



Environmental Potentials

Power Quality For The Digital Age

EP Residential Series Wall Mounted Waveform Corrector

Installation and Maintenance Manual



2050EE



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EP-Residential Series Wall Mounted Waveform Corrector

Installation and Maintenance Manual

Table of Contents

3	-	Safety First
3	-	Pre-Installation Preparations
4	-	Voltage Ratings & Power Source Configurations
5	-	Mounting
6	-	Wiring
6	-	Maintenance
6	-	Servicing



FIVE YEAR WARRANTY

- Environmental Potentials will replace or repair any product from the EP-Residential series 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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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.



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

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 five (5) percent of the rated nominal voltage of the unit.

Note: If you have questions regarding voltage ratings, contact EP.

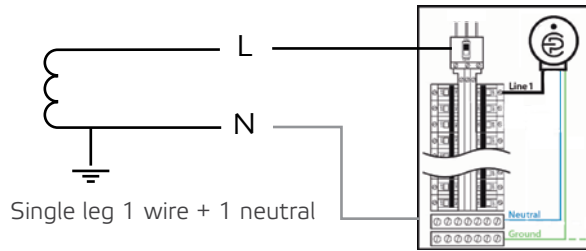
3. Check all the fuses of the electrical system before installing EP unit.
4. Make sure the power distribution configuration of the EP unit matches with the configuration of your electrical system. The available configurations are Single leg (1 hot, 1 neutral and 1 ground) or Single Phase (2 hot, 1 neutral and 1 ground).

5. Make sure your EP product is suitable for your application.

Note: Call EP to confirm the product application.

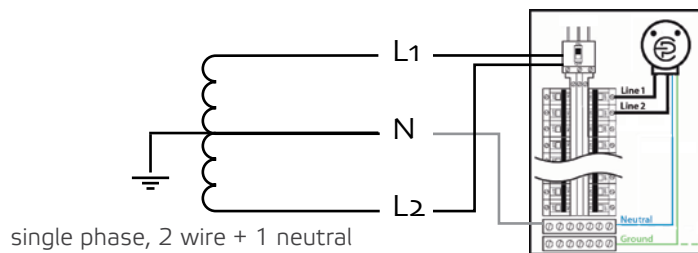
Voltage Ratings & Power Source Configurations

Single Leg 1 Wire, 1 Neutral + Ground Installation



1. Connect white neutral to neutral bus bar.
2. Next connect black phase A to phase A of the 15 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 2 Wire, 1 Neutral + Ground Installation



1. Connect white neutral to neutral bus bar.
2. Next connect black phase A to phase A of the 15 A breaker.
3. Then connect black phase B to phase B of 15 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.**

Circuit Breaker Recommendation

EP- Residential series requires a **15A** breaker. If the installation area is highly prone to lightning strikes and surges, EP recommends a higher rated breaker up to **30A**. Note that the filter performance is *not altered* by the type of fuse the customer selected.

Mounting

For optimal performance, mount EP product as close to electrical panel as possible. Longer wire increases inductance in the system and the EP unit may not function properly. Make sure the EP product is mounted in a dry and clean environment. The EP unit can be mounted in any secure area above, below, beside or inside the electrical panel.

For optimal performance:

- EP unit should be connected no more than 6 inches from electrical panel.

Although internal mounting can be preferred mounting for shorter lead lengths and optimal performance, it poses two problems:

1. IEEE does not recommend internal mounting of Waveform Corrector in the event of end of life termination of the unit that may cause damage to the internal distribution panel.
2. On internal installation the panel must be opened for visual verification of units' functional status.

Ensure you have considered all of these options before attempting internal installation.

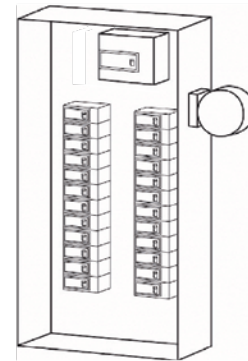
WARNING

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

Any attempt to open unit voids warranty.

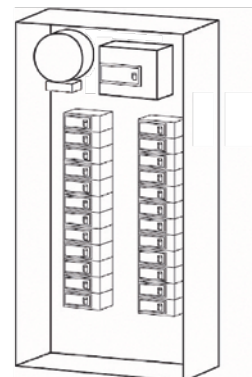
SIDE MOUNTING

EP units are designed for installation to ½ inch panel knockout on side, top or bottom of panel. Unit may also be secured with #8 self tapping or wood screws.



INTERNAL MOUNTING

Ensure a minimum of 1 inch clearance to all electrical surfaces before attempting an internal mounting.



Wiring

1. Requires a dedicated 15 A circuit breaker to connect Waveform Corrector to the electrical system. Use 30A circuit breaker if possible for a better performance.
2. Wire should be connected straight to the power source. Avoid sharp bends and refrain from splicing the wires as this will reduce the effectiveness of the unit.
3. Do not twist wires.

NOTE: It is good electrical practice to tighten all of the bolts in the electrical panel. Electrical leads should be connected securely to prevent fire or electrical damage.

Maintenance

EP products do NOT require periodic maintenance. The units have LED lights to provide visual indication of the unit's functional status. 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.

If the EP unit does malfunction, have a professional electrician inspect the wire connections. If the problem persists, contact your EP sales representative to discuss obtaining a replacement unit.