engine Overspeed •Last Low Fuel Level
•Last Charger Fail •Last Battery Trouble
•Battery #1 Volts •Battery #2 Volts •Battery
#1 Amps •Battery #2 Amps

Event Recording

Memory – The controller records all oper-
ational and alarm events to system memory.
All events are time and date stamped and
include an index number. The system mem-
ory has the capability of storing 3000 events
and allows the user access to the event log
via the user interface. The user can scroll
through the stored messages in groups of 1
or 10.

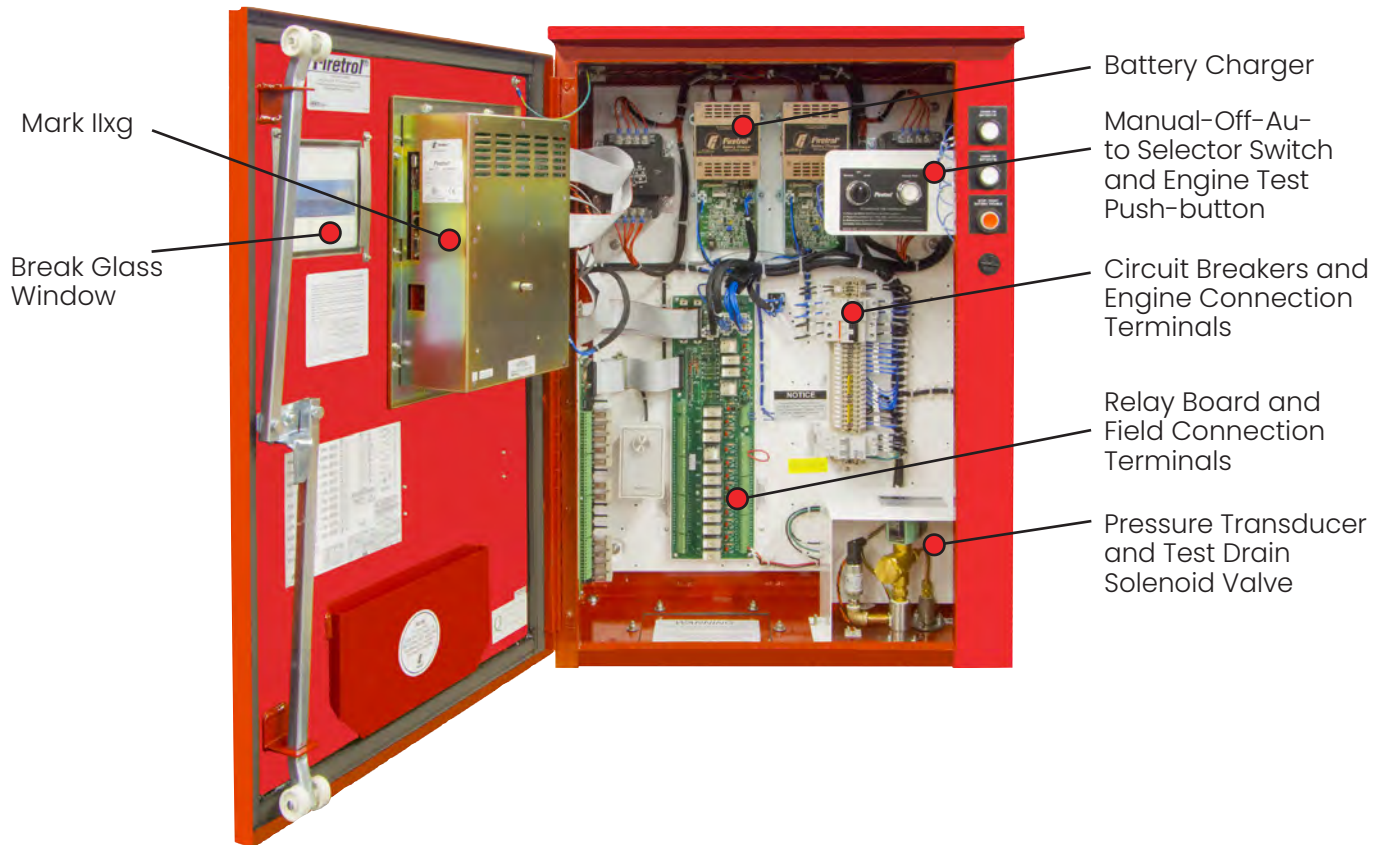
USB Host Controller

The controller is equipped with a built-in
USB Host Controller. A USB port capable of
accepting a USB Flash Memory Disk is pro-
vided. The controller saves all operational
and alarm events to the flash memory on
a daily basis. Each saved event is time and
date stamped. The total amount of historical
data saved depends on the size of the flash
disk utilized. The operator can save settings
and values to the flash disk on demand via
the user interface.

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), se-
lectable 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 configu-
rable 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 Strainer)
 - Fuel Spill (Interstitial Space Liquid Intrusion)
 - Low Suction Pressure (At Variable Speed Suction
Limiting Engine Controls)

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