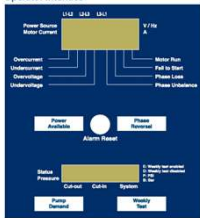


Medium Voltage
Electric Fire Pump Controller
Micro-processor based

Operator interface



Voltage and amperage module

Provides for:

- Phase sequence / Loss monitoring & alarms
- Individual phase-to-phase voltage indication
- Individual phase current indication
- True elapsed run time
- Motor run visual indication
- Over & under current visual indication
- Over & under voltage visual indication
- Fail to start visual indication
- Phase loss visual indication
- Phase unbalance visual indication
- Power available LED
- Phase reversal LED

Pressure and Sequencer module

Provides for:

- Cut-in & Cut-Out pressure setting
- System pressure indication
- Run period timer
- Sequential start timer
- Weekly test setting
- Pressure recording
- Alarm & events recording
- Pump on demand LED
- Weekly test LED
- USB (slave) communication port
- Printer (optional)
- Modem (optional)

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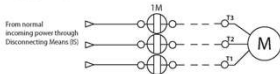
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Medium Voltage Electric Fire Pump Controller Micro-processor based

The model MFA medium voltage, full service fire pump controller is designed to provide across the line start for electric motors with voltages between 2300 volts and 7200 volts and horsepower's ranging from 100 to 5000 HP.

The complete assembled and wired controllers are factory tested before shipping and ready for immediate installation.



From normal incoming power through Disconnecting Means (DS)



Starting Method: Full Voltage

Across the line (Direct on line)

Typical Voltage Applied at Start: 100%

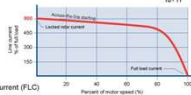
Inrush Current: 6 x normal load current

Starting Torque: 100%

Motor Type: Across the line (Direct on line)

No. of Contactors: 1 at 100% of horsepower

No. of Motor Connections & Sizing: 3 at 100% of Full load Current (FLC)



Shortcircuit Withstand Rating	3300V - 3ph - 50Hz
Standard	Normal Power 44,700 A

Built to Standard	Standard	NFPA Phosphlet 20 - 2010 Edition	Chapter 10 - Article 10.6
	Enclosure	Three compartments with individual doors for: Main disconnect switch Starter (fuses, vacuum contactor and soft starter) Control circuit Main disconnect switch compartment door is interlocked with starter compartment door Power to control circuit is disconnected when main disconnect switch compartment door is opened	
	Protection Rating	Standard: NEMA 4X-304 stainless steel	
	Accessories	Back and top entry gland plates Lifting Lugs Keylock handle	
	Paint Specifications	Red RAL 3002 Powder coating Glossy textured finish	

Pressure Sensing	Pressure transducer and run test solenoid valve assembly for fresh water application Pressure sensing line connection 1/2" Female NPT Drain connection 3/8" Rated for 0-600psi working pressure Externally mounted with protective cover		
Audible Alarm	4" alarm bell - 85 dB at 10' (3m)		
Remote Alarm Contacts	SPDT 8A 250V AC Preset available Phase reversal Motor run Common pump-room alarm + Overvoltage - Undervoltage + Phase unbalance Common motor trouble + Overcurrent - Fail to start + Undercurrent + Ground fault		
Operator Interface	Microprocessor based 4 - line 20 character and 2 - line 20 character continuously scrollable digital display screens Accessible on front door Keypad type pushbuttons High luminosity LEDs		
Operation	Control Test Selector Switch	Normal - Test 220V power receptacle for external test power Start on pressure drop Start pushbutton	
	Automatic Start	Remote start signal from automatic device Start pushbutton	
	Manual Start	Run test pushbutton Cottage valve start Remote start from manual device	
	Stopping	Manual with Stop pushbutton Automatic after expiration of maximum run time	
	Times	Field Adjustable & Visual Countdown	Maximum run time (off delay) Sequential start time (on delay) Periodic test time
	Actuation	Visual Indication	Pressure Non pressure Automatic Non-automatic
Mode			



Emergency start handle



Externally mounted pressure transducer and run test solenoid valve with protective cover



Normal / Test selector switch for control circuit



Connection for 220VAC for testing of control circuit

Disconnecting Means	Non-load break isolating switch
Short Circuit Protection	Current limiting circuit fuses sized to hold 600% of motor full load current for minimum 100s
Motor Contactor	Vertical type
Service Entrance Rating	Subtle as service entrance equipment
Emergency Start Handle	- Flange mounted - Pull and latch activation - Across the line start (direct on line)
Locked Rotor Protector	- Factory set at 500% of motor full load current - Trip between 8 and 20 seconds - Trip motor contactor
Electrical Readings	- Voltage phase to phase - Amperage of each phase when motor is running
Pressure and Event Recorder	- Pressure readings with date stamp - Event recording with date stamp - Stored in memory for last 15 days - Data viewable on operator interface display screen - Downloadable by USB (printer) port to computer



Medium voltage across the line starter

Control section



Back entry removable gland plates for power connections and motor lead connections



ELECTRIC FIRE PUMP CONTROLLER

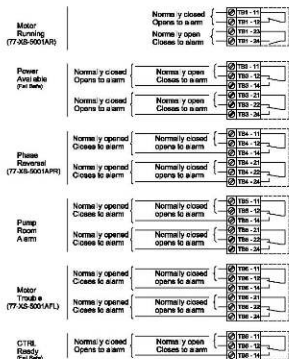
MEDIUM VOLTAGE - ACROSS THE LINE

MODEL : MFA

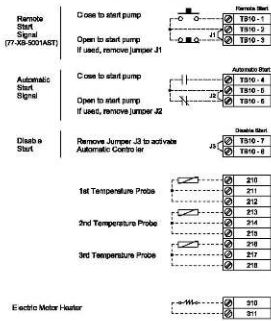
Terminal diagram

BUILT TO LATEST NFPA 20 STANDARD EDITION

Remote Alarm Terminal

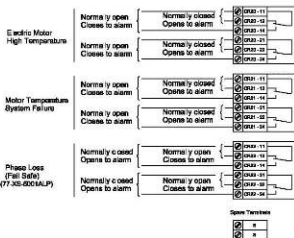


Control Terminal

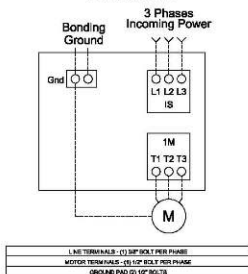


Alarm Contacts

NOTE : A) the alarm relays on the boards are protected against back EMF (See detail A).
A) the other alarm relays are protected against back EMF (See detail B).



Power Terminals



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0	11/01/08	FIRST ISSUE	VER	A 78430 -TD1 /E
REV.	DATE	DESCRIPTION	APP.	

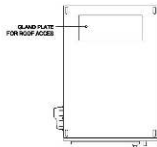
ELECTRIC FIRE PUMP CONTROLLER MEDIUM VOLTAGE DIMENSION

MODEL : MFA

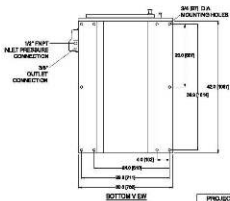
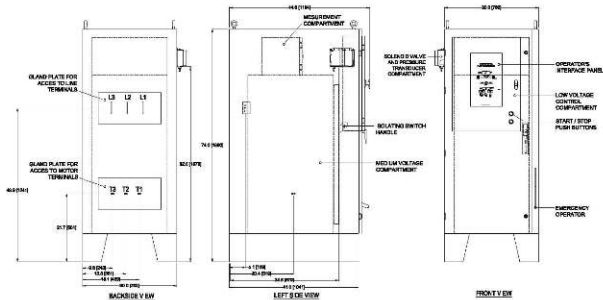
BUILT TO LATEST NFPA 20 STANDARD EDITION

CARACTERISTIQUES DU CABINET

- TYPE 2 ENCLOSURE
- ALL DIMENSIONS ARE IN INCHES [mm]



TOP VIEW



Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
For drawing for approval or installation, please contact manufacturer.



MFA0 M1		DRAWING No.	
Q.	10/04/21	First Issue	DES.
REV.	DATE	DESCRIPTION	VER.
			APP.

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