

BRIDGEPORT MAGNETICS GROUP

Shelton, Connecticut • Est. 1982 • Made in USA

PowerBack™

OPERATORS MANUAL

PB15 / PB20 / PB30 kVA

Temporary Power Restoration Autotransformers



Stainless Steel NEMA 4 Enclosure

High-Efficiency Toroidal Design • Wheeled • Meter Adapter

ONLY TO BE INSTALLED BY TRAINED PERSONNEL

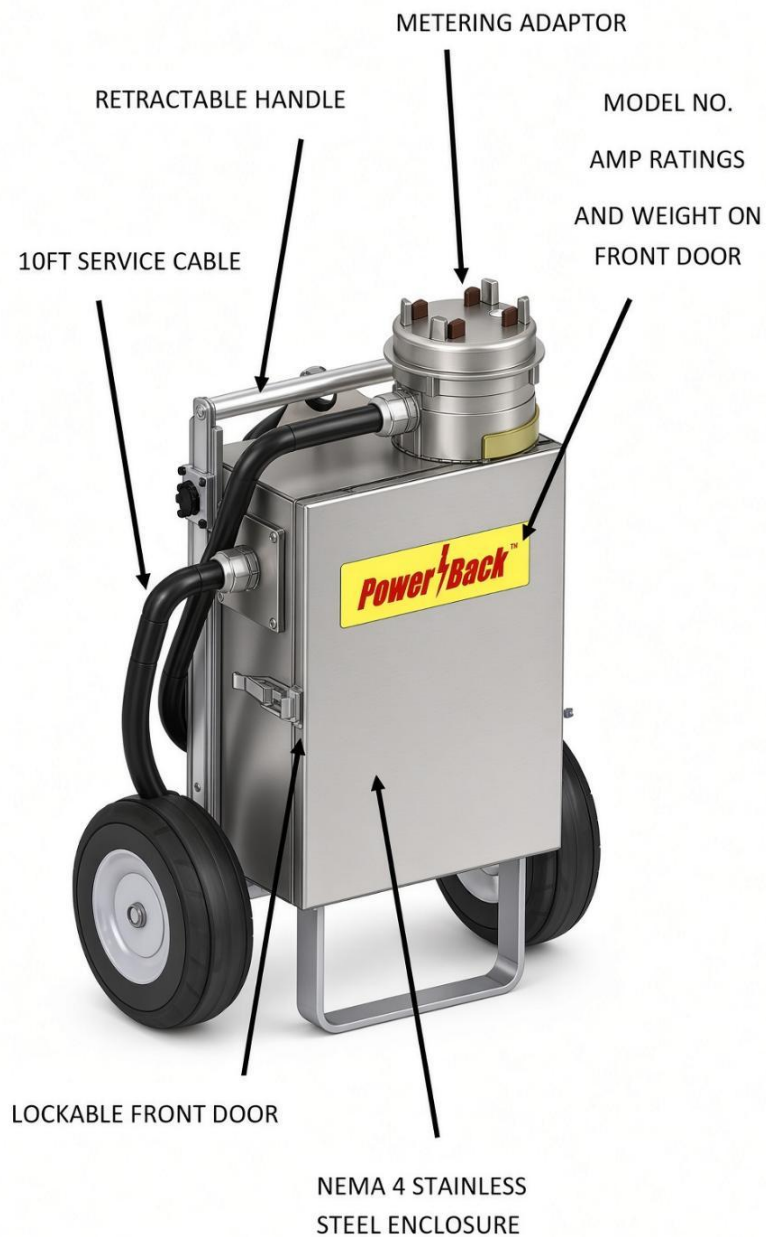
FIRST CONSULT WITH YOUR COMPANY INSTALLATION AND SAFETY PROCEDURES

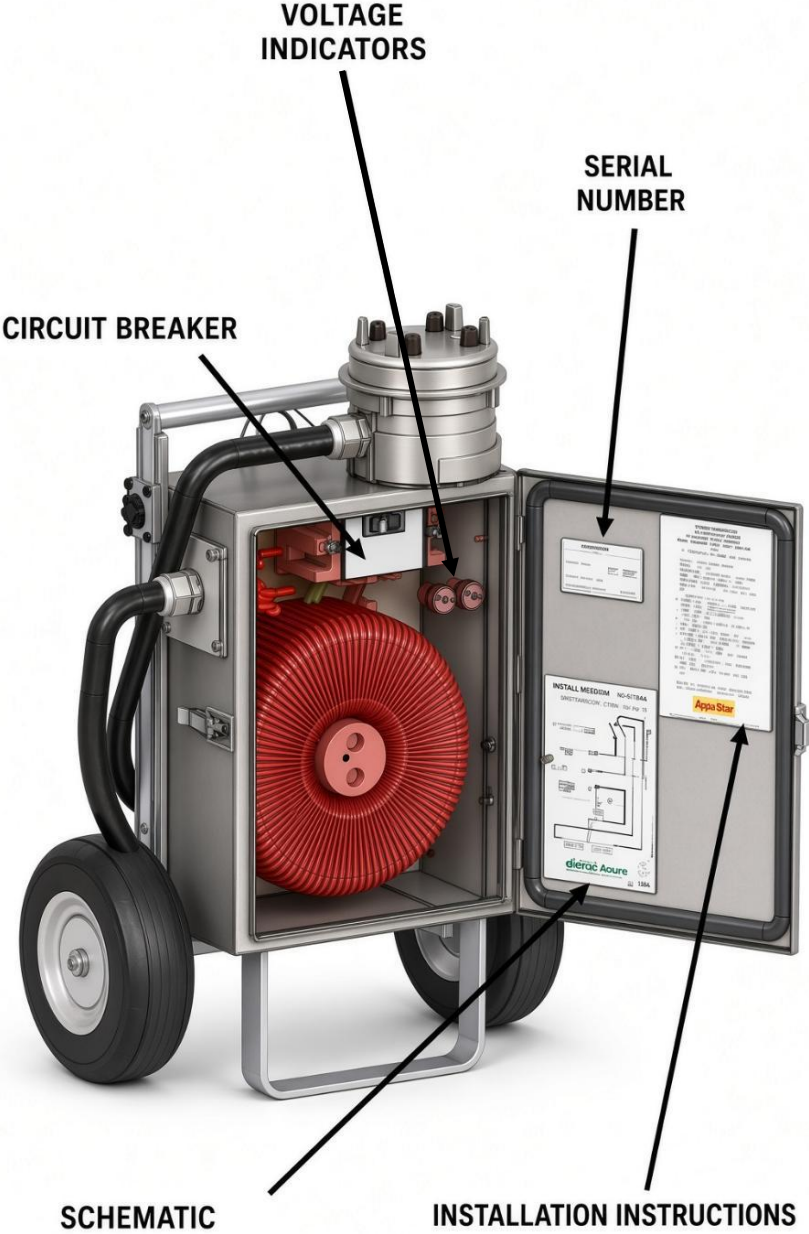
These instructions and schematic are posted on the inside of the front door

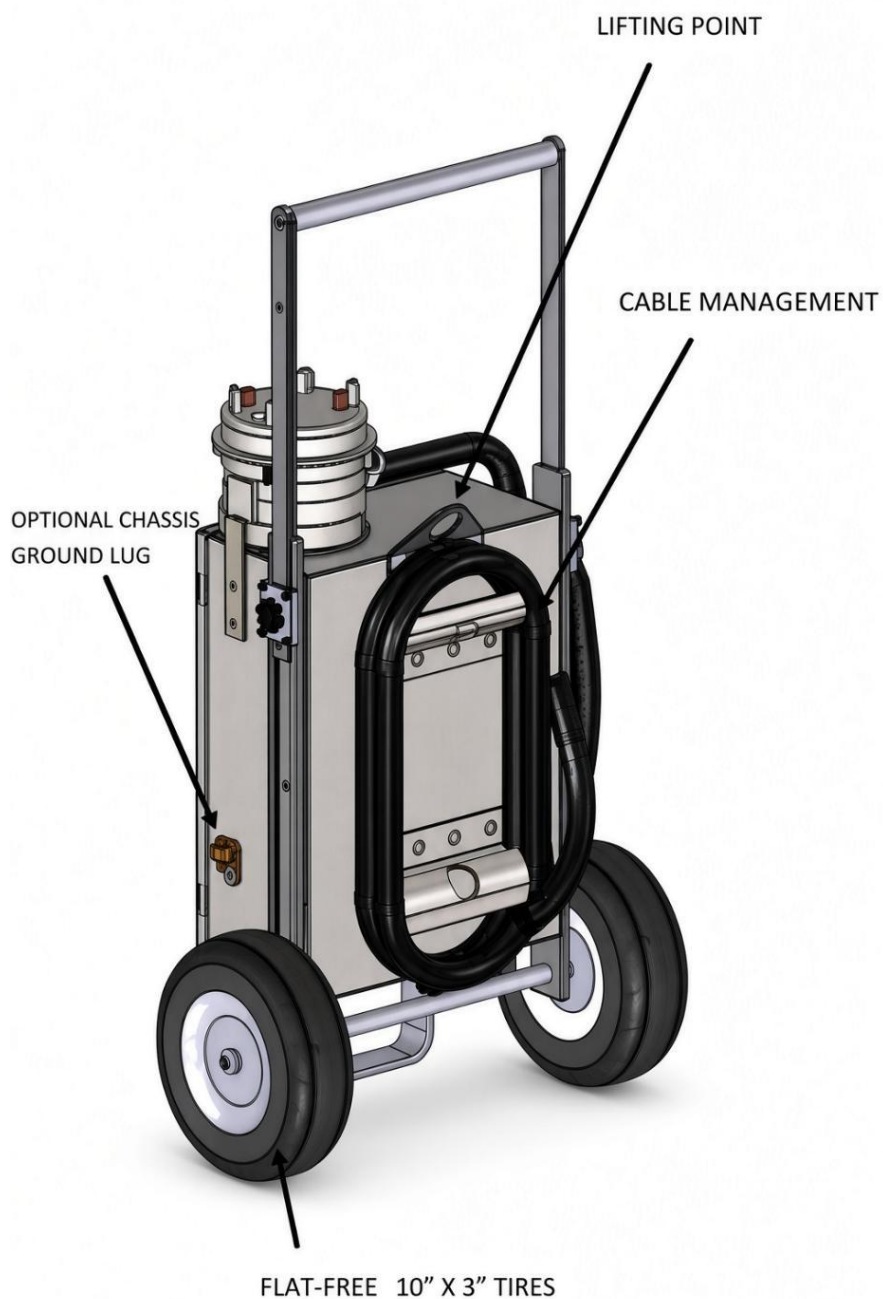
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1. Please Familiarize Yourself with These Features







2. Overview of the PowerBack

The PowerBack is a lightweight high-efficiency toroidal autotransformer designed to temporarily restore 240 V from a single 120V source and a good neutral (or restore neutral from two good hot legs).

A standard 240V service is provided to a building using three conductors (120 V, 120 V, and Neutral). When one of these conductors becomes faulted, the PowerBack uses the remaining good phase(s) to restore the missing conductor.

The unit is mounted inside a durable, weather-tight, lockable stainless steel NEMA 4 enclosure equipped with flat-free (foam-filled) 10.5" × 3" rubber tires for easy transport. The retractable handle allows the PowerBack to fit inside the trunk of a compact vehicle on the smaller models.

The PowerBack restores the faulted conductor with a simple plug-in meter adapter that installs at the building's meter panel.

Installation Instructions:

Only to be installed by trained personnel

First Consult with your company installation and safety procedures

(These instructions and Schematic is posted on inside of front door for immediate reference)

3. Safety & Application Notes

SUBJECT TO UTILITY COMPANY SAFETY RULES.

Caution: Not for use with 3-phase power.

Do not exceed the power rating stated on the PowerBack door.

Only trained personnel may install this equipment. Wear appropriate PPE.

This unit has redundant safety features. Temperature sensing is located right at the transformer, along with voltage and current monitoring.

Typical Customer Complaint

Flickering or failing light circuits. 240 V service for range or clothes dryer missing.

Possible Causes

Transformer or service cable failure. Service cables may be direct-buried, in conduit, or above ground on utility poles. They may fail due to age and deterioration of insulation, ground movement, flooding, or construction digging.

Result

One or both hot legs or the neutral cable is damaged or broken.

4. PowerBack Installation Procedure

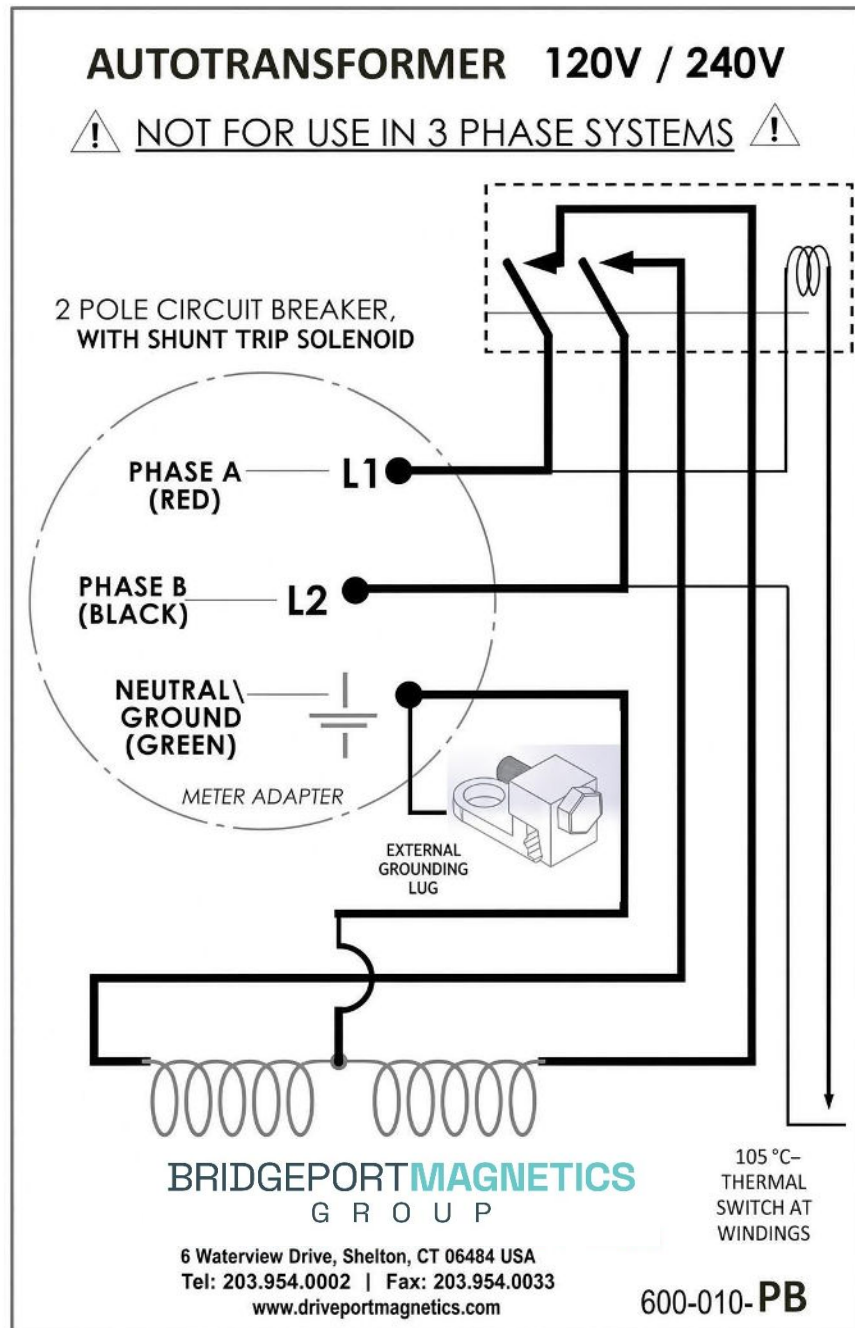
Follow the sequence exactly. Always turn the PowerBack breaker OFF before inserting or removing the meter.

1. Wear appropriate PPE and other protection.
2. Verify the problem at the customer's service panel using a voltmeter. Either one hot leg and the neutral, or both hot legs, are required. Do not install PowerBack unless two conductors are good.
3. Turn off the customer's main circuit breaker.
4. Remove the customer's meter.
5. Check voltage at the meter pan with a voltmeter. Hot-to-neutral should be 120 V and hot-to-hot 240 V. Significantly lower voltages indicate which cable is failing.
6. Disconnect the failing cable at the meter pan and at the source (transformer). Tape exposed conductors.
7. Roll the PowerBack into place next to the meter pan. You may connect the copper ground clamp on the side to the exterior house ground or to a temporary ground rod if required by company procedure.
8. Select the correct metering head (AM / AG / CL320) based on the meter setup. Place the ground lug tab on the green PowerBack meter adapter pigtail under the ground lug bolt in the meter pan and **tighten well**.
9. Turn the PowerBack circuit breaker OFF.
10. Check that the locking tabs on the meter adapter are retracted. (If not, turn the center screw ¼ turn counterclockwise.)
11. Install the PowerBack meter adapter in the meter pan. Turn the center screw ¼ turn clockwise to lock in place. Do not over-torque.
12. Turn the PowerBack circuit breaker ON. Confirm 240 V across the top terminals and 120 V between both hot legs and neutral (use onboard meters and a handheld meter).
13. Turn the PowerBack circuit breaker OFF again.
14. Install the customer meter into the adapter.
15. Turn the PowerBack circuit breaker ON.
16. Turn the customer's main breaker ON.
17. Close and lock the enclosure. Secure the unit if needed. When removing from service later, wrap cable neatly and slide the meter adapter into the clip / holder on the unit.
18. When using the lifting point for truck loading or unloading, put the retractable handle in the down position.

5. Disconnecting the PowerBack

1. When removed from service, ALWAYS turn the PowerBack breaker OFF first before removing the meter and adapter.
2. Wrap cable accordingly and slide the meter adapter into the clip / holder.
3. When using the lifting point, put the retractable handle in the down position.

Note: Locking tabs on the meter adapter must be retracted by turning the center screw counterclockwise before removing the adapter.



6. Handling

The stainless steel NEMA 4 rolling chassis is designed and rated to contain the transformer and its components while assisting placement at the customer's site. It is not designed to be dropped from truck beds, towed at high speeds, or dragged down staircases. Misuse and improper handling may compromise the weather-sealed enclosure and/or damage the windings of the transformer, which would void the unit's warranty.

7. Maintenance

The PowerBack requires very little maintenance.

- Inspect all electrical connections, cabling, and the neutral pigtail after every use.
- Store the meter adapter properly in the holder on the unit.
- Keep the NEMA 4 enclosure closed to protect internal components.
- Tires are foam-filled and require no air.
- Lubricate the roller bearings in the wheel hubs once a year with a standard grease gun.
- The retractable handle may be lubricated with silicone to improve operation.
- Do not remove any labels or instructions.

8. Warranty

All PowerBack units carry a 3-year warranty against manufacturing defects. Metering adapters carry a 1-year warranty against manufacturer defects. All returns require the serial number, a description of the failure, and an RMA number provided by the factory. Shipping costs are the responsibility of the customer. The warranty does not cover abuse or misuse of the PowerBack.

9. Specifications

Model	Weight	Capacity	Dimensions
15 kVA	115 lb	150 A service (125 A breaker)	Handle up 42" / down 29" W 22" × D 13"
20 kVA	130 lb	200 A service (160 A breaker)	Handle up 42" / down 29" W 22" × D 13"
30 kVA	220 lb	320 A service (250 A breaker)	46" × 28" × 22"

All models: Stainless steel NEMA 4 enclosure • Thermal protection 105 °C • Optional GFI • Optional GPS • 3-year unit warranty

10. Contact

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Stay safe out there.

