SENTRY 3N1

Single-Phase Voltage & Surge Protected Disconnect

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**

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IMPORTANT SAFETY INFORMATION

ELECTRICAL SHOCK HAZARD – ***Before installing this unit, turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position.***

Always shut off internal breaker before servicing connected equipment.

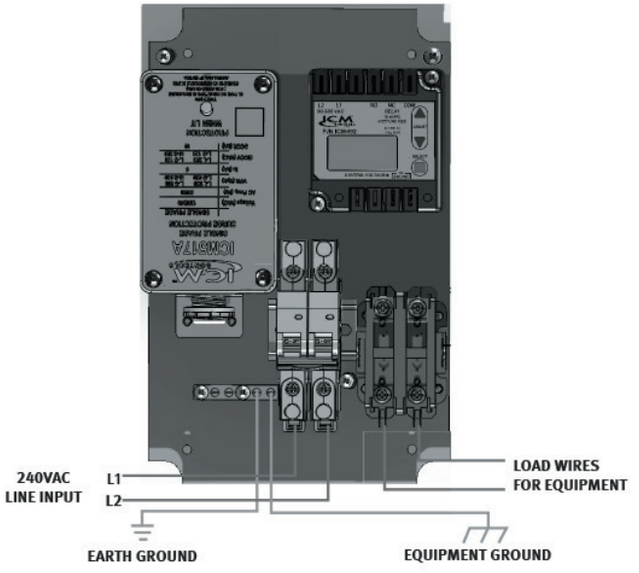
- ***This control should be installed by a trained professional***
- ***Incorrect installation can cause personal injuries, property damage or even death.***
- ***Follow all local & national codes while installing control.***

GENERAL INSTALLATION

CAUTION: Remove all power at the main service panel before installing or servicing the Sentry 3N1 by switching off the appropriate breaker or removing the appropriate fuse. Also make sure the service disconnect breaker on the sentry 3N1 is in the OFF position.

1. With the Sentry 3N1 enclosure in a vertical position, drill an appropriately sized hole for the appropriate waterproof whip (NEMA rated waterproof wire raceway) you will be using.
2. Mount the appropriate NEMA rated waterproof wire raceway to the Sentry 3N1 enclosure.
3. Mount the four feet which come with the enclosure to the four corner holes in the bottom of the enclosure.
4. Lay the Sentry 3N1 against the desired mounting location and using appropriate hardware, fasten the Sentry 3N1 to the desired location through the holes in the feet.
5. Bring Line voltage 208/240VAC power wires to the breaker switch input and wire your equipment load wires to the contactor output as seen in the diagram below.

INSTALLATION WIRING DIAGRAM (208/240 VAC)



GENERAL OPERATIONS

Upon installation and application of power, the Sentry 3N1 from ICM controls will monitor the incoming line for voltage variation and surges. If the voltage is within the preset limits of the voltage monitor, the Sentry 3N1 will close the onboard contactor and power the load. If there is an over or under voltage condition caused by incoming voltage varying outside the preset limits, the contactor will open and will not close again until the voltage is back within range. The parameters of the ICM492 voltage monitor can be customized for specific operation but it is recommended to leave them at the preset values.

CAUTION: Do not set the voltage setpoint of the ICM492 above 240VAC and no more than 5% over voltage or potential damage to Sentry 3N1 could occur.

The Sentry 3N1 will constantly monitor voltage surges and suppress surges within the limits of the ICM517A specifications. Once surge suppression capability is compromised, the LED on the ICM517A will stop illuminating and the ICM517A will require replacement.

SENTRY 3N1 PRODUCT SPECIFICATIONS

Input:
- **Frequency:** 50/60 Hz
- **Line voltage:** 208/240 VAC

Surge Protection:
- **Max Surge Protection:** 100,000 amps

Output
- **Type:** Relay, SPDT
- **Contactor:** 40A, 208/240VAC

Dimensions:
6.5”L x 4.75”W x 1.09”D

TROUBLESHOOTING TIPS

Problem	Trouble shooting tips
Contactor fails to close	1. Check to see if incoming voltage is out of range from the voltage settings on the ICM492. 2. Check the control mode is turned off in the set-up menu of the ICM492. 3. Make sure the control is not in a short cycle delay. 4. Check your fault history to see if you are currently in a fault condition. 5. Check contactor coil voltage and contactor operation and replace contactor if defective.
LED fails to illuminate on the ICM517A	1. Check wiring to make sure no wires are loose or broken 2. Replace the ICM517A because the surge elements (TMOV’S) are spent

GENERAL SPECIFICATIONS

ICM492 Single Phase Digital Line Voltage Monitor

Constantly monitors and displays line voltage. Protects against over and under voltage, and rapid short cycling caused by transient faults and power interruptions.

User Adjustable Settings:

- **Voltage setpoint:** 208-240VAC (default 240VAC; do not set above 240VAC or below 208VAC)
- **Anti-short cycle time delay:** 10 seconds
- **Over voltage setting:** 5% (do not set above 5%)
- **Under voltage setting:** 5%
- **Control mode:** Off
- **Response time:** 2 seconds
- **Fault:** 1 - 5 displays

ICM517A Surge Protective Device

The ICM517A is a NEMA Type 4X enclosed Type 2 Surge Protective Device (SPD) designed to protect valuable single-phase equipment by dissipating momentary voltage spikes and transient power surges.

- **Service Voltage:** 240VAC, single phase
- **Maximum Surge Current:** 100,000 amps
- **Maximum Energy Dissipation:** 1,020 joules
- **Diagnostics:** Green light indicates surge suppression present
- **Enclosure:** NEMA Type 4X waterproof metal enclosure
- **AC Protection Modes:** L-L, L-N, L-G, N-G

All wiring must conform to national, state and local electrical codes. 14AWG wire or larger required. Product contains no serviceable parts.

If the ICM517A has failed, the whole unit will need to be replaced.

ATTENTION: *No replaceable or repairable parts;*

ATTENTION: *Aucune pièce remplaçable ou reparable*

WARNING — SHOCK HAZARD — DO NOT OPEN;
ATTENTION – RISQUE DE CHOC – NE PAS OUVRIR

REPLACEMENTS

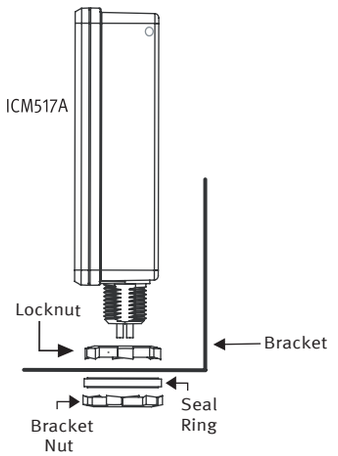
CAUTION: Remove all power at the main service panel before installing or servicing the Sentry 3N1 by switching off the appropriate breaker or removing the appropriate fuse. Also make sure the service disconnect breaker on the sentry 3N1 is in the OFF position.

ICM492 Replacement:

- Please refer to the System Wiring Diagram for removal and replacement wiring of the ICM492.
- Disconnect all wiring to the ICM492 and remove the two fastening screws holding the ICM492 in place and set screws aside.
- Replace with new ICM492 and resecure and mount with the two fastening screws from previous step.

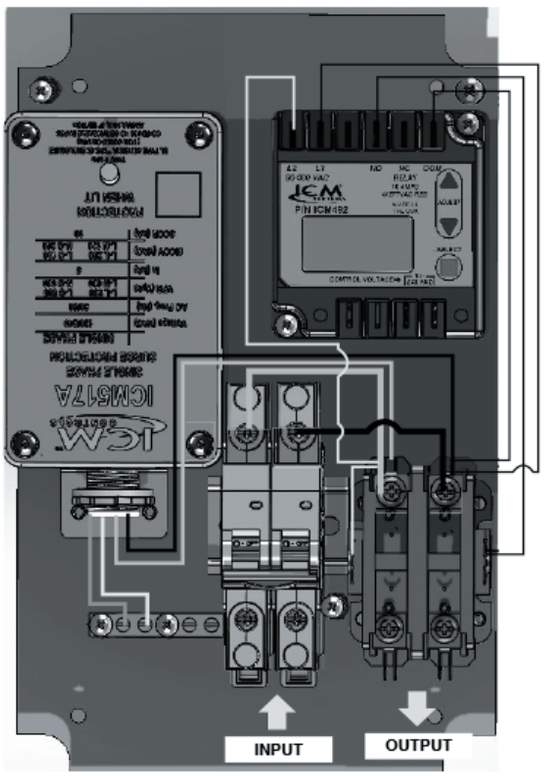
ICM517A Replacement:

- Please refer to the System Wiring Diagram for removal and wiring to replace the ICM517A.
- Loosen and remove locknut, bracket nut, and sealing ring (as seen in the diagram below).



- Remove ICM517A from bracket. Replace ICM517A, reusing the locknut, bracket nut, and sealing ring form the previous step.
- Reassemble as shown. Be sure to tighten down locknut and bracket nut.

SYSTEM WIRING DIAGRAM



LIMITED LIFETIME PROTECTION WARRANTY

For warranty information and registration, please go to www.icmcontrols.com and click on Warranty Registration.

MADE IN AMERICA

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