



## INSTALLATION, OPERATION & APPLICATION GUIDE

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**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.

• **WARNING** — *Shock hazard* — Do not open (ATTENTION – RISQUE DE CHOC – NE PAS OUVRIR).

### FEATURES

- UL Listed Electrical Disconnect including both enclosure & surge protector
- 120VAC single-phase, 240VAC split-phase
- Features an internal field replaceable surge protective device (SPD)
- Maximum Surge Current Rating of 100kA
- Highest UL rating for nominal discharge current (In 20kA), for increased longevity & durability of the SPD
- Constructed with 2 high-quality thermally protected MOV's (TFMOV)
- Completely factory wired for quick and easy installation
- NEMA type 3R rated powder coated metal enclosure for indoor/outdoor use
- Fully accessible mounting holes, no disassembling required
- Braided strap thoroughly grounding both the enclosure and cover
- LED indicator light showing when Surge Protection is operational
- 30A Fused & 60A non-fused models available
- Made in the USA

### MODE OF OPERATION

The ICM495 is a UL Listed Electrical Disconnect with an Internal Surge Protective Device built-in. The ICM495 is available in two models 30A Fused and 60A Non-Fused.

The included field replaceable Type 2 SPD is intended for 240 VAC Split Phase configurations. When a surge occurs, the ICM495 will absorb the surge up to the limits expressed in the specifications section in this guide. The ICM495 incorporates thermal protection on the surge elements (TMOV's) which allows for safe disabling of the surge elements when a surge exceeds the thermal limits of the device. The ICM495 has a status light on the control which identifies operational status when illuminated. The ICM495 can be installed as a Type 2 device for both indoor and outdoor applications. Suitable for use on a circuit capable of delivering not more than 10kA RMS symmetrical amperes (Convient à des circuits produisant au plus 10kA eff.).

### REPLACES

- **30A:** Mars: 83916, RectorSeal: RSH-50 96417
- **60A:** Mars: 83915, RectorSeal: RSH-50 96419
- All standard disconnect boxes rated for equal voltage and current configurations

*Please follow all State, Local and National electrical codes when installing this product. Installation should only be done by a licensed HVAC technician for Type 2 devices.*

*As covered by NEC 110.20 and UL's listing requirements, field replacement of the SPD module in this product constitutes restoring an equipment to operating condition and is considered a modification of the product's UL Listing (certification).*

### SPECIFICATIONS

**Service Voltage:** Single Phase 120 / Split Phase 240 VAC; 30A at -40°C min. and 25°C max., 240 VAC; 25A at -40°C min. and 55°C max., 240VAC; 60A at -40°C min. and 55°C max.

**Short Circuit Current Rating (SCCR):** 10 kA

**Maximum Surge Current:** 100 kA

**Nominal Discharge Current (In):** 20 kA

**SPD Type:** Type 2 applications only

**Surge Protection Technology:** TFMOV

**Protection Mode:** L1-L2, L1-G, L2-G

**Maximum Continuous Operation Voltage (MCOV):**

L-L: 300 VAC, L-G: 150 VAC

**VPR (Vpk):** Mode: L-L = 1200, L-N = 700

**Input Power Frequency:** 50/60 Hz

**Diagnostics:** Green LED indicates surge protection present

**Enclosure Rating:** NEMA/Type 3R metal enclosure for outdoor and indoor installation

**Installation Point:** Located within sight of the motor controller/equipment

**Dimensions:** 9.0" L x 5.25" W x 2.50" D

**Operating Temperature:** -40°F to 131°F (-40°C to 55°C)

**Operating Humidity:** Less than 85%, non-condensing

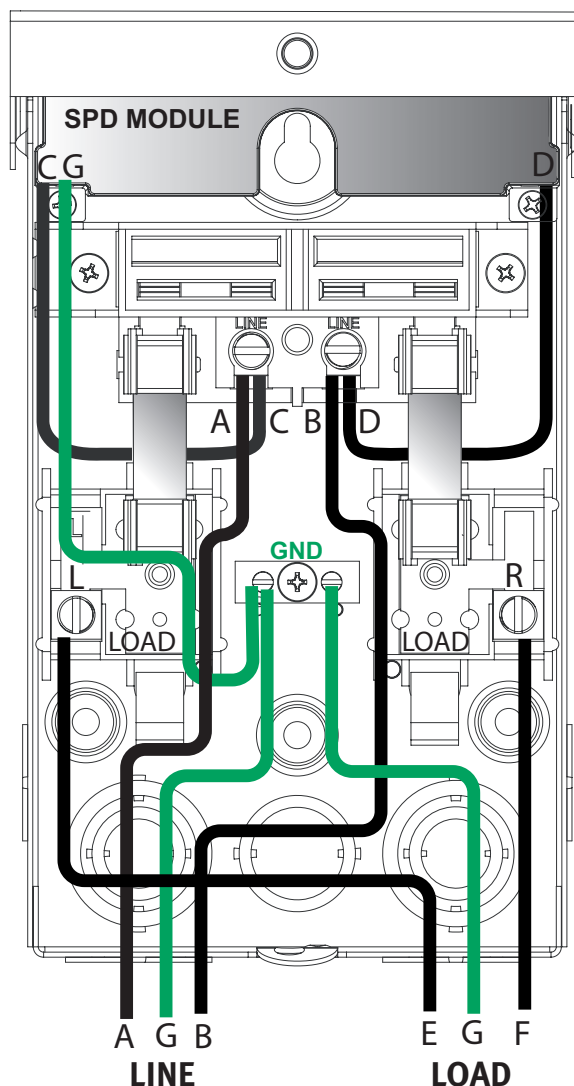
**Operating Altitude:** Less than 2000 meters

**Agency Certification and Approvals:** ANSI/UL1449 5th Edition cULus Listed Device

### DIAGNOSTICS AND MAINTENANCE

Periodically check the status on the SPD. If the green light is OFF, the protection is no longer available and the SPD portion (ICM495-SPD) needs to be replaced immediately (see SPD replacement section of this guide). This device features an internal protection that will disconnect the surge protective component at the end of its useful life but will maintain power to the load - now unprotected. If this situation is undesirable for the application, follow the manufacturer's instructions for replacing the device. 14 AWG stranded copper wire or larger required. If any of the 30 Amp fuses blow on the fused model, please replace the fuse or fuses with the appropriate 30 amp fuses. **Note:** the ICM495-60A model does not accommodate fuses.

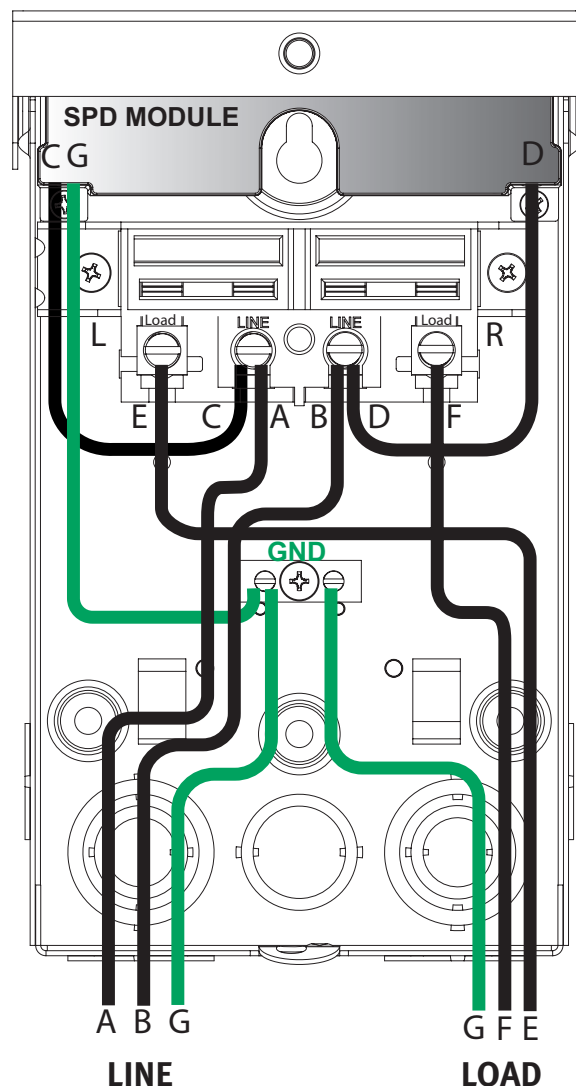
## ICM495-30A (FUSED)



Use 14 AWG stranded copper wire rated for the appropriate voltage being used. Replace fuses with 30 Amp fuses rated at the appropriate voltage being used. Use wiring suitable for 75/90°C (Utiliser un câblage convenant à 75/90°C).

1. Make sure the all power to the fused disconnect is off and the pull out shunt is removed.
2. Connect the ground wire (G) of the SPD to the ground terminal block (GND). Also connect the ground wires from the source and LOAD to the GND terminal block.
3. Connect the line wires (A & B) to the line terminals on the terminal block of the disconnect labeled line.
4. Connect the SPD wires C & D to the Left (L) and Right (R) line terminals of the fused disconnect box.
5. Connect the Load wires (E & F) to the left (L) and Right (R) Load terminals of the fused disconnect box.

## ICM495-60A (NON-FUSED)



Use 14 AWG stranded copper wire rated for the appropriate voltage being used. Use wiring suitable for 75/90°C (Utiliser un câblage convenant à 75/90°C).

1. Make sure the all power to the disconnect is off and the pull out shunt is removed.
2. Connect the ground wire (G) of the SPD to the ground terminal block (GND). Also connect the ground wires from the source and LOAD to the GND terminal block.
3. Connect the line wires (A & B) to the line terminals on the terminal block of the disconnect labeled line.
4. Connect the SPD wires C & D to the Left (L) and Right (R) line terminals of the disconnect box.
5. Connect the Load wires (E & F) to the left (L) and Right (R) Load terminals of the disconnect box.

### SPD REPLACEMENT INSTRUCTIONS (FUSED DISCONNECT)

1. **Disconnect power before servicing!** Failure to disconnect power can result in personal injury or death.
2. Remove the pull out shunt. Remove the insulating barrier. Pry at upper right corner and upper left corner of cover. Some force is required.
3. Remove the SPD power wires from the left and right line terminals on the fused disconnect and remove the SPD ground wire from the ground terminal block on the fused disconnect.
4. Remove the fuses and remove the mounting screws on the line voltage terminal block.
5. Slide the line voltage terminal block down until it touches the top of the fuse holders. This allows room to remove the SPD.
6. Remove the mounting screws on the SPD. Grasp the wires of the SPD and pull up and out thus removing the old SPD.
7. Replace the old SPD with the new SPD in reverse order. Re-insert and tighten the mounting screws to hold down the new SPD.
8. Re-install the line voltage terminal block and tighten the screws.
9. Re-install the fuses if functional or replace the fuses.
10. Re-wire the black wires of the SPD to the left and right line terminals of the fused disconnect and re-wire the SPD ground wire to the ground terminal block of the fused disconnect.
11. Check all wiring is correct and secure including the source and load wiring.
12. Replace the top closeout cover and reinsert the pullout shunt.

#### **WARNING!** **FOR FUSED & NON-FUSED DISCONNECTS**

**ELECTRICAL SHOCK HAZARD – Disconnect all power before servicing or installing.** Installation should only be performed by trained and licensed technicians. Always follow all state and national electrical codes upon installation and service.

### SPD REPLACEMENT INSTRUCTIONS (NON-FUSED DISCONNECT)

1. **Disconnect power before servicing!** Failure to disconnect power can result in personal injury or death.
2. Remove the pull out shunt. Remove the insulating barrier. Pry at upper right corner and upper left corner of cover. Some force is required.
3. Remove the SPD power wires from the left and right line terminals on the disconnect and remove the SPD ground wire from the ground terminal block on the disconnect.
4. Remove the mounting screws on the line voltage terminal block.
5. Slide the line voltage terminal block down. This allows room to remove the SPD.
6. Remove the mounting screws on the SPD. Grasp the wires of the SPD and pull up and out thus removing the old SPD.
7. Replace the old SPD with the new SPD in reverse order. Re-insert and tighten the mounting screws to hold down the new SPD.
8. Re-install the line voltage terminal block and tighten the screws.
9. Re-wire the black wires of the SPD to the left and right line terminals of the disconnect and re-wire the SPD ground wire to the ground terminal block of the disconnect.
10. Check all wiring is correct and secure including the source and load wiring.
11. Replace the top closeout cover and reinsert the pullout shunt.

#### **WARNING!** **FOR FUSED & NON-FUSED DISCONNECTS**

*The field replacement of the SPD will require a field evaluation by a UL certified engineer or a competent field evaluation body, to determine compliance of the product and approval of the installation. The field evaluation body will apply a field label on to the product to indicate that the product has been evaluated, and issue a report to AHJ.*

**Replacement Part Number:** ICM495-SUB



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