Installation - Operation
&
Maintenance Manual

Typhoon 4000 Series
AM Series All-Mode Surge Protection Devices

⚠ DANGER

Caution Only Qualified Personell Should Perform Installation, Service or Maintenance On This Device.

PSP Products Inc. 8535 Phoenix Drive Manassas, VA 20110 Email Sales@psppprodcts.com
(800) 648-6802, Fax (703) 393-9101, or www.pspproducts.com

Thank you for choosing quality products from PSP Products Inc

ALL MODE SERIES
INSTALLATION INSTRUCTIONS

INSTALLER MATERIALS CHECKLIST

The following materials checklist is provided to assist in installation preparations. Installers may find it helpful to verify that all materials are available.

- ❑ Circuit breaker, Check product labeling for breaker requirements.
- ❑ Conduit and fittings, 3/4 inch for AC power.
- ❑ Punch for distribution panel, 3/4 inch conduit (26 mm).
- ❑ Wire strippers

GENERAL INSTRUCTIONS

The Surge Protective Device (SPD) mounts directly to the service panel to be protected. Whenever possible, use the first circuit in the service panel. Wire lengths of 18" (60 cm) or less are desirable. The shortest possible wire length enhances the suppressor's performance by allowing less let-through voltage into the protected equipment.

INSTALLATION AND CONNECTION OF SUPPRESSOR

- ❑ Install the SPD breaker. NOTE: Not all products require a separate SPD breaker. Check product labeling for requirements.
- ❑ Find and mark a suitable location (3/4 knockout preferred) for mounting the suppressor to the distribution panel.

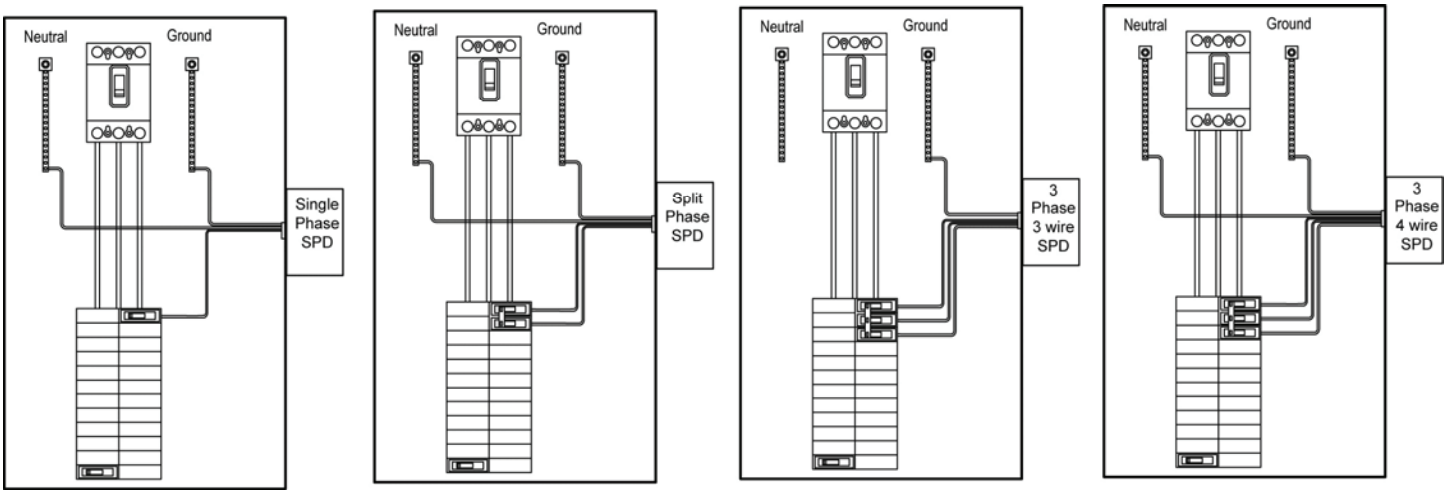


Figure 1
Wiring Diagram of Suppressor

- ❑ Punch the distribution panel where marked or punch knockout.
- ❑ Drill or punch mounting hole.
- ❑ Install ¾ inch conduit through distribution panel and attach to ¾ inch hub on suppressor.
- ❑ Mount suppressor to panel with conduit jam nut (Included).

With the power **"OFF"** first connect the ground and neutral wires to the appropriate busbars then connect the hot wires to the breaker terminals.

CAUTION: When installing **240/120 VAC high leg delta units** the orange wire must be connected to the high leg.

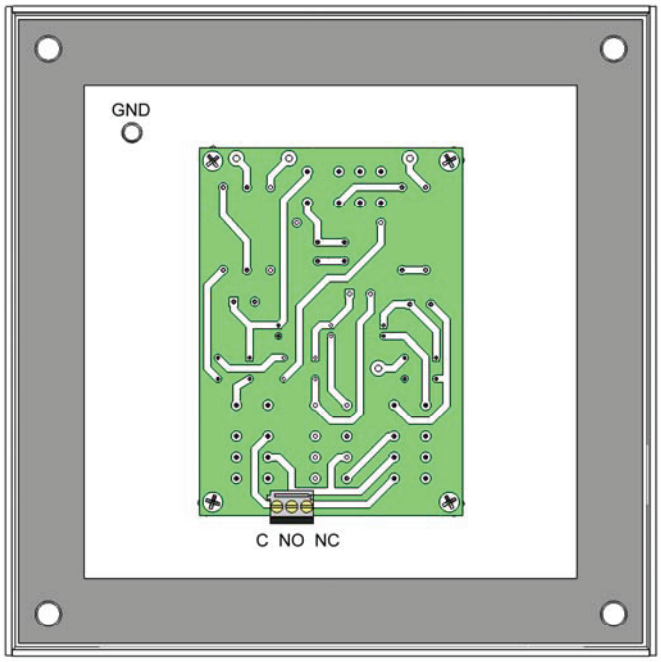
For questions, please contact a PSP Products Inc. Account Representative at
(800) 648-6802, Fax (703) 393-9101, or www.pspproducts.com

OPTIONAL

Connect the remote contact to the remote alarm system. Please refer to the specific instructions for the alarm system at the installation site.

Both normally open and normally closed contacts are available on the terminal block on the alarm PCB. See Figure 2 for connection location for common (C), normally open (NO), and normally closed (NC). Contacts are in energized mode.

For models with "Push to Test" option depress and hold button to energize the remote contact relay and extinguish one of the LEDs



For models with a preinstalled alarm cable

NO – Black,
C – White
NC - Brown

Figure 2

REMOTE ALARM CONNECTIONS FOR SYSTEMS WITH TRANSFER SWITCHES THAT HAVE UTILITY AND GENERATOR SURGE PROTECTORS INSTALLED.

Each All Mode product has remote monitoring capability with a set of dry Form-C contacts see Figure 2. Systems that incorporate a transfer switch and two surge protection devices will normally have one surge protector that is not powered creating a false alarm condition. In order to eliminate the false alarm condition and provide a single NC pair, please make the following connections:

- Connect the NO of the Utility power SPD to the NC of the Generator power SPD
- Connect the NC of the Utility power SPD to the NO of the Generator power SPD
- Use the C of both the Utility and Generator power SPD's as the new Normally Closed pair.

ALARM STATUS TABLE

UTILITY POWER	GENERATOR POWER	UTILITY SPD	GENERATOR SPD	ALARM STATUS
ON	OFF	OK	NO POWER	NO ALARM
OFF	ON	NO POWER	OK	NO ALARM
ON	OFF	FAILURE	NO POWER	ALARM
OFF	ON	NO POWER	FAILURE	ALARM
OFF	OFF	NO POWER	NO POWER	ALARM
ON	ON	OK	OK	ALARM

TO CHECK THAT CONNECTIONS ARE MADE CORRECTLY, TRIP THE BREAKER SUPPLYING POWER TO THE SPD's AND OBSERVE THE ALARM ACTIVITY.

For questions, please contact a PSP Products Inc. Account Representative at
(800) 648-6802, Fax (703) 393-9101, or www.pspproducts.com

Troubleshooting / Servicing / Maintenance

Troubleshooting

In the event that the protection LED is not lit or Form C relay has changed states, a qualified electrician should determine if the proper voltage and phasing is present.

Should the Surge Device remains in an alarm condition once the electrical system and its connections are confirmed normal, the unit should be repaired.

At this point consult the factory, having available the following information:

• Unit Model number – (refers to the model and serial numbers detailed on the data label and is located on the side of the enclosure.)
• Nature of problem – (including status of all status indicators and alarms).

Servicing

ONLY QUALIFIED PERSONNEL SHOULD PERFORM MAINTENANCE ON THIS DEVICE. DANGEROUS VOLTAGES ARE PRESENT INSIDE THE UNIT DURING NORMAL OPERATIONS. ELECTRICAL SAFETY PRE-CAUTIONS MUST BE FOLLOWED WHEN SERVICING THIS UNIT. TO PREVENT RISK OF ELECTRICAL SHOCK, TURN OFF AND LOCK OUT ALL POWER SOURCES TO THE UNIT BEFORE SERVICING UNIT.

Corrective Maintenance

The PSP Products Inc. SPD is designed for years of trouble-free operation. However, even the most reliable equipment may fail under abnormal conditions.

Diagnostic LED's are provided to indicate when the unit needs repair or replacement To ensure continued surge protection, failed units should be replaced as soon as possible.

When replacing surge devices, other components should be inspected for damage and replaced if deemed necessary. Standard troubleshooting procedures should be used to isolate problems.

When replacing surge devices, for continued proper operation and safety, replace only with identically rated components. Please contact factory for information on replacement parts.

Preventative Maintenance (Inspection and Cleaning)

Periodic system inspections, cleaning, and connection checks are recommended to ensure reliable system performance and continued surge transient protection. It is difficult to establish a schedule for preventative maintenance since conditions vary from site to site. Inspections for failed surge modules using available diagnostics should be done routinely (weekly or monthly).

For servicing assistance, contact your local PSP Products Inc. Sales Representative or PSP Products Inc at 800-648-6802 or 703-368-8376

10 Year Limited Warranty

PSP Products will replace any Vortexx™ brand product that is defective or is damaged by an electrical surge (including those caused by lightning) for a period of twenty (10) years from date of purchase.

The above coverage applies to the original end user purchaser only and is the exclusive remedy under this warranty, whether based in contract, tort, including negligence, or otherwise. Claims must be made within 30 days of damage. This warranty does not cover damage associated with sustained over voltages, vandalism,theft, normal wear and tear, obsolescence, abuse, no authorized, modification or alteration, misuse, improper installation or catastrophic events. Except as expressly provided by this warranty. PSP Products disclaims liability for any incidental, indirect, special or consequential damages arising out of the sale or use of any PSP Products (including without limitation lost business profits, loss of data and all freight, mileage, travel time and insurance charges associated with warranty coverage claims). Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state. This warranty is valid in the United States and Canada only.

Claim Procedure:

1. Contact PSP Products at 1-800-648-6802 to obtain a Return Authorization (RA) number.
2. Return PSP device to PSP Products, freight prepaid.
3. PSP Products returns working device, freight prepaid.

For technical assistance call 800-648-6802.