



Environmental Potentials

Power Quality For The Digital Age



EP-2800 SERIES

Installation and Application Manual

EP-2800 Series

Installation and Maintenance Manual

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TEN YEAR WARRANTY

- Environmental Potentials will replace or repair any product from the EP-2800 product line as long as it was not damaged during installation or damaged from faulty installation.
- EP warranty registration card must be filled out and received by Environmental Potentials within 15 days of installation.
- This warranty is for the repair or replacement of damaged EP products only. Environmental Potentials accepts no liability, written or expressed, for the damage that may have occurred to any other equipment; nor does Environmental Potentials warranty cover any labor cost associated with replacement of such product.

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WARNING



ALWAYS have a professional electrician with proper safety equipment perform installation.

Do NOT install waveform corrector on the output of a variable frequency drive

Warning- Risk of electric shock - Disconnect power before servicing. Keep the wire lengths as short as possible and avoid unnecessary bends.

Safety First

Even though EP units are designed for common installation, electricity is dangerous and only qualified personnel should attempt installation.

1. Read and understand entire contents of installation manual prior to installation.
2. Measure voltage of the electrical panel where the installation is taking place.
3. Verify that voltage and electrical configuration matches the model of the EP unit being installed.
4. If the model number does not match *DO NOT install*.
5. Turn off electrical supply prior to any installation in electrical panel.
6. Verify with voltage meter that electricity is off.
7. Ensure all connections in electrical panel are secure and all tools and equipment have been removed from electrical panel before re-energizing system.

Pre-Installation Preparations

1. Read entire contents before performing installation.
2. Verify the voltage rating of the system before installing the EP unit. Make sure the electrical system operates at or below the maximum continuous operating voltage of EP product. It should not exceed 5% of the rated nominal voltage of the unit. *Note: If you have questions regarding voltage ratings, contact EP.*
3. Check all the fuses of the electrical system before installing EP unit.
4. Make sure the power distribution configuration of the EP unit matches with the configuration of your electrical system (Delta or WYE).
5. Make sure your EP product is suitable for your application.

Note: Call to confirm the product application.

EP-2800 Series Installation Procedures

Caution – Ungrounded power systems are inherently unstable and can produce excessively high line-to-ground voltages during certain fault conditions. During these fault conditions any electrical equipment, including an SPD, may be subjected to voltages which exceed their designed ratings. This information is being provided to the user so that an informed decision can be made before installing any electrical equipment on an ungrounded power system.

Suitable for use on a circuit capable of delivering not more than 200.000 rms symmetrical amperes

Mounting

- For optimal performance mount the EP panel box as close as possible to electrical panel.
- Can be rail mounted or bolted into wall or additional panels with electrician supplied bolts and hardware.
- Longer wire increases inductance in the system and the EP unit may not function properly.
- Make sure EP panel is mounted in a dry and clean environment.

WIRING GUIDELINES	
WIRE GAUGE	LENGTH IN FEET
#8	Within 1 Foot
#6	Between 1 - 3 Feet
#4	Between 3 - 6 Feet
#2	Between 6 - 10 Feet

Fuses

Please replace fuses with like fuses:

EP-2822 30A Slow Blow CC class 200KAIC

EP-2844 and EP-2888 30A Slow Blow J class 200KAIC

LED Notification

- The modules come prewired for LED indication.
- There are six wires, three black and three red, pre-connected to a 6-pin housing.
- The LED is also pre-connected to a connector.
- Plug the 6-pin housing into the LED connector.
- Apply power after entire module installation is complete and LED will provide visual notification of functionality.
- The green LED's on the outside of the case indicate the units are functioning properly. If a green LED becomes extinguished this indicates a unit self sacrifice or malfunction.
- The red LED's on the modules identify which unit has self sacrificed or malfunctioned.

Maintenance

EP products do NOT require periodic maintenance. The EP-2800 Series provides visual and audible indications, remote alarm with dry contacts.

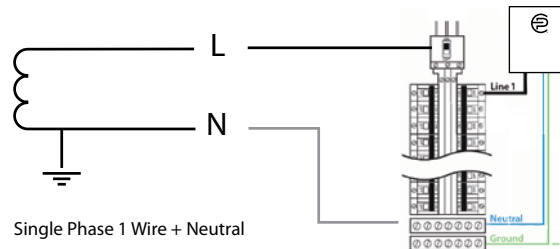
It is also good practice to inspect the connections of the power supply wiring to the EP unit monthly.

Servicing

EP units contain no serviceable parts and require no adjustments. All EP products are designed to provide many years of electrical protection without any need for servicing.

Voltage Ratings & Power Source Configurations

Single Phase Two Wire + Ground Installation



Single Phase 1 Wire + Neutral

1. Connect white neutral to neutral bus bar.
2. Next connect black phase A to phase A of the 100 A breaker.
3. Last connect green ground to ground bus bar or panel. Ground is case ground only and should NOT be connected to neutral bus bar.

SINGLE PHASE WYE

PRODUCTS

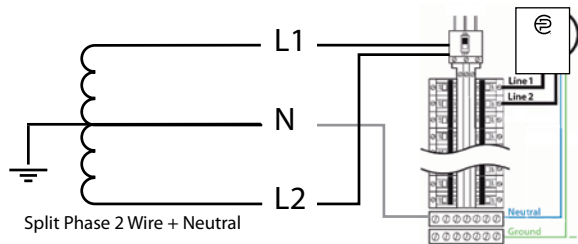
EP-2820
EP-2840
EP-2880

VOLTAGE ID#	MCOV
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1Y120	120 V
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1Y240	240 V
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Split Phase Wye Installation



Split Phase 2 Wire + Neutral

1. Connect white neutral to neutral bus bar.
2. Next connect black phase A to phase A of the 100 A breaker.
3. Then connect black phase B to phase B of 100 A breaker.
4. Last connect green ground to ground bus bar or panel. Ground is case ground only and should NOT be connected to neutral bus bar.

TWO PHASE WYE

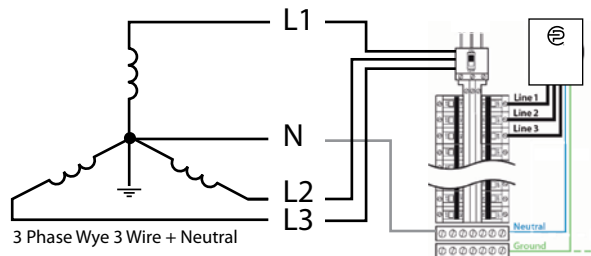
PRODUCTS

EP-2820
EP-2840
EP-2880

VOLTAGE ID#	MCOV
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1S240	120 V
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Three Phase Wye Installation



3 Phase Wye 3 Wire + Neutral

Connect white neutral to neutral bus bar.

1. Next connect black phase A to phase A of the 100 A breaker.
2. Then connect black phase B to phase B of 100 A breaker.
3. Then connect black phase C to phase C of 100 A breaker.
4. Last connect green ground to ground bus bar or panel. Ground is case ground only and should NOT be connected to neutral bus bar.

THREE PHASE WYE

PRODUCTS

EP-2820
EP-2840
EP-2880

VOLTAGE ID#	MCOV
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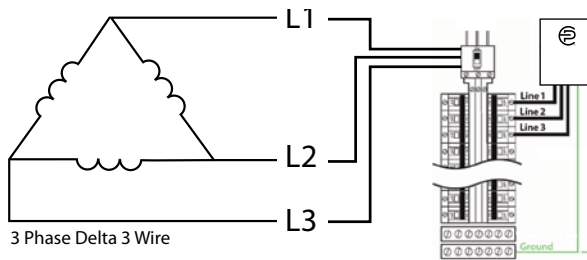
3Y208	120 V
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3Y240	120V
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3Y480	277V
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3Y600	347V
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Three Phase Delta Installation



1. Connect black phase A to phase A of the 100 A breaker.
2. Next connect black phase B to phase B of 100 A breaker.
3. Then connect black phase C to phase C of 100 A breaker.
4. Last connect green ground to ground bus bar or panel. Ground is case ground only and should NOT be connected to neutral bus bar.

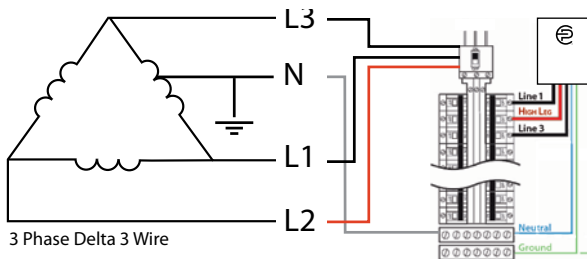
THREE PHASE DELTA

PRODUCTS

EP-2820
EP-2840
EP-2880

VOLTAGE ID#	MCOV
3D240	240V
3D480	480V

Three Phase High Leg Delta Installation



1. Connect black phase A to phase A of the 100 A breaker.
2. Next connect black phase B to phase B of 100 A breaker.
WARNING: Be sure that phase B is the HIGH LEG.
3. Then connect red phase C to phase C of 100 A breaker.
4. Last connect green ground to ground bus bar or panel. Ground is case ground only and should NOT be connected to neutral bus bar.

3 PHASE HL DELTA

PRODUCTS

EP-2820
EP-2840
EP-2880

VOLTAGE ID#	MCOV
3H240	120/ 240V

EP-2800 Series Wiring Diagram

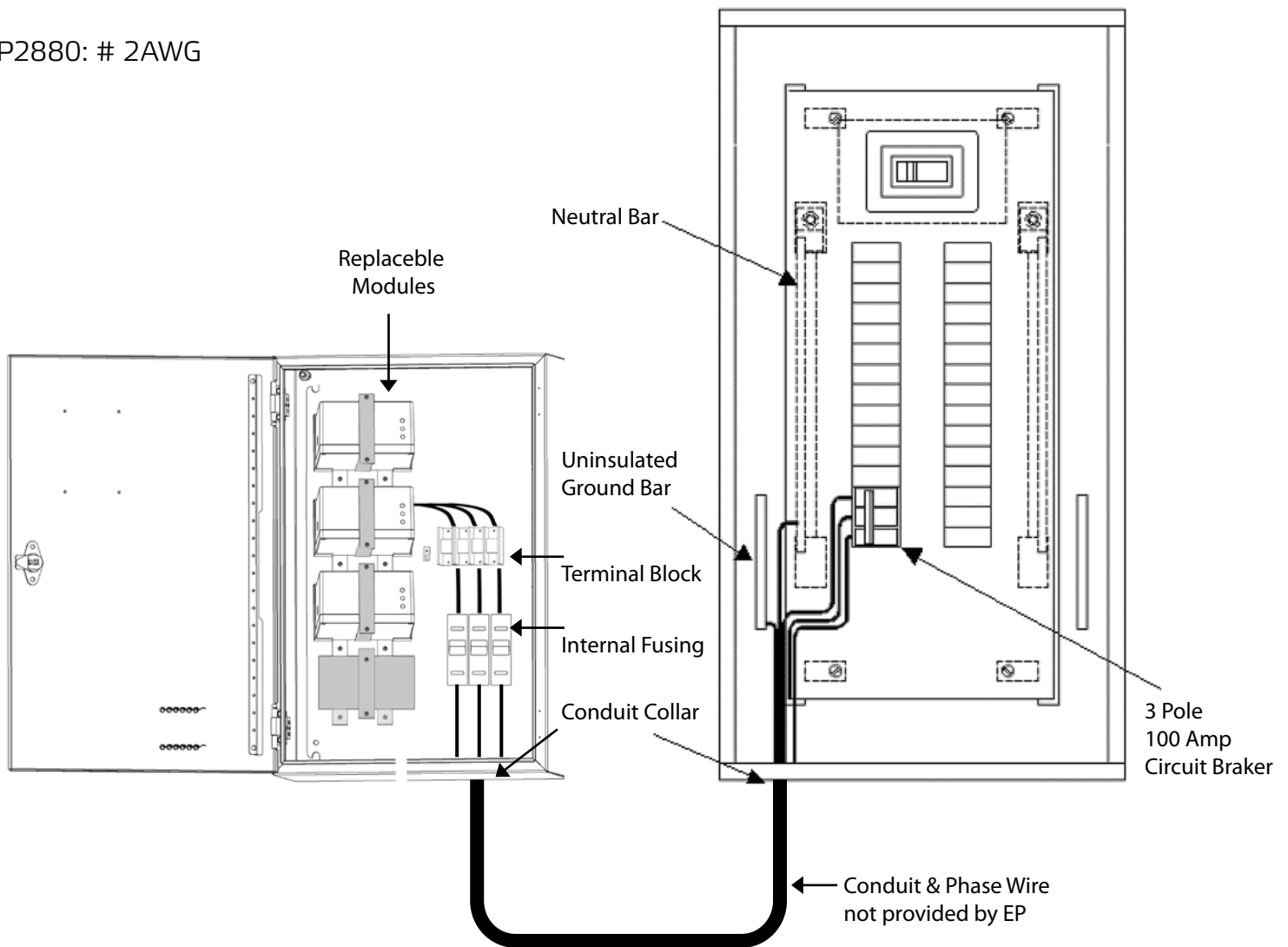
The 2800 is a Type 1 and type 2 waveform corrector and can be connected via a circuit breaker, molded case switch, fused switch, or connected directly to the bus bar.

Please note: Wire is supplied by contractor & should conform to the following guidelines:

EP2820: # 6AWG

EP2840: # 4AWG

EP2880: # 2AWG



Wye Installation

1. Cut hole in case
2. Connect green ground to the green ground connection of terminal block
3. Connect white neutral to the neutral terminal block.
4. Connect black phase a to phase a of the terminal block
5. Connect black phase b to phase b of the terminal block
6. Connect black phase c to phase c of the terminal block
7. Place phase, ground and neutral wires into conduit and feed to the panel
8. Connect green ground to the ground connection
9. Connect white neutral to the neutral bus.
10. Connect black phase a to phase a of the 100 a circuit breaker
11. Connect black phase b to phase b of the 100 a circuit breaker
12. Connect black phase c to phase c of the 100 a circuit breaker

* Ground is always connected to the neutral bus at the main service

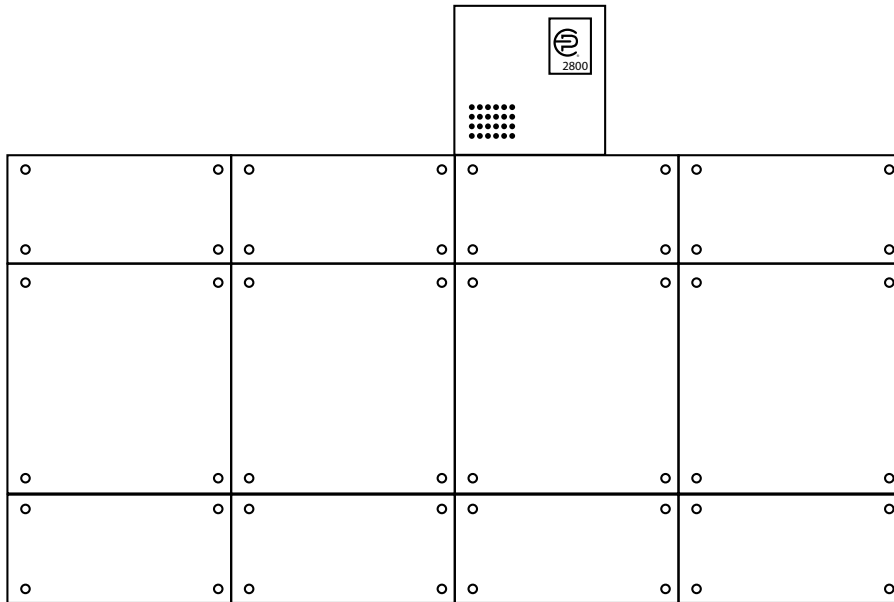
Delta Installation:

1. Cut hole in case
2. Connect green ground to ground terminal block
3. Connect black phase A to phase A of the terminal block
4. Connect black phase B to phase B of the terminal block
5. Connect black phase C to phase C of the terminal block
6. Place phase wires into conduit and feed to the panel
7. Connect green ground to the ground connection
8. Connect black phase A to phase A of the 100 A circuit breaker
9. Connect black phase B to phase B of the 100 A circuit breaker
10. Connect black phase C to phase C of the 100 A circuit breaker

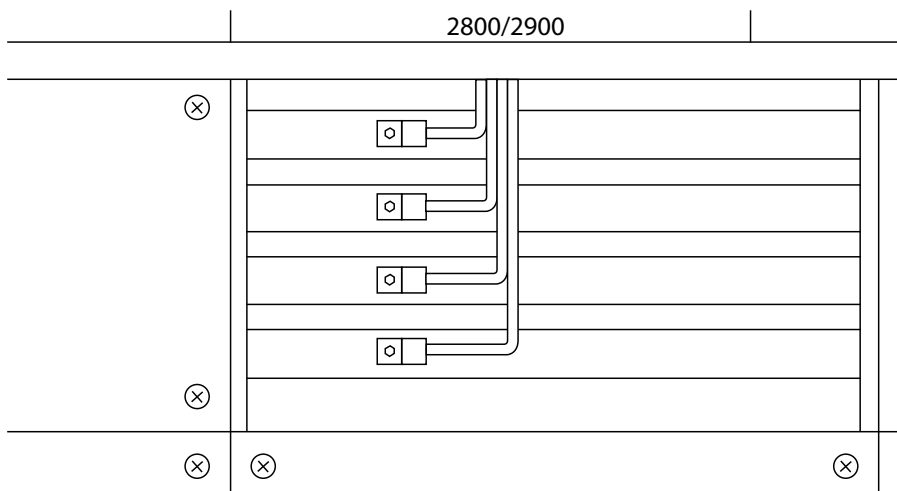
* Ground is always connected to the neutral bus at the main service

Bus Bar Installation

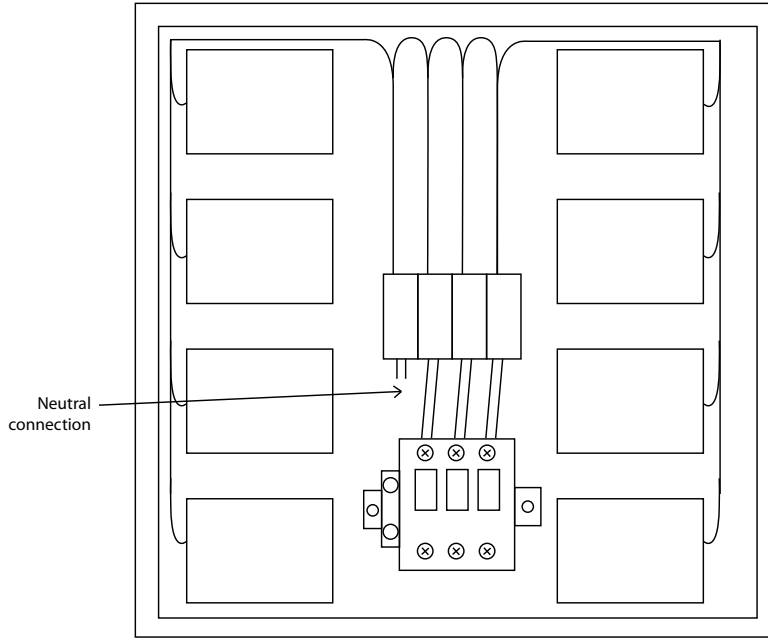
1. Mount 28/2900 to top/side of switchgear cabinet
2. Use chase nipple and nut or other appropriate hardware to attach to switchgear panel and to insure the protection of conductors passing between cabinets (wire provided by installer)



3. Open bus panel to expose bus bars
4. Bolt appropriate lugs to bus bars to accept wires from 28/2900
5. Route wires from 28/2900 to the bus area of switchgear panel
6. Attach phase, ground and neutral if equipped to appropriate bus bars



7. Inside 28/2900 enclosure in the middle toward the bottom is a fuse block that the phase wires connect to and beside it is a ground terminal mounted to the DIN rail that the fuse block is hooked to
8. The Neutral if equipped goes directly to the distribution block directly above the fuse block



9. Detail area shows details of connections inside the 28/2900

