

ICM493-60A

Programmable, Single-Phase Voltage Monitor with Surge Protection



Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com



Important Safety Information

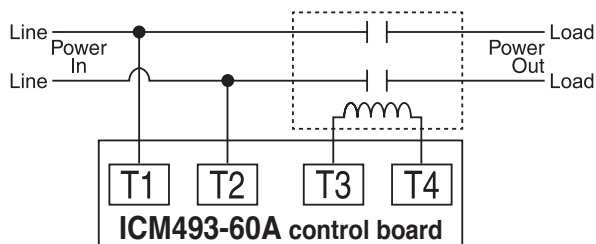


HIGH VOLTAGE WARNING! – Turn off power at the main service panel before installing.

Installation

1. Remove cover by extracting the screw from the bottom of the enclosure.
2. Remove desired size knock-outs from the enclosure needed to install the required conduits (1/2" or 3/4").
3. Mount the enclosure to the desired surface with (4) screws and pull any conduits through the knockouts on the bottom as needed (refer to **Fig. 0**).
4. Rest the front panel door in a vertical position using the contactor bracket as a base of support as seen in **Fig. 1**.
5. Hold the contactor and unscrew the two Phillips head mounting screws on the front of the panel also seen in **Fig. 1**.
6. Whilst holding the contactor against the front panel, lay the front panel face down as seen in **Fig. 2**.
7. Rotate the contactor 90 degrees counter clockwise and rest it on its base as seen in **Fig. 3**. This orientation will give you access to the L1, L3 and T1, T3 terminal screws which are needed to mount the heavy gauge wires of the 60 AMP circuit. CAUTION: DO NOT USE THE 1/4" QUICK CONNECT TERMINALS IN A 60 AMP CIRCUIT.
8. Insert the line wires from the incoming power to the L1 & L3 terminals and tighten down the screws as seen in **Fig. 4**.
9. Insert the load (equipment) wires to T1 & T3 and tighten down the screws as seen in **Fig. 5**.
10. Rotate the contactor 90 degrees clockwise, then rotate the whole front panel and contactor assembly 180 degrees counter clockwise so the front panel is facing up and the contactor is resting on its side as seen in **Fig. 6**.
11. Adjust the position of the contactor to align the mounting bracket threaded holes with the front panels through holes also seen in **Fig. 6**.
12. Re-insert the two Phillips head screws which secure the contactor to the front panel and tighten down securely seen again in **Fig. 6**.
13. Tilt front panel diagonally and insert the panel into the enclosure as seen in **Fig. 7**.
14. Lay the front panel horizontally in the enclosure and align the holes on the sides of the case one at a time also seen in **Fig. 7**.
15. Using the two larger screws included in the kit, attach the front panel to the enclosure as seen in **Fig. 8**, (do not overtighten screws)
16. Close the hinged front plate and secure the upper right corner into the bracket with the small screw provided in kit as seen in **Figures 9 & 10**
17. Once settings have been configured, attach the top cover and secure with screw.

Wiring Diagram



Use 75°C Copper wire only

Figures 0 - 10



Fig. 0

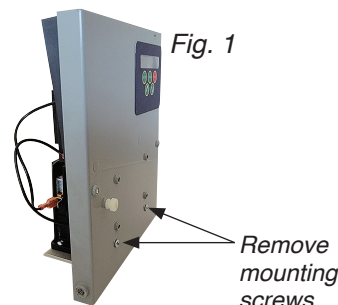


Fig. 1

Remove mounting screws

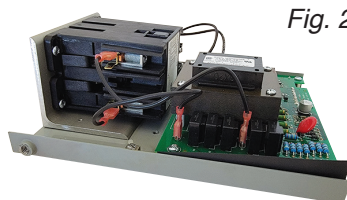


Fig. 2



Fig. 3

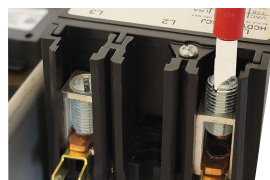


Fig. 4

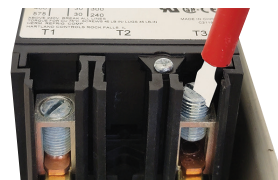


Fig. 5

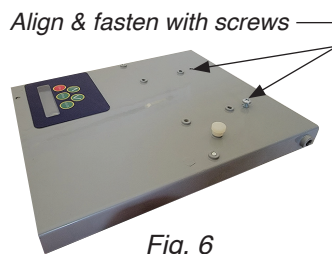


Fig. 6

Align & fasten with screws

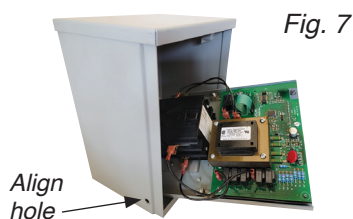


Fig. 7

Align hole

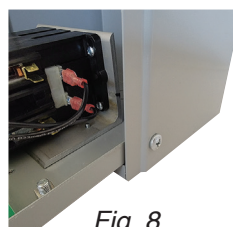


Fig. 8



Fig. 9



Fig. 10

Fasten with screw

Specifications

Input:

- 195-264 VAC
- 50/60 Hz

Contact Ratings:

- **Voltage:** 240 VAC
- **FLA:** 60A
- **LRA:** 360A

- **Dimensions:** 8"L x 10"W x 6"H

Parameters:

- **Line voltage:** 200-240 VAC, adjustable
- **Over/under voltage setting:** 5%-10%, adjustable
(under voltage limited to 195 VAC)
- **Anti-short cycle time delay:** 0.5-10 minutes
- **Number of trials:** 1-5, auto
- **Number of movistors:** 0-5

Control Operating Temperature:

- **Operating temperature:** -40°F to 167°F (-40°C to 75°C)
- **Storage temperature:** -40°F to 185°F (-40°C to 85°C)
- **LCD operating temperature:** -4°F to 167°F (-20°C to 75°C)

Mechanical:

- **Mounting:** Four mounting holes in back of enclosure
- **Enclosure:** NEMA/Type 3R, rain-tight enclosure rated for outdoor installation

Setting the Parameters

1. Press the  button to scroll through various user-conFig.urable settings.
2. Use the   buttons to change the set point.
3. When the last parameter has been set, you will return to the read screen.

Button Functions



Press to enter setup mode, and to toggle through user-conFig.urable settings.



Press to adjust settings  & . Hold for 2 seconds to enter line voltage calibration.



Press at any time to return to the Read screen, which will display any faults, the current line voltage, and the number of remaining MOVs.



Hold for 2 secs. to reset unit.



Press to scroll through past recorded faults. Hold for 5 seconds to clear fault memory.

Calibration Feature

The **ICM493-60A** can be calibrated to match the reading from a true RMS meter.

1. Measure input voltage from T1 to T2 using a true RMS meter.
2. Hold   buttons simultaneously until line voltage starts to flash.
3. Adjust voltage using  or  buttons to match measured voltage from step 1.
4. Push  button to lock values into memory.

Specifications

Parameter	Description	Range	Default	Recommended
Line voltage	The expected line voltage	200-240	240	Nameplate voltage**
Over/under voltage	The allowed percentage over and under the set line voltage	5% to 10%	10%	10% over/under
Anti-short delay	The amount of time delay between the end of a fault, and closing of the contactor	0:30 to 10:00	0:30	4 minutes
Reset mode retries	The number of retries after a fault has occurred. Auto has unlimited retries.	1 to 5, Auto	Auto	Auto
Allowed MOV fail	The number of surge devices allowed to fail while maintaining operation. Setting to "5" will allow operation, even when surge protection has been exhausted.	0 to 5	5	Set to "5" for ensured operation. Set to "4" for max. operation while ensuring surge protection.

** For best recommendations, consult manufacturer of equipment.

ONE-YEAR LIMITED WARRANTY

The Seller warrants its products against defects in material or workmanship for a period of one (1) year from the date of manufacture. The liability of the Seller is limited, at its option, to repair, replace or issue a non-case credit for the purchase prices of the goods which are provided to be defective. The warranty and remedies set forth herein do not apply to any goods or parts thereof which have been subjected to misuse including any use or application in violation of the Seller's instructions, neglect, tampering, improper storage, incorrect installation or servicing not performed by the Seller. In order to permit the Seller to properly administer the warranty, the Buyer shall: 1) Notify the Seller promptly of any claim, submitting date code information or any other pertinent data as requested by the Seller. 2) Permit the Seller to inspect and test the product claimed to be defective. Items claimed to be defective and are determined by Seller to be non-defective are subject to a \$30.00 per hour inspection fee. This warranty constitutes the Seller's sole liability hereunder and is in lieu of any other warranty expressed, implied or statutory. Unless otherwise stated in writing, Seller makes no warranty that the goods depicted or described herein are fit for any particular purpose.



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