



**NEW  
PRODUCT**

## *Microprocessor Based Part Winding Type Starting* **‘PILOT’ SERIES MPT420TS**

**ONLY 32" WIDE WITH ATS**

Available in Across-The-Line, Soft Start, Wye-Delta  
Open & Closed Transition Starting Methods

*For Select Models, HP and Voltage Ranges Only*



MPT700 Photo Shown

The starting contactors operate in sequence to energize a portion of the motor windings on start which reduces inrush current to approximately 65% of normal. An adjustable timing relay is provided to control time between reduced current start and normal running operation.

Metron's new patented fire pump controller with integral transfer switch is designed in a single narrow enclosure to reduce the amount of pump room space required.

Only the highest quality components, UL Listed or Recognized, are used throughout to assure the best possible reliability. The cabinet is fabricated of heavy 12 gauge reinforced steel, with Type 3R supplied as standard and rated 60°C. All field wiring and service connections may be made from the front, allowing the controller to be mounted flush against a wall.

Metron fire pump controllers conform to the latest requirements of the NFPA 20, UL 218 and FM 1321/1323, and bear the labels of Underwriters Laboratories and Factory Mutual.

**PATENTED  
DESIGN AND  
TECHNOLOGY**

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

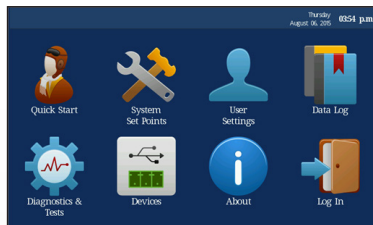


MPT700TS Photo Shown

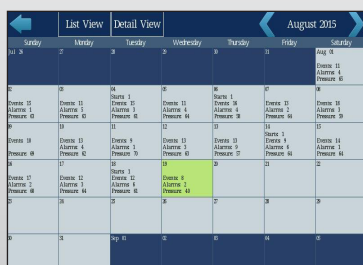


# Metron Fire Pump Controls and Accessories

## Touch Screen Features



- » Large 7" color LCD touch screen
- » Simultaneous display on Home screen for 3 phase amperage/voltage, System pressure, Start Pressure, Stop pressure, System status, Alarm status, Transfer switch position, date and Time
- » 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.
- » Let Metron's "Pilot" feature guide you through the controllers startup settings. 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.
- » View data log/event history in Calendar screen to easily find a specific event by touching the day on the calendar month



## Standard 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
- » 60°C rated with Type 3R enclosure as 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.
- » Single logic control for operation of both the fire pump controller and transfer witch.
- » Monitoring of the PC board inputs/outputs through the touch screen
- » Monitor normal and emergency power sources simultaneously
- » Phase rotation selectable through "Pilot feature" or Congif Icon
- » Foreign language selectable
- » Modbus communication Protocol via RS785 port
- » Controllers are suitable for use as Service entrance equipment
- » 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.



## MTS Automatic Transfer Switch Features

- » The combination fire pump controller/automatic transfer switch is Listed with Underwriters Laboratories to UL 1008, Approved by Factory Mutual, and meets the latest requirements of NFPA 20. The transfer switch is a mechanically held double throw switch with a fast acting drive mechanism.
- » The Metron MTS automatic transfer switch control functions are an integrated into the fire pump controllers main microprocessor control, eliminating the need for a separate transfer switch controller, reducing the number of components and wiring for improved reliability.

*Continues on next page...*





# Metron Fire Pump Controls and Accessories

- » Functions include transfer, retransfer and generator start adjustable time delays, generator start contacts, 3 phase voltage monitoring and frequency monitoring on Normal and Emergency power sources.

## Auxiliary Programs

The controller includes as standard six (6) discrete auxiliary inputs and six (6) 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 168 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
- Which source the transfer switch is connected to.
- Whether normal/emergency power is available.
- The I/O state of all PCB's (excluding any add-on boards).
- Active start conditions.
- The state of all aux programs (48 aux programs available).
- Power available

## Event Messages

- EVENT MESSAGES
- REMOTE TEST START
- MANUAL TEST START
- AUTO TEST START
- MODBUS TEST START
- REMOTE START
- MODBUS START
- HIGH ZONE CALL TO START
- DELUGE START
- PRESSURE TRANSDUCER FAILURE START
- SUPERVISORY POWER FAILURE START
- LOW PRESSURE START
- LOCAL START
- PUMP RUNNING
- CRR ENERGIZED/DE-ENERGIZED
- CSR ENERGIZED/DE-ENERGIZED
- LOAD SHED
- SOFT START ON
- MANUAL STOP
- AUTO STOP
- ACCELERATION TIMER ON
- REMOTE LOCKOUT
- REMOTE LOCKOUT CLEARED
- DUMP VALVE OPENED
- DUMP VALVE CLOSED
- DUMP VALVE INSUFFICIENT DISCHARGE
- SYSTEM REBOOT

## Alarm Messages

Each alarm occurred or cleared

- PHASE FAILURE (NORMAL & EMERGENCY)
- PHASEREVERSAL(NORMAL & EMERGENCY)
- PHASE OVER/UNDER VOLTAGE (NORMAL & EMERGENCY)
- PHASE OVER/UNDER FREQUENCY (NORMAL & EMERGENCY)
- PRESSURE TRANSDUCER FAULT
- LOW/HIGH PRESSURE
- FAIL TO START
- FAIL TO STOP
- LOCKED ROTOR
- MOTOR OVERLOAD
- LOW SUCTION
- LOW ZONE FAIL TO START
- LOW ZONE QUIT
- SUPERVISORY POWER FAILURE
- GENSET FAIL TO START
- LOSS OF NORMAL POWER

## Model Number Designation

### Example: MPT420-75-480C-H MTS

**MPT420** -- Model Type

- **xXX** -- Horsepower Rating: 5-600

- **XXX** -- Voltage Rating: 200-480 VAC

- **B or C** -- Withstand Rating: B - 22,000 (@575 VAC) 50,000 (200-480 VAC)  
C - 100,000 (200-480 VAC)

**X** -- \*Option Designation(s)

**MTS** -- With Transfer Switch

\*Options are listed on next page.

## Standard Withstand Ratings

VOLTS	HP -- RMS SYMMETRICAL
200-208	15-150 -- 100kA
220-240	15-200 -- 100kA
380-415	15-300 -- 100kA
460-480	15-400 -- 100kA
200-208	200-250 -- 50kA
220-240	250-300 -- 50kA
380-415	350-350 -- 50kA
460-480	500-600 -- 50kA

**Information required with order:** 1) Model Type  
2) Motor Horsepower 3) Line Voltage, phase and frequency 4) Options, if any





# Metron Fire Pump Controls and Accessories

## Options

### Option H: Space Heater

If the ambient atmosphere is especially damp, a space heater rated at 100 watts may be supplied to reduce moisture in the cabinet. A thermostat is supplied as standard with this option. A humidistat may be substituted if specified.

### Enclosure Options

Type 3R is standard. The following UL Type enclosures are available:

- Type 4
- Type 4X (painted cold roll steel)
- Type 4X (304 or 316 Stainless Steel)
- Type 12

Consult factory for additional options.

### US PATENTS

*US 7,762,786 B2 Integrated Fire Pump Controller and Automatic Transfer Switch vertical arrangement in a single enclosure.*

*US 8,482,307 B2 Method For Prevention of Untested PC Boards from Being Used In A Fire Pump Control System.*

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