



BPT Series

Commercial/Industrial Panel Surge Protection Device

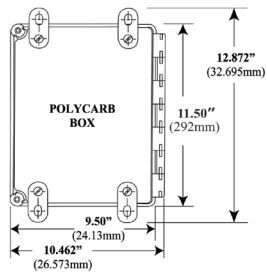
The **BPT Series** is a **Transient Protection System** that provides heavy-duty surge protection and filtering for industrial and commercial sites against the harmful effects of transient energies induced on AC power lines. The BPT's unique construction allows it to deliver low clamping voltages while **safely handling large surge currents**. Configured for parallel installation, units install quickly and easily. All models are suitable for Type 1 or Type 2 service panel applications.

On-board diagnostics include a panel display equipped with LED indicators that continuously monitor the operational **status of the entire unit**. An **Audible Alarm** is standard with switch positions for test, disable and enable. A **Surge Counter** and a set of NO/NC dry contacts are also standard. A Remote Monitor and/or Filter are available as options.

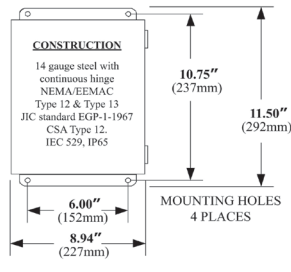
Weather Resistant models available in a NEMA 4X housing with internal diagnostics for harsh environments. Audible Alarm and Surge Counter are not included with the NEMA 3R model.



Dimensions

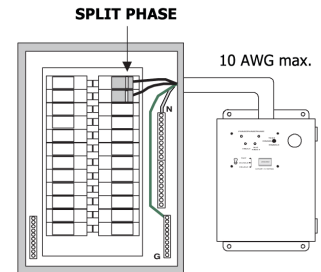
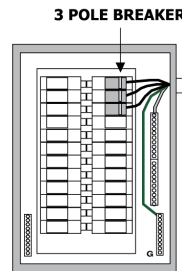


NEMA 4X / 12 enclosure.



NEMA 3R enclosure.

Typical Installations



(Diagrams not drawn to scale)

Product Specifications

I_n	10/20 kA
Max Surge Current	300kA per Phase
Fusing	Coordinated Surge & Thermal
Short Circuit Current	100kA RMS Symmetrical Amps
Enclosure Ratings	NEMA 4, 4X & NEMA 12

Mechanical/Environmental Specifications

Diagnostics	LED, Audible Alarm, Surge Counter
Safety Standards	UL 1449 (most current)
Operating Frequency	50/60 Hz

Model Number	Service Voltage	MCOV	VPR			
			L - N	L - G	N - G	L - L
BPTXXX/120-10-#-1	120 Volt Single \emptyset	150Vac	600V	600V	700V	N/A
BPTXXX/120-SP-#-1	120/240 Volt Split \emptyset	150Vac	600V	600V	700V	1200V
BPTXXX/120-3W-#-1	120/208 Volt 3 \emptyset Wye	150Vac	600V	600V	700V	1200V
BPTXXX/120-3H-#-1	120/240 Volt 3 \emptyset HL Delta	150/320Vac	600/1000V	600/1000V	700V	1200/1500V
BPTXXX/240-3D-0-1	240 Volt, 3 \emptyset Delta	320Vac	N/A	1000V	N/A	1200V
BPTXXX/220-3W-#-1	220/380 Volt, 3 \emptyset Wye	320Vac	1000V	1000V	1000V	2000V
BPTXXX/230-3W-#-1	230/400 Volt, 3 \emptyset Wye	320Vac	1000V	1000V	1000V	2000V
BPTXXX/240-3W-#-1	240/415 Volt, 3 \emptyset Wye	320Vac	1000V	1000V	1000V	2000V
BPTXXX/277-3W-#-1	277/480 Volt, 3 \emptyset Wye	320Vac	1000V	1000V	1000V	2000V
BPTXXX/480-3D-0-1	480 Volt, 3 \emptyset Delta	520Vac	N/A	1800V	N/A	4000V

1. **Replace XXX with:** desired kA rating per phase: 100 for 100kA or 200 for 200kA or 300 for 300kA.
2. **Replace # with:** F if filtering is required (available option on WYE Models only).
3. **Add:** /RM at the end of the Model Number for the Remote Monitoring option.
4. **ENCLOSURE HOUSING OPTIONS:** Add /POL to the end of the Model Number for NEMA 4X NonMetallic or /SS for NEMA 4 Stainless Steel or /WP for Weatherproof.

All product dimensions provided are \pm 0.125

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Website: www.metertreater.com

STATUS INDICATORS:

GREEN LEDs: When the SPD is securely connected and operating properly, the GREEN LEDs, under the headings "ØA", "ØB", "ØC", will be illuminated. No other indicator should be illuminated if the unit is operating normally.

RED LED: If a problem develops with the internal monitoring circuitry or in the unlikely event that there should be a loss or reduction in the protection elements, the RED LED over the words "SYSTEM FAULT" will illuminate.

YELLOW LED: If the YELLOW LED illuminates, at any time, there could be a hazardous system wiring fault. The YELLOW LED does not indicate a suppressor failure; however, it does signal that there may be dangerous Neutral to Ground Voltages present. Consult with a qualified electrician to verify the integrity of the installation's wiring. (Not present on Delta Configurations)

AUDIBLE ALARM: The alarm will sound if protection should be lost on either the L-N or L-G modes. Control of the alarm is managed with a switch located on the front panel next to the alarm. The switch has three (3) settings: Up (momentary only) for testing, which will sound the alarm; Center, this is the disable position and turns the alarm off; And Down, this enables the alarm and sets it for contact monitoring.

OPTIONAL COUNTER: The Optional Surge Counter will show the number of transient events that the suppressor encounters. Control of the Surge Counter is managed with a switch located to the left of the counter display. The switch has three (3) settings: Up (momentary only), for RESET; Center, this is the ENABLE position and turns the Counter on and sets it for constant monitoring; And Down (momentary only), this tests the Counter and will increase the count by 1 increment each time it is activated.

TROUBLESHOOTING GUIDE:

There is little or no troubleshooting required for this series of products.

PROBLEM:

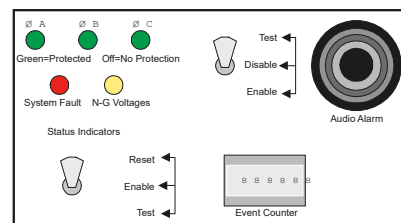
1. No Front Panel Diagnostics or improper operations:

Ensure the SPD unit is properly connected to the AC Service Panel and that all connections are secure.

Confirm that the breaker in the AC supply panel is in the ON position.

2. If problem still persists: TURN OFF BREAKER, open the SPD door and verify that all VISIBLE cable connections are properly secured, no loose wires. This is especially critical for the connectors on the Sensor Cable as they interface with the RPM Modules.

In the unlikely event that these measures have failed to correct the problem, contact your dealer or the factory for additional information.



Front Panel Diagnostics:

- Notes:
- For Single Phase Models: Only 1 Green LED, in the Phase "B" positions, is provided.
 - For Split Phase Models: 2 Green LEDs, in Phase "A" and "C" positions, are provided.
 - For Delta Models: There is no Yellow, N-G, LED

[Figure #11: 3 Phase Wye Configuration Shown]

MOUNTING INFORMATION

NOTE: BEFORE STARTING THE INSTALLATION, MEASURE THE LINE VOLTAGE WITH AN AC VOLTMETER TO ENSURE THE CORRECT DEVICE HAS BEEN SELECTED FOR THE APPLICATION. L-N/G VOLTAGE SHOULD NOT EXCEED THE MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV) LISTED ON THE SPD LABEL.

- When mounting the BPT SERIES SPD, use the four mounting holes.
- Place the SPD as close as possible to the connection point in the NEMA enclosure. Keeping the lead length short will increase the performance of the unit.
- Drill a hole in the BPT for the conduit to run the wires from the distribution panel to the connecting lugs inside the SPD. Installation is simplified if the wires enter the enclosure at the top (see figure #2) of the enclosure.
- Securely mount the TVSS unit using 1/4-20 bolts in the four (4) mounting holes provided in the enclosure's mounting flanges.

NOTE: IF YOU CHOOSE TO MOUNT THE BPT UNIT, OBSERVE ALL SAFETY PROCEDURES APPLICABLE FOR A LIVE METER SOCKET OR ELECTRICAL PANEL.

NOTE: SPLICING WIRES TO GAIN EXTRA LEAD LENGTH IS NOT ADVISABLE AS THE EXTRA LEAD LENGTH WILL DEGRADE THE PERFORMANCE OF THE DEVICE.

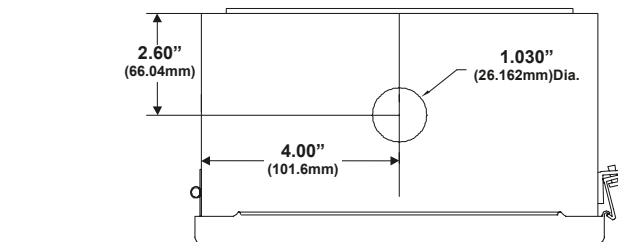
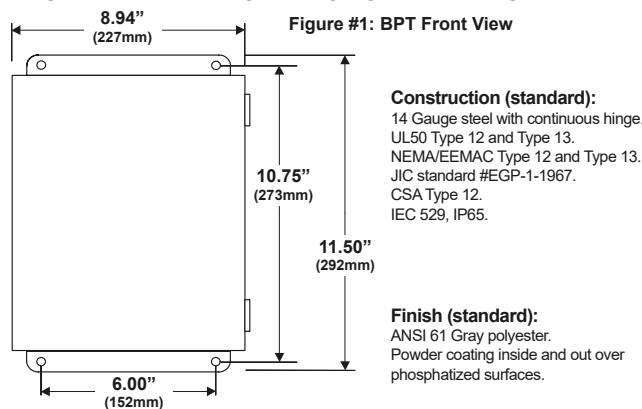


Figure #2: BPT Top View

WORKING NEAR EXPOSED LIVE CONDUCTORS IS HAZARDOUS. POWER SHOULD BE SECURED OR APPROPRIATE ELECTRICAL SAFETY EQUIPMENT SHOULD BE USED TO THE GREATEST EXTENT POSSIBLE BEFORE CONNECTING.

WARRANTY INFORMATION

Meter-Treater, Inc. (MTI) warrants all BPT Series models to be free from defects, and will at our option repair or replace the product should it fail within fifteen (15) years from the first date of shipment. This warranty is limited to defects in workmanship or materials, and does not cover customer damage, abuse or unauthorized modification. If this product fails or does not perform as warranted, your sole recourse shall be repair or replacement as described above. Under no condition shall MTI be liable for any damages incurred by the use of this product. Damages include, but are not limited to, the following: lost profits, lost savings and incidental or consequential damages arising from the use of or inability to use this product. MTI specifically disclaims all other warranties, expressed or implied, and the installation or use of this product shall be deemed an acceptance of these terms by the user.

WARRANTY RETURNS

All warranty and non-warranty repairs must be returned freight prepaid and insured to MTI. All returns must have a Return Authorization (RA) number on the outside of the shipping container. This number may be obtained from MTI Warranty Department (800) 342-6890. Products returned without an RA number will not be accepted.

IF UNIT(S) ARE RECEIVED DAMAGED, NOTIFY THE SHIPPING COMPANY IMMEDIATELY. RETAIN ALL SHIPPING CONTAINERS AND PACKING MATERIALS FOR INSPECTION.

Please Note:
There are no user serviceable parts inside.



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MT-BPTINSTALL-10/2016

BPT Series

USER MANUAL AND INSTALLATION GUIDE

RECOGNIZED COMPONENT



Intertek



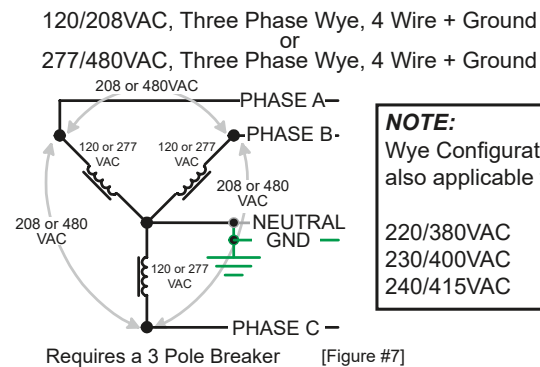
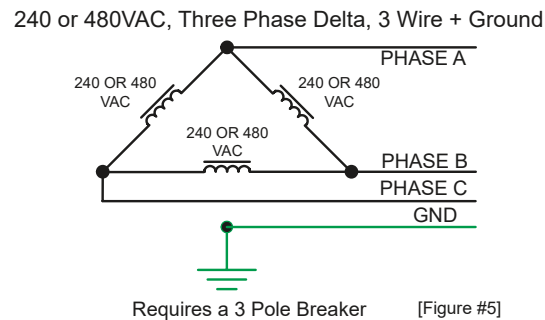
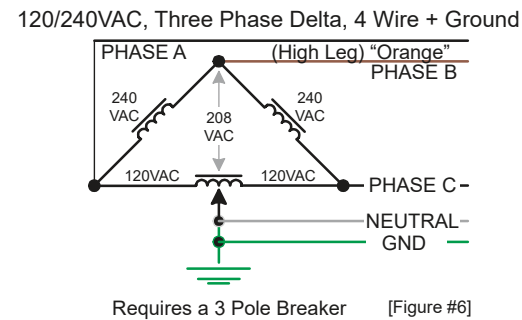
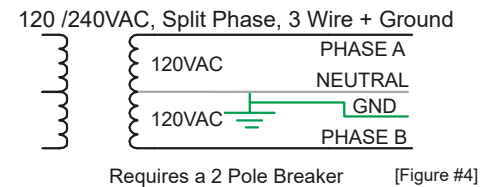
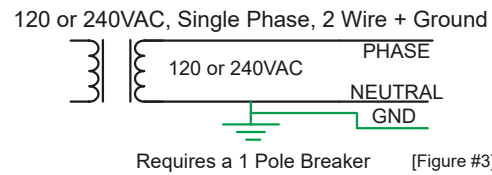
COMMERCIAL APPLICATIONS

SURGE PROTECTION DEVICES FOR AC POWER APPLICATIONS

GENERAL

1. This document provides detailed information on how to install and operate the BPT Series of Surge Protection Devices (SPD)
2. Locate a position to mount the SPD that will minimize the length of connecting wires required. SPD's should be located as close as possible to the AC panel or service area. Mount the units using the mounting holes provided on the enclosure as shown by the illustrations in these instructions. It is recommended that conduit, preferably metallic, be utilized to accomplish this connection.
3. The BPT Series is installed and connected in parallel ("shunt") across the AC supply to be protected. Connecting wires do not carry the supply current, only the short duration currents associated with the suppression of a transient event.
4. Identified or indicated leads/wires must be connected exactly with respect to the AC Power feeding the SPD. Failure to do so may result in damage to the device or post a danger to personnel.
5. Installation of this device should only be performed by a qualified licensed installer. Incorrect installation may significantly impair the performance of the Surge Protection Device. It is particularly important that all installation procedures and guidelines be followed exactly.
6. Before starting any installation procedures, verify service voltages with an AC voltmeter to ensure that the correct SPD model has been selected.
7. Check to ensure that all connections are correct and secure before energizing.
8. Keep this manual in a safe, dry place for future reference.

STANDARD ELECTRICAL CONFIGURATIONS



NOTE:
Wye Configuration is also applicable for:

220/380VAC
230/400VAC
240/415VAC

INSTALLATION INSTRUCTION

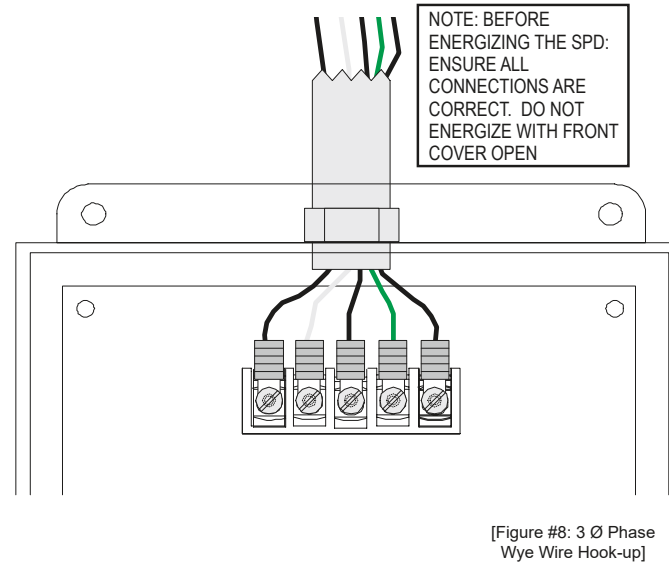
Before starting the installation, measure the Line voltage with an AC voltmeter to ensure the correct device has been selected for the current application. The MCOV (maximum continuous operating voltage) CANNOT exceed the maximum limits for the following service voltages:

120VAC = 150MCOV	240VAC = 320MCOV
220VAC = 320MCOV	277VAC = 320MCOV
230VAC = 320MCOV	480VAC = 550MCOV

1. Connect the ground wire to the service panel ground buss.
2. Connect the neutral wire from the service panel neutral buss to the lug labeled neutral. (Not Applicable for Delta Applications)
3. Connect the phase (hot) wires from a 3 pole breaker to the SPD device connectors labeled phase "A", "B", and "C", as appropriate.
4. Attach and crimp (supplied) lug connectors to each #8 or #10 AWG wire, as required, before inserting it into the terminal block.
5. Tighten the lug screw securely.
6. Check all connections to ensure they are correct and properly secured.

Notes:

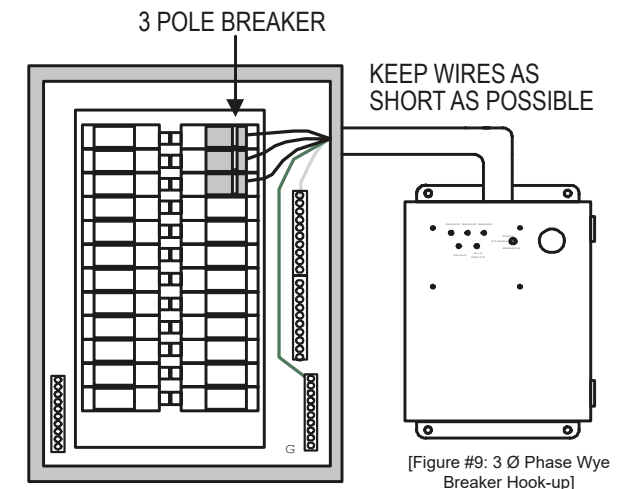
1. For Single Phase Models, Phase "A" and Phase "C" lines are left vacant.
2. For Split Phase Models, Phase "B" is left vacant.
3. For Delta Configurations, the Neutral position is left vacant.
4. Use #10 to 1/0 Wire for installation.



The device shall be fed from a 30 Amp breaker, in accordance to the number of poles required.

Single Phase	= 1 Pole Breaker
Split Phase	= 2 Pole Breaker
Three Phase	= 3 Pole Breaker
High Leg Delta = Phase "B" Orange	
Delta Units have no Neutral	

Because the SPD is installed in parallel or shunt with the load, VA rating is not limited.



BPT (100/200) Models:

The specific product you have in service may be configured for any one of the following kA ratings: (100=100kA/Phase) and (200=200kA/Phase)

120 or 240VAC, Single Phase	277/480VAC, 3 Phase Wye
120/240VAC, Split Phase	220/380VAC, 3 Phase Wye
240 or 480VAC, 3 Phase Delta	230/400VAC, 3 Phase Wye
120/208VAC, 3 Phase Wye	240/415VAC, 3 Phase Wye
120/240VAC, 3 Phase Delta (High Leg)	