

ELKHART BRASS

Fire Fighting Equipment

81471067 Electric Monitor Motor **Control Panel**

For use with Model 8394059 SPIT-FIRE® Monitor
Installation, Operation, and Maintenance Instructions

FOR ATEX APPLICATIONS



98371000 REV. REL

PRODUCT SAFETY



Important:

Before installing and operating this equipment, read & study this manual thoroughly. Proper installation is essential to safe operation. In addition, the following points should be adhered to in order to ensure the safety of equipment and personnel:

- All personnel who may be expected to operate this equipment must be thoroughly trained in its safe and proper use.
- Before flowing water from this device, check that all personnel (fire service and civilian) are clear of the stream path. Also confirm stream direction will not cause avoidable property damage.
- Become thoroughly familiar with the hydraulic characteristics of this equipment, and the pumping system used to supply it. To produce effective fire streams, operating personnel must be properly trained.
- Whenever possible, this equipment should be operated from a remote location to avoid exposing personnel to dangerous fire conditions.
- Always open and close valves supplying this equipment slowly, so that the piping fills with water slowly, thus preventing the possible occurrence of water hammer.
- After each use, and on a scheduled basis, inspect equipment per instructions in the maintenance section.
- Disconnect power prior to servicing controls.
- Any modifications to the electrical enclosure will destroy the IP-66 rating and void warranty coverage of the enclosure and all components within.
- All equipment must be installed in accordance with ATEX requirements (EN/IEC 60079-14) as appropriate and in areas where equipment classification is suitable.



WARNING: Do not attempt to disconnect or work on any electrical equipment in this system unless power is removed or the area is known to be non-hazardous.

SYSTEM INFORMATION:

SERIAL NUMBER: _____

DETAILS:

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*For our most up-to-date documentation and specifications, please visit our website at www.elkhartbrass.com

I OVERVIEW

The primary function of the control panel is to operate or control the monitor and nozzle in a controlled environment or remote location by receiving an electric signal from a Master/Local/Network Control Panel (OCP), and then sending that signal to the monitor to execute those functions.

Electric Monitor Control Panel Features:

- **Construction** – Stainless Steel enclosure rated for Hazardous Location (Group II, Category 3)
- **Compliance** –   II 3 G c (Ex nA nC II T3)
- **Control Power** – On/Off 2-Position selector switch
- **Pilot Light** – Shows panel power on
- **Internal Power** – 24 VDC Power Supply for controls
- **Control Relays** – 24 VDC, 37mA relay inputs for: Monitor directions (UP, DOWN, LEFT, and RIGHT), Nozzle (STRAIGHT STREAM and FOG), Water and Foam Valves (OPEN and CLOSE).
- **Water and Foam Valve Options** - 24 VDC valve control with 24 VDC valve opened feedback.
- **Knockouts, Conduit Hubs, and Cable Glands** – Supplied by customer.

II INSTALLATION INSTRUCTIONS

Component Mounting

Monitor Motor Control Panel (MMCP) Installation

1. This enclosure should be located within 100 feet (30.48m) maximum distance to the Monitor Junction Box.
2. Install the Panel approximately 3-4 feet (.91 to 1.22m) above grade and in the vertical position, on a rigid structure. Installation is normally at the base of the riser.
3. The enclosure has four (4) mounting pads with .44" (11.18mm) diameter holes. Mounting hole centers are 18" (457.20mm) horizontal by 31 1/4" (793.75mm) vertical. Please refer to figure 5 on page 9 for dimensional drawing.
4. Use hubs and glands appropriate for the area classification they will be used in. Also, adhere to local code requirements for all electrical connections.

Interconnecting and Wiring Control System – Wiring Connection Details Are Inside Panel Door

Main Power to Monitor Motor Control Panel (MMCP)

1. Install conduit from the main power distribution breaker box to Monitor Motor Control Panel. MMCPs are not provided with conduit hubs unless special ordered.
2. Pull three (3) conductor cables for 1-phase supply (four (4) conductor cables for 3-phase supply), wire sized to supply a minimum of 500 VA. (For wiring information and sizing see MMCP Fuse and Wiring Section Figure 4)

Monitor Motor Control Panel (MMCP) to Monitor Junction Box

1. Install conduit between MMCP and Junction Box, located at flanged base of monitor. Junction boxes are provided with 1 1/2" NPT Conduit Hubs.
2. To connect these boxes ten (10) conductors are required with conductor size to be determined by distance run. (For wiring information and sizing see MMCP Fuse and Wiring Section Figure 4)

Master/Local/Network Control Panel to Monitor Motor Control Panel (MMCP)

1. Install conduit between MMCP and Master/Local/Network Control Box.
2. A minimum of fourteen (14) conductors plus spares are required PER MONITOR. (For wiring information and sizing see MMCP Fuse and Wiring Section Figure 3)

Monitor Motor Control Panel (MMCP) to optional Water or Foam Valves

1. Install conduit between MMCP and valve.
2. A minimum of six (6) conductors are required PER VALVE. (For wiring information and sizing see MMCP Fuse and Wiring Section Figure 3)



WARNING: Make sure panels are grounded according to area classification and company policy to assure panel code compliance.

MMCP Fuse and Wiring

MAIN POWER PANEL, FUSE, & JUMPER CONNECTIONS

MAIN POWER	PANEL CONNECTIONS	JUMPER CONNECTIONS		FUSE	DESCRIPTION	PT. NO.
110/120-VAC 50/60-Hz. 1-Phase	L1, N, & G	2L1 to 3L		F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
				F2	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
* 220/240-VAC 60-Hz. 1-Phase	L1, L2, N, & G	2L1 to H4	H3 to H1	F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
		H4 to H2	X1 to 3L			
220/240-VAC 50-Hz. 1-Phase	L1, N, & G	2L1 to H4	H3 to H1	F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
		H4 to H2	X1 to 3L			
440/480-VAC 50/60-Hz. 3-Phase	L1, L2, N, & G	2L1 to H4	X1 to 3L	F1	CLASS CC, TIME DELAY 600-VAC, 1-AMP	FNQ-R-1
		2L2 to H1	X2 to N			
220/240-VAC 50-Hz. 1-Phase	L1, N, & G	2L1 to H4	H3 to H1	F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
		H4 to H2	X1 to 3L			
440/480-VAC 50/60-Hz. 3-Phase	L1, L2, N, & G	2L1 to H4	X1 to 3L	F1	CLASS CC, TIME DELAY 600-VAC, 1-AMP	FNQ-R-1
		2L2 to H1	X2 to N			
220/240-VAC 50-Hz. 1-Phase	L1, N, & G	2L1 to H4	H3 to H1	F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
		H4 to H2	X1 to 3L			
440/480-VAC 50/60-Hz. 3-Phase	L1, L2, N, & G	2L1 to H4	X1 to 3L	F1	CLASS CC, TIME DELAY 600-VAC, 1-AMP	FNQ-R-1
		2L2 to H1	X2 to N			
220/240-VAC 50-Hz. 1-Phase	L1, N, & G	2L1 to H4	H3 to H1	F1	CLASS CC, TIME DELAY 600-VAC, 5-AMP	FNQ-R-5
		H4 to H2	X1 to 3L			
440/480-VAC 50/60-Hz. 3-Phase	L1, L2, N, & G	2L1 to H4	X1 to 3L	F1	CLASS CC, TIME DELAY 600-VAC, 1-AMP	FNQ-R-1
		2L2 to H1	X2 to N			

* 220/240 VAC, 60 Hz., 1 Phase (FACTORY CONFIGURATION)

Figure 1: MMCP Fuse and Jumper Diagram

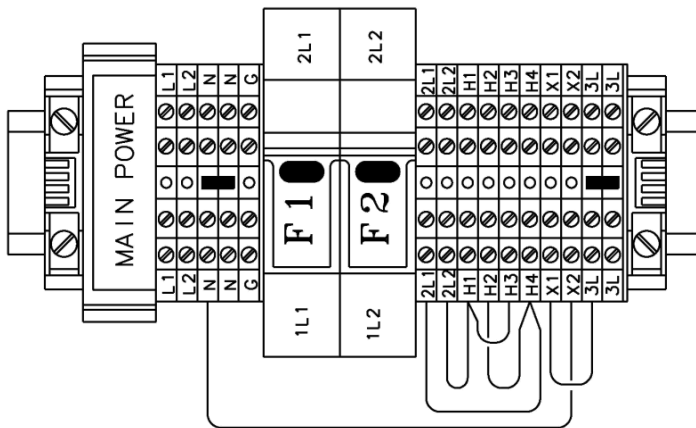


Figure 2: MMCP Fuse and Jumper Diagram

WIRE SIZE FOR CONDUCTORS BETWEEN MONITOR MOTOR CONTROL PANEL AND OPERATOR CONTROL PANEL OR VALVES	
CONDUCTOR LENGTH	WIRE SIZE
UP TO 750 FEET (228.6 m)	18-AWG
750 TO 1500 FEET (457.2 m)	16-AWG
1500 TO 2500 FEET (762 m)	14-AWG
2500 TO 3500 FEET (1066.8 m)	12-AWG

Figure 3: MMCP - OCP Wiring Chart

WIRE SIZE FOR CONDUCTORS BETWEEN MONITOR MOTOR CONTROL PANEL AND MONITOR JUNCTION BOX	
CONDUCTOR LENGTH	WIRE SIZE
UP TO 75 FEET (22.86 m)	18-AWG
75 TO 100 FEET (30.48 m)	16-AWG
100 TO 200 FEET (60.96 m)	14-AWG
200 TO 400 FEET (121.92 m)	12-AWG

Figure 4: MMCP – Monitor Junction Box Wiring Chart

III SPECIFICATIONS

General Specs

- Input Power 120/240 VAC (50/60Hz.) 1 Phase } Power converts to 24
480 VAC (50/60 Hz.) 3 Phase } VDC in control panel
500 VA max. Power
- Electrical Load 4 AMPS MAX
- Panel Dimensions 24" X 36" (609.60mm X 914.40mm)
- Panel Weight Approx. 100 lbs
- Operating Temperature Range -10°C to +70°C

ATEX Product Marking

-   II 3 G c
Ex nA nC II T3

IV OPERATING INSTRUCTIONS

This control panel has one ON/OFF 2-position selector switch. Move it to the ON position so the pilot light illuminates, showing the panel is now powered up, and ready for associated monitor operation.

V MAINTENANCE

Monthly Inspection and Maintenance

1. Check the indicator light and replace bulb if it's not operable.
2. Confirm that all terminal blocks and connections are properly taut to 4.5 – 7.1 in-lbs. (0.508 – 0.802 Nm).
3. Check for proper operation of the system overall, if there are problems with the system please refer to the Troubleshooting section for help.

VI TROUBLESHOOTING

- A. If Panel will not power up:
 - 1. Check the incoming supply power, and if it's the proper power requirement for the system.
 - 2. Check to make sure the transformer is wired correctly.
 - 3. Check fuses in panel to confirm they are good. If fuses are blown, replace them with same or equivalent fuse.
 - a. Check for causes in the interconnect wiring and connections.
 - b. Verify that the OCP/NCP is not trying to activate the monitor motor functions
 - c. If nothing is found consult with your Elkhart Brass representative.
 - 4. Check panel power switch to make sure it is in the "Power On" position.
 - 5. Check power supply to confirm there is 120 VAC running to it.
- B. If Pilot Light is not on when panel has power:
 - 1. Check the light bulb, and replace if it is burnt out.
- C. Function not working correctly:
 - 1. Check to see if there is a loose connection at the terminal blocks or contact blocks. Make sure all screw terminations are properly tightened to 4.5 – 7.1 in-lbs (0.508 – 0.802 Nm)
 - 2. Check relay for actuation. If bad, replace relay with new working relay.
- D. Water or Foam valve will open but will not close when operated.
 - 1. Verify that jumpers between terminals (10 and 14) or (15 and 19) are removed.

Please refer to our website at www.elkhartbrass.com for any further information. Any problems that cannot be fixed/solved should be taken to your Elkhart Brass Representative.



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VII MOUNTING DIMENSIONS

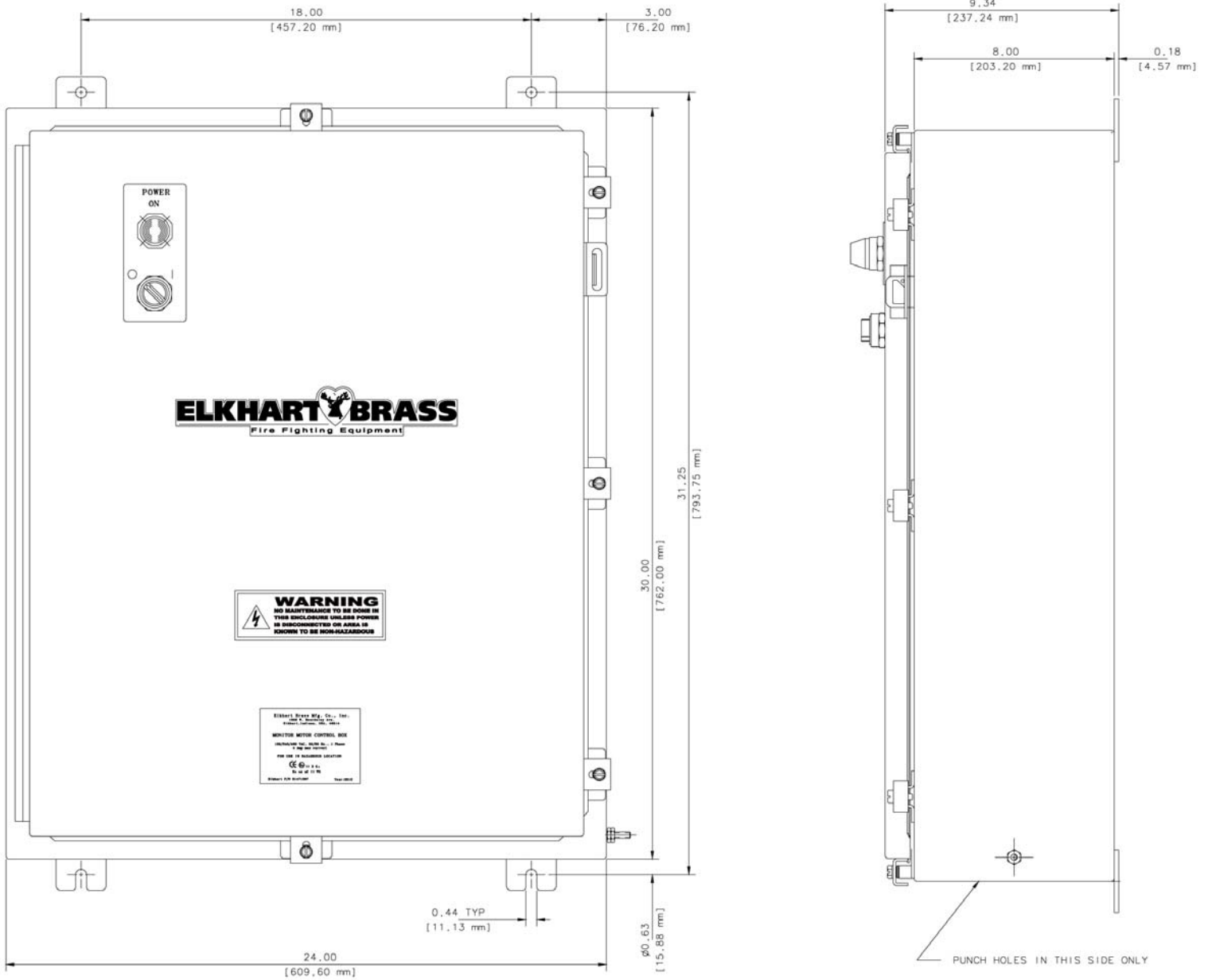


Figure 5: MMCP Mounting Dimensions

VIII ENGINEERING CHANGE REVISION EXPLANATIONS

