XT Series
Non-Modular
Surge Protective Device

TRANSIENT ELIMINATOR®

Installation,
Operation, and
Maintenance Manual

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APT Surge Protective Device (SPD)
Installation Operation, and Maintenance Manual

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RECOMMENDED APPLICATION

The XT Series product line is a single port parallel Surge Protective Device (SPD) designed for service entrance and downstream panelboard applications as a standalone, wall mount unit. The XT Series is available with 120kA, 160kA, or 240kA surge capacity per phase.

All APT products are extensively tested according to the industry standards as set by IEEE C62.41, C62.45, for Categories A, B, and C. The XT Series is Listed by UL 1449 Second Edition, UL 1283.

The XT Series has 200kA UL Listed Short Circuit Current Ratings (SCCR's). XT products are suitable for use on circuits capable of delivering not more than 200,000 rms symmetrical amperes. We recommend that the SPD be installed with the shortest and straightest possible lead lengths.

The Advanced Protection Technologies Surge Protective Device is a high quality, high energy surge system that has been designed to protect sensitive equipment from damaging transient voltage surges. Proper installation is imperative to maximize the surge suppressors effectiveness and performance. The installer should follow the steps outlined in this manual to insure a proper installation. **Improper installation will void the unit's warranty.**

The entire installation, operation and maintenance manual should be read prior to beginning the installation. These instructions are not intended to replace national or local electrical codes. Check all applicable electrical codes to verify compliance. Installation of APT's Transient Eliminator® Series suppressors should only be performed by qualified electrical personnel.

DANGER

HAZARD OF ELECTRIC SHOCK, BURN, OR EXPLOSION.

- Turn off all power supplying this equipment before working on or inside equipment.
- Please read the following installation and testing warnings.

INSTALLATION

BONDING AND GROUNDING HAZARD: Verify the neutral conductor in the service entrance equipment is bonded to ground in accordance with the National Electric Code and verify the neutral terminals (XO) on the secondary side of the distribution transformers are grounded to the system ground in accordance with the NEC and all applicable codes.

During installation into an electrical system, Surge Protective Devices (SPD's) must not be energized until the electrical system is completely installed, inspected and tested. All conductors must be connected and functional including the neutral (if required). The voltage rating of the device and system must always be verified before energizing the SPD.

Failure to follow these guidelines can lead to abnormally high voltage being applied to the SPD. This may cause the SPD to become inoperative. The warranty does not cover an incorrectly installed device.

HIGH VOLTAGE TESTING

Any factory or on-site testing of power distribution equipment that exceeds the normal operating voltage such as high-potential insulation testing, or any other tests where the suppression components will be subjected to voltages higher than their rated turn on voltage must be conducted with the suppressor **disconnected** from the power source. For 4-wire TVSS devices, the neutral connection at the TVSS must also be **disconnected** prior to performing high-potential testing and then reconnected upon completion of the test.

Failure to disconnect this surge suppression device and its associated suppression components during elevated voltage testing will result in damage to the suppression components and/or other electronic components.

Unpacking and Preliminary Inspection

Inspect the entire shipping container for damage or signs of mishandling before unpacking the unit. Remove the cardboard packing and further inspect the unit for any obvious shipping damages.

If any damage was found and is a result of shipping or handling, immediately file a claim with the shipping company and forward a copy to Advanced Protection Technologies, Inc.

Storage

The Unit should be stored in a clean, dry environment. Storage temperature is -55° C (-67° F) to +65° C (+149° F).

Avoid exposing the unit to areas of high condensation. All of the packaging materials should be left intact until the unit is ready for installation. If the unit has been stored for an extended period of time, it may be necessary to clean the unit and make a complete inspection of the unit prior to installing and placing into service.

Environment

The unit is designed to operate in an ambient temperature range of -40° C (-40° F) to +60° C (+140° F) with a relative humidity of 0% to 95% (non-condensing). The standard XT Series unit is in a NEMA Type 1 industrial use enclosure which is intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment and should not be installed in areas with excessive dust, flammable materials, corrosive vapors or explosive atmospheres. Other NEMA type enclosures are also available.

Configuration Management

Front is identified as the side containing the Control and Diagnostics Panel. Connecting wire leads are on the right side. The unitís printed identification nameplate is on the bottom of the unit.

Decoding an XT Model Number to Determine Configuration and Options:

Identify the unitís printed identification nameplate. Model number can be decoded as follows:

- "TE" identifies an external mount SPD followed by a slash (/).
- A one or two digit number will follow the letters TE. This number indicates the voltage and wiring configuration of the device. Refer to pages 6 - 9 to identify and confirm correct application.
- "XT" identifies the XT Series SPD, followed by a "/".
- Following the second "/" may be either a "160" or "240". These numbers identify optional 160kA or 240kA per phase Surge Current Ratings. (Note: The standard 120kA rating does not have a "120" identifier.)

Options are identified after the Surge Current Ratings and are individually separated by a slash ("/"). All options are detailed in this manual.

- /SC identifies a Surge Counter
- /DC identifies Dry Contacts
- /RM identifies a Remote Monitor (*)
- /FM identifies Flush Mounting
- /4X or /04 identifies a NEMA enclosure
  (* /DC, Dry Contact Option is Required)

Example: TE/2XT/240/DC/RM/SC/FM/4X identifies a Transient Eliminator, 208Y/120V, Three Phase, Four Wire (plus Ground), XT SPD with a 240kA per phase Surge Current Rating with Dry Contacts, Remote Monitor, Surge Counter, Flush Mount, and a NEMA 4X Enclosure.

Serial Number, Date of Manufacture, UL 1449 Suppression Voltage Levels (SVRs) are also on the identification nameplate.

Audible Noise

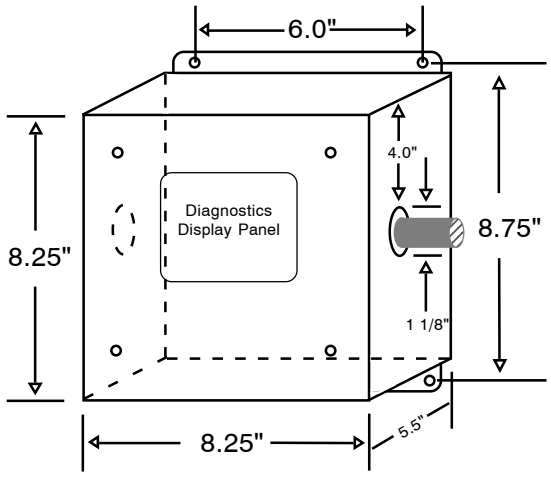
The unit background noise is negligible which does not restrict the location of the installation.

Mounting

The XT Series is designed to be mounted on a vertical wall. Refer to diagram below for mounting dimensions and weight.

Service Clearance

In addition to national and local code requirements, 36 inches is required at the front of the XT Series for service clearance.



- Mounting Holes are 5/16"
- Identification Nameplate on Bottom
- Unit Weight is 18 lbs.
- 9.50" Across Mounting Flange

WARNING

VERIFY THAT ALL POWER CIRCUITS ARE DE-ENERGIZED BEFORE MAKING ANY CONNECTIONS.

All electrical connections should be performed by a qualified (licensed) electrician or technician. All wiring must comply with the National Electric Code (NEC) and applicable local codes.

Overcurrent Protection

The Surge Protective Device (SPD) will only conduct for a brief duration upon encountering a transient surge current. APT SPD's contain UL Listed internal fusing to protect against abnormal conditions. XT devices are UL listed with 200kA short circuit current ratings.

Voltage Rating

Prior to mounting the SPD, verify that the unit has the same voltage rating as the power distribution system to which it is installed by comparing the nameplate voltage or model number on the SPD with the nameplate of the electrical distribution equipment. (The specifier or the user of the device should be familiar with the configuration and arrangement of the power distribution system in which any SPD is to be installed. The *system configuration* of any power distribution system is based strictly on how the secondary windings of the transformer *supplying* the service entrance main or load are configured. This includes whether or not the transformer windings are referenced to earth via a grounding conductor. The system configuration is ***not*** based on how any specific load or equipment is connected to a particular power distribution system). See Table 1 for the voltage rating and the type of power system configuration of the SPD.

Table 1
Voltage Rating & Service Type of SPD

XT SERIES	SERVICE VOLTAGE
TE/1XT	240/120V Split Phase
TE/11XT	120V Single Phase
TE/12XT	240V Single Phase
TE/2XT	208Y/120V Three Phase, WYE
TE/3XT	240/120V Three Phase, High-Leg, DELTA
TE/4XT	480Y/277V Three Phase, WYE
TE/5XT	480V Three Phase, DELTA
TE/51XT	480V Three Phase, Corner Grounded, DELTA
TE/6XT	240V Three Phase, DELTA
TE/61XT	240V Three Phase, Corner Grounded, DELTA
TE/7XT	380Y/220V Three Phase, WYE
TE/8XT	600Y/347V Three Phase, WYE
TE/9XT	600V Three Phase, DELTA
TE/91XT	600V Three Phase, Corner Grounded, DELTA

Equipment Performance

To obtain maximum system performance the unit must be located as close to the protected circuit as possible to minimize interconnecting wiring length. Keep in mind that for every foot of wire length approximately 175 volts per foot (6kV/3kA, 8/20 micro-second) will be added to the clamp voltage.

For optimum transient surge protection, staged surge suppression should be implemented at the service entrance and all other electrical connections to the building (telephone, CATV, etc). Additional surge protection should be installed at recognized surge generating loads such as arc welding rigs, large motors, switched capacitors, etc. Sensitive electronic loads such as computer equipment, facsimile machines, copy machines, solid state motor drives, variable frequency drives, should also have localized surge suppression. For interconnected electronic loads (via data cabling), surge protective devices should also be utilized to protect devices on either end of data cables.

Circuit Breaker & Disconnect Switch

The XT Series is designed for connection to a 30A to 60A circuit breaker. The circuit breaker is the intended disconnect switch and provides short circuit protection to the connecting conductors. The XT Series has internal overload protection elements within the product. A breaker or disconnect is not required as overcurrent protection.

Terminals

Terminals have been provided inside APT SPD units for the line (phase), neutral (if used), and equipment safety ground connections.

Wiring Size & Installation Torque

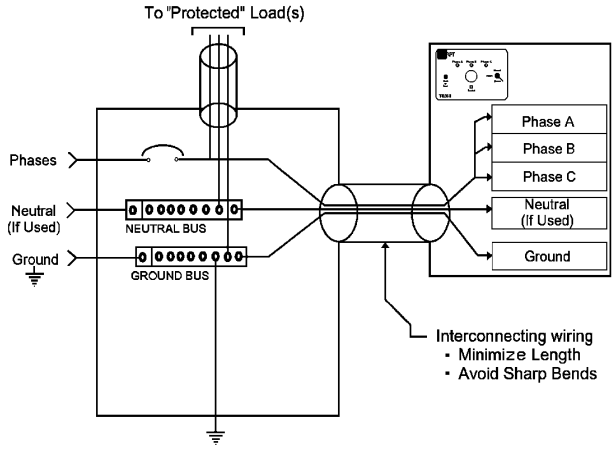
With a parallel connection, the size of the wiring to the SPD is independent of the ampere rating of the circuit to be protected. Use #8 AWG wire for phase, neutral and ground conductors. Torque connections to 18 inch pounds.

Parallel Connection (See Figure 2)

Per UL 1449 Paragraph 1.4, SPD's are intended for installation on the load side of the main overcurrent protection. Locate the SPD as close as possible to the protected circuit to minimize the wire length. This will optimize the performance of the SPD. Long wire runs are to be avoided if the unit is to perform as intended.

To reduce the impedance that the wire displays to surge currents, the phase, neutral (if used), and ground conductors are to be routed within the same conduit and should be tightly bundled or twisted together to optimize the performance of the unit. Sharp bends in the conductors are to be avoided.

Figure 1
Typical Parallel Connection



NOTE: Safety Ground required for ALL units.

System Grounding

An equipment grounding conductor must be used on all electrical circuits connected to the SPD. For the best performance, use a single point ground system where the service entrance grounding electrode system is connected to and bonded to all other available electrodes, building steel, metal water pipes, driven rods, etc. (for reference see: IEEE STD 142-1991). For sensitive electronics and computer systems, it is recommended that the ground impedance measurement be as low as possible. When metallic raceway is used as an additional grounding conductor, an insulated grounding conductor should be run inside the raceway and sized per the NEC. Adequate electrical continuity must be maintained at all raceway connections. Do not use isolating bushings to interrupt a metallic raceway run. A separate isolated ground for the SPD is NOT recommended. Proper equipment connections to grounding system and ground grid continuity should be verified via inspections and testing on a regular basis as part of a comprehensive electrical maintenance program.

XT Series Installation Instructions

Warning: Disconnect power while installing the SPD. Attempting to install while energized may result in death or injury. **The installation should be performed by qualified electrical personnel.**

Use an AC voltmeter to check all voltages to ensure that the proper unit has been selected. After verifying the proper unit has been selected, remove power from the AC distribution panel.

1. Mount the surge protective device (SPD) on a vertical surface, such as a wall, via the flanges, as close as possible to the panel being protected. NOTE: If unit has Flush Mount Option, refer to important Flush Mount Option information following these instructions.

2. Remove the cover from the SPD by loosening the four corner screws. When removing the cover, insure ribbon cables attached to the diagnostic faceplate are not mechanically stressed or become unplugged. DO NOT ALLOW THE FRONT COVER TO HANG BY THE RIBBON CABLES. For units with internally mounted diagnostic faceplates, once the SPD cover is removed, remove the four screws in the corners of the faceplate. Remove and store the screws for re-assembly since they are non-captive and can fall out during dis-assembly and installation. When removing the cover, insure ribbon cables attached to the diagnostic faceplate are not mechanically stressed or become unplugged. DO NOT ALLOW THE DIAGNOSTIC FACEPLATE TO HANG BY THE RIBBON CABLES!

3. When performing steps 8 through 11, dress the power cables so that the ribbon cables will not be pinched, crushed or otherwise damaged when the diagnostic faceplate or SPD cover is re-installed.

4. Twist together and keep as short as possible the connecting wires from the SPD to the AC distribution panel. Connect the SPD to conduit via a UL approved conduit with anti-chafe bushings.

5. Connect a #8 AWG wire (in conduit) to the safety ground bus of the AC distribution panel and to the ground lug of the SPD as marked in the unit and shown in the appropriate diagram that follows. Use a green wire or mark with a green band. Tighten the SPD philips head 1/4-20 screw to 18 inch-pounds. Proper grounding is essential for safety.

6. Connect a #8 AWG wire (in conduit) to the NEUTRAL bus of the panel and to the neutral lug of the SPD as marked in the unit and shown in the appropriate diagram that follows. Use a white wire or mark with a white band. Tighten the SPD philips head 1/4-20 screw to 18 inch-pounds.

7. Connect a #8 AWG wire (in conduit) to each phase feed on the LOAD side of the circuit breaker in the AC distribution panel. Use a 30A to 60A circuit breaker with the appropriate number of poles. Turn the circuit breaker OFF before making any connection. Refer to the connection lug phase markings in the SPD and on the appropriate diagrams that follow, when making the phase connections.

8. After all connections have been made but before closing the circuit breaker, reinstall the internal diagnostic faceplate if it was removed in step 4. Check to insure that all ribbon cable connectors are all fully engaged in their sockets. Replace the SPD cover and restore power to the AC distribution panel or circuit breaker as required. If the SPD is installed and functioning properly, the green LED indicators on the front diagnostic faceplate will be lit and there will be no audible or visual alarms.

Warning: High Voltage Testing - Any factory or on-site testing of power distribution equipment that exceeds the normal operating voltage such as high-potential insulation testing, or any other tests where the suppression components will be subjected to voltages higher than their rated turn on voltage must be conducted with the suppressor **disconnected** from the power source. For 4-wire TVSS devices, the neutral connection at the TVSS must also be **disconnected** prior to performing high-potential testing and then reconnected upon completion of the test.

If you have any questions pertaining to the installation instructions, call APT's Field Service Department at: 1-800-237-4567.

On 4-Wire Power Systems, neutral to ground bonding (Main Bonding Jumper) must be installed per the NEC. Failure to do so could cause SPD damage.

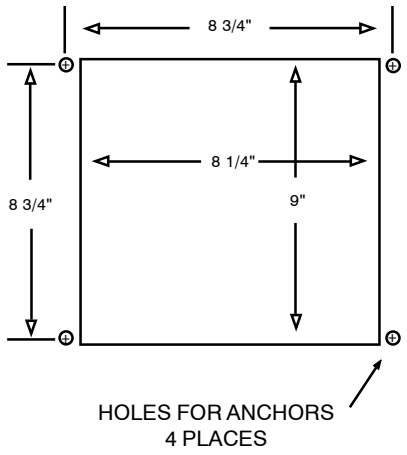
Optional Flush Mount Installation

The XT unit is approximately 5.25" deep and will not mount flush unless there is at least 5.25" of clearance. The XT is not designed to mount flush on a typical "2 x 4" stud wall.

Back Flange Mounting: Mount as close as possible to protected panel. Create a wall opening slightly larger than 9" high by 8.25" wide, see drawing. Configure a robust backing plate inside the wall cavity 5.25" from the wall face such that the XT will be supported from its back. Note the mounting holes on the back flange. Also note that the XT weighs 18lbs. Be careful not to drop the unit into the wall. Configure electrical conductor and conduit connections consistent with Installation Instructions beginning on page 4. Carefully reattach ribbon cables and faceplate/cover prior to energizing and testing unit.

The XT Series is designed for back flange mounting only. Do not attempt to install the XT such that its weight is supported by the front flange. The four mounting holes on the front flange are intended to secure the front flange to the outer wall surface.

In addition, the chassis of the XT unit can fall into the wall cavity if the four screws attaching the faceplate to the chassis are removed. Use caution not to drop the XT unit into the wall during installation or service.



Limited Warranty

Advanced Protection Technologies, Inc. warrants it's AC Panel protection products against defective workmanship and materials for 5 years (Optional 10 year warranty available). Liability is limited to the replacement of the defective product. A Return Material Authorization number (RA #) must be given by the company prior to the return of any product. Returned products must be sent to the factory with the transportation charges prepaid. In addition, the company also warranties unlimited replacement of modular and component parts within the warranty period previously described.

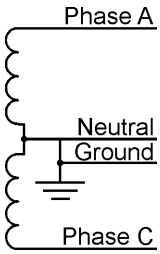
The company specifically disclaims all other warranties, expressed or implied. Additionally, the company will not be responsible for incidental or consequential damages resulting from any defect in any product or component thereof.

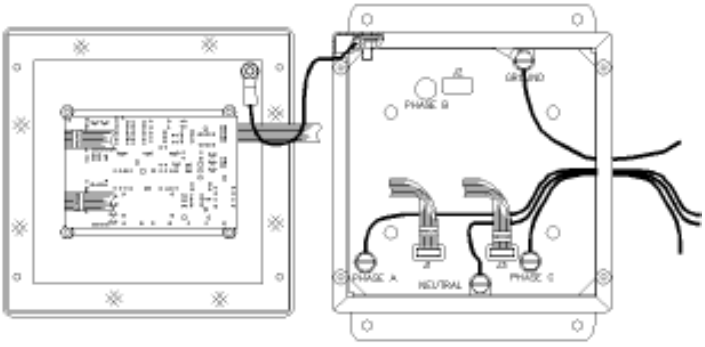
If you have questions on any issues,
please contact
Advanced Protection Technologies
Engineering Department at:
(800) 237-4567.

INSTALLATION WIRING DIAGRAMS

TE/1XT

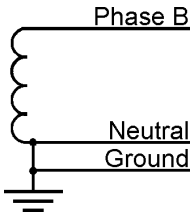
240/120VAC Split Phase, Three Wire, plus Ground

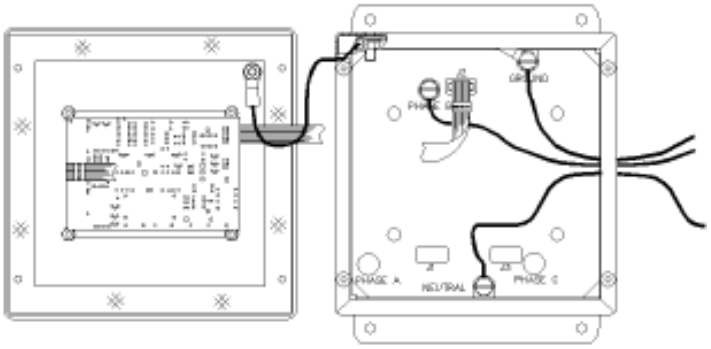




TE/11XT

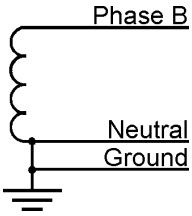
120VAC Single Phase, Two Wire, plus Ground

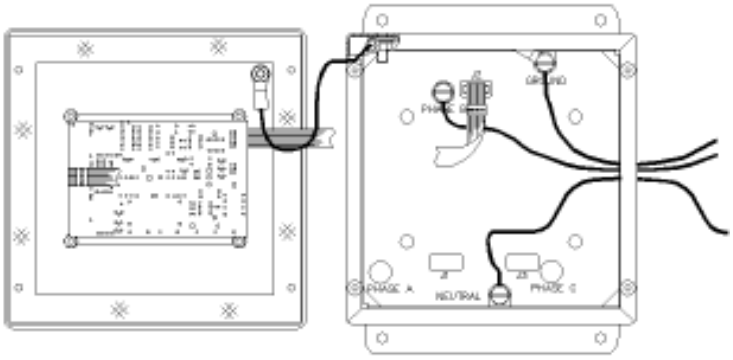




TE/12XT

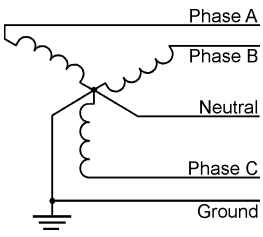
240VAC Single Phase, Two Wire, plus Ground

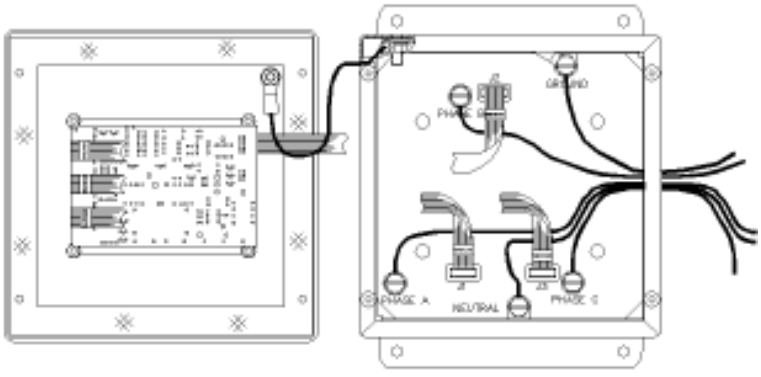




TE/2XT

208Y/120VAC Three Phase WYE, Four Wire, plus Ground

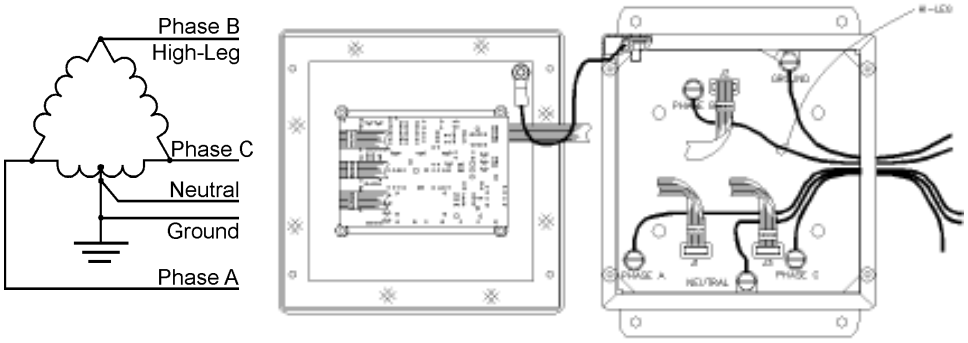




INSTALLATION WIRING DIAGRAMS

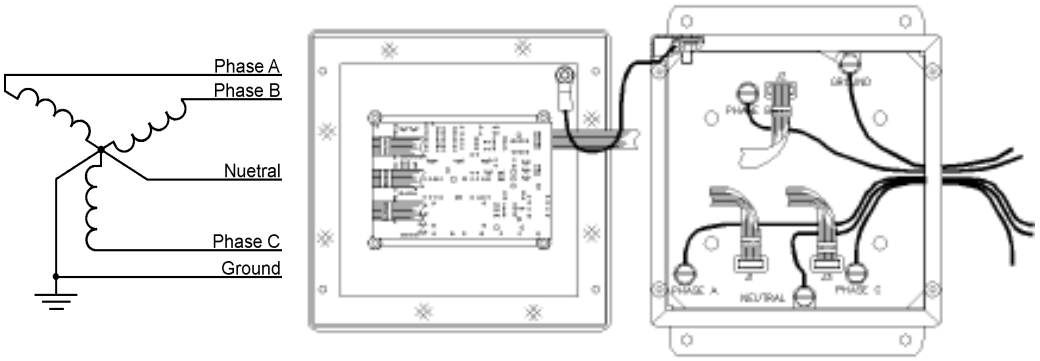
TE/3XT

240/120VAC Three Phase (High-Leg) DELTA, Four Wire, plus Ground



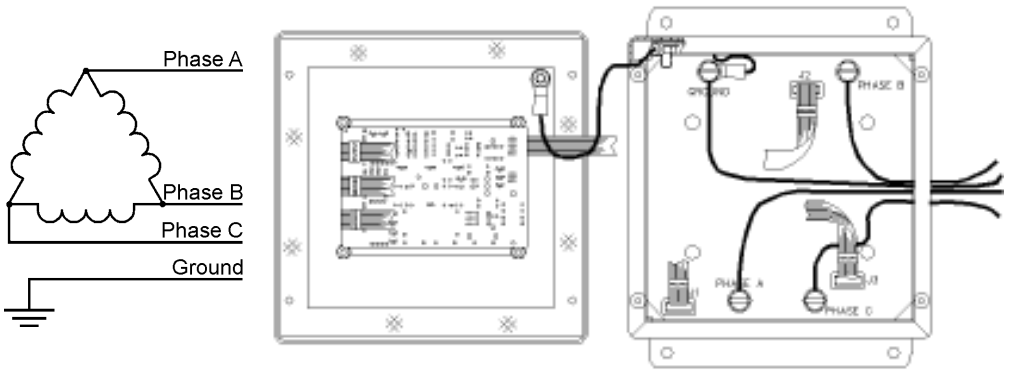
TE/4XT

480Y/277VAC Three Phase WYE, Four Wire, plus Ground



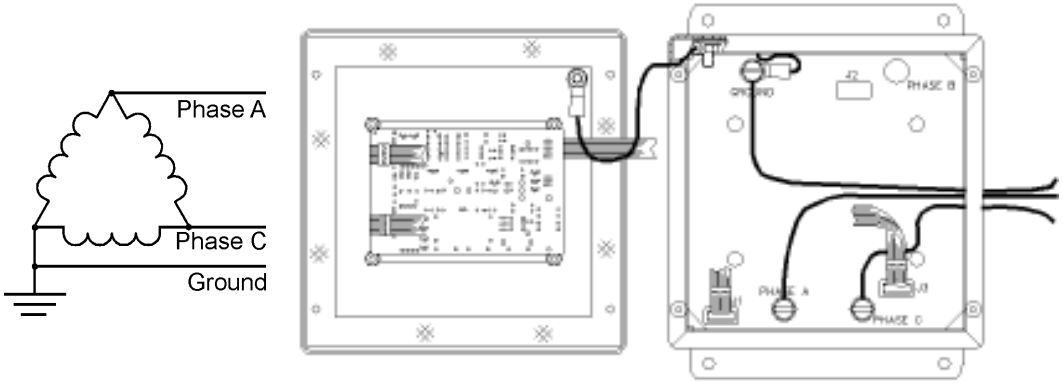
TE/5XT

480VAC Three Phase DELTA, Three Wire, plus Ground



TE/51XT

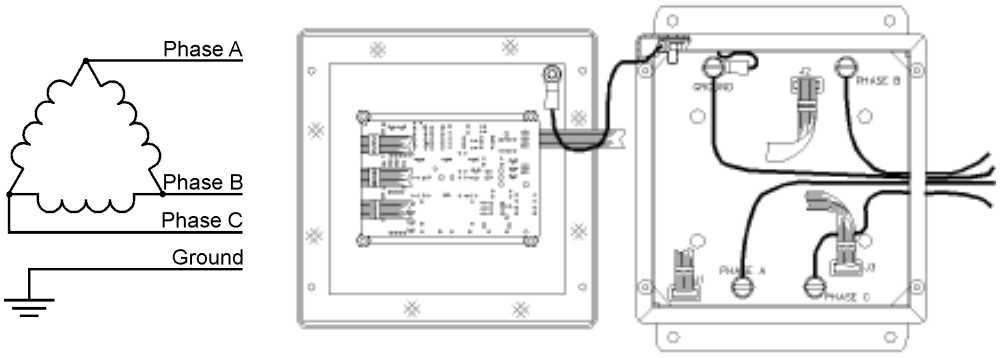
480VAC Three Phase (Corner Grounded) DELTA, Two Wire, plus Ground



INSTALLATION WIRING DIAGRAMS

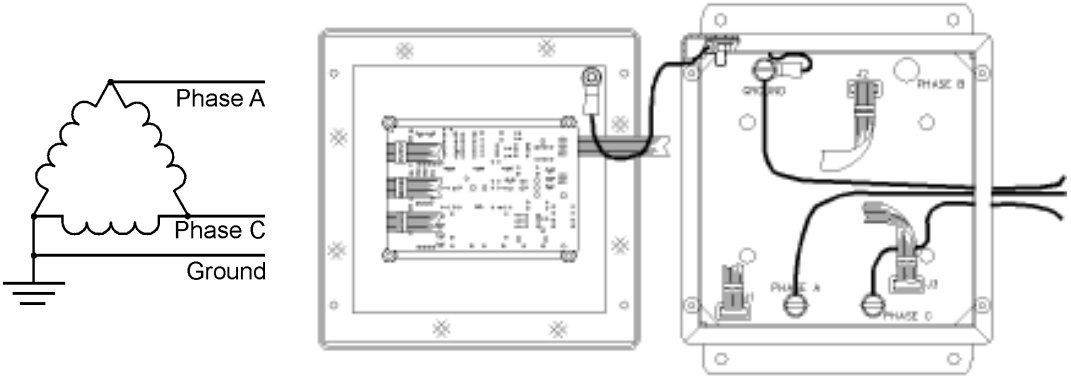
TE/6XT

240VAC Three Phase DELTA, Three Wire, plus Ground



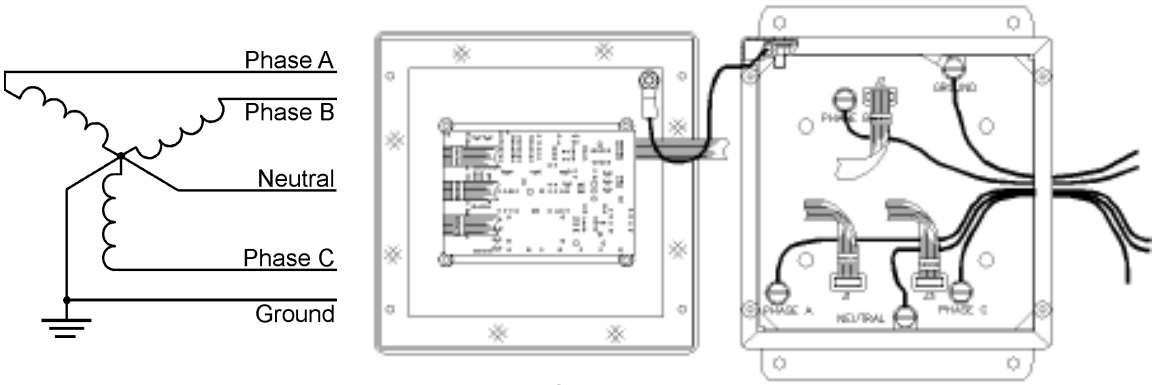
TE/61XT

240VAC Three Phase (Corner Grounded) DELTA, Two Wire, plus Ground



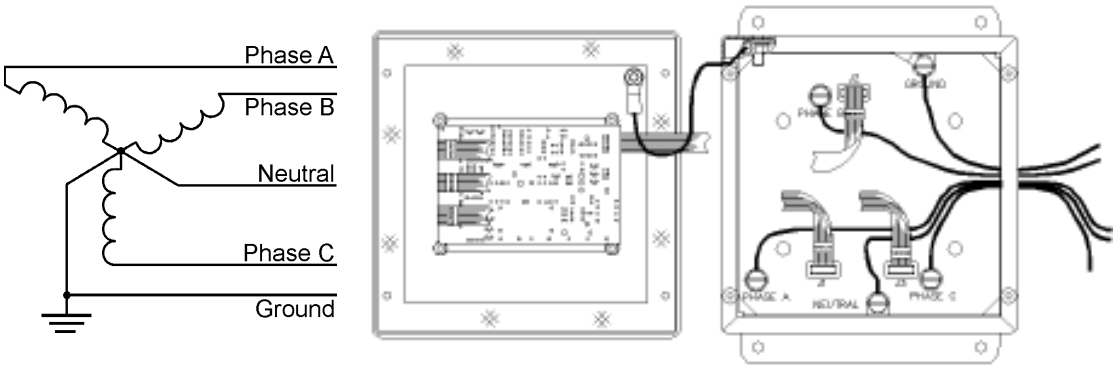
TE/7XT

380Y/220VAC Three Phase WYE, Four Wire, plus Ground



TE/8XT

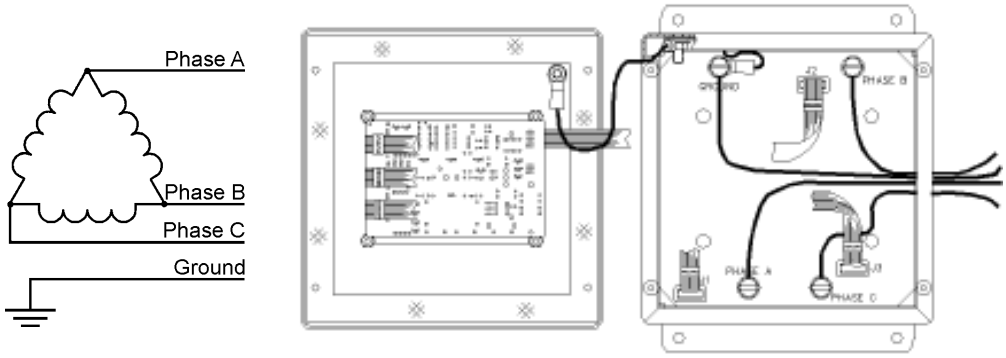
600Y/347VAC Three Phase WYE, Four Wire, plus Ground



INSTALLATION WIRING DIAGRAMS

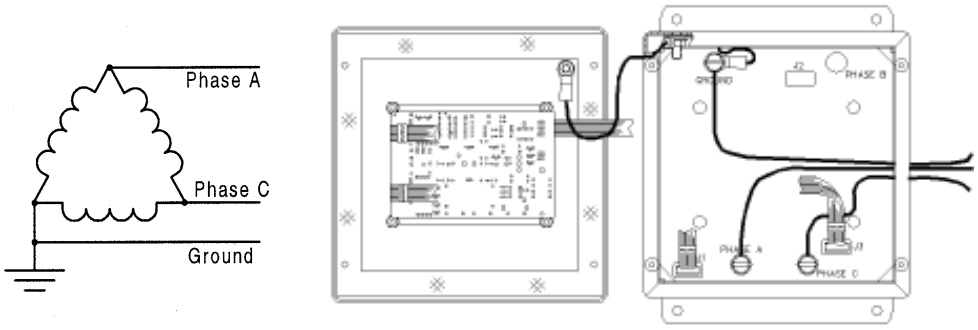
TE/9XT

600VAC Three Phase DELTA, Three Wire, plus Ground



TE/91XT

600VAC Three Phase (Corner Grounded) DELTA, Two Wire, plus Ground



WARNING

- **MAINTENANCE OF THIS SURGE PROTECTIVE DEVICE SHOULD BE PERFORMED BY QUALIFIED ELECTRICAL PERSONNEL ONLY.**
- **DURING NORMAL OPERATION, HAZARDOUS VOLTAGES ARE PRESENT INSIDE THE UNIT.**
- **WHEN SERVICING THIS UNIT, BE SURE TO FOLLOW ALL ELECTRICAL SAFETY PRECAUTIONS.**
- **ALL POWER SOURCES TO THIS UNIT SHOULD BE LOCKED OFF BEFORE SERVICING. THIS WILL PREVENT THE RISK OF RECEIVING AN ELECTRICAL SHOCK.**

SPD's do not require a great deal of operator intervention after installation. The XT Series of surge suppressors contain a diagnostic circuit which monitors the suppressor status continuously and automatically.

LED Status Indicators

All indicators and controls are located on the front diagnostic panel of the XT unit. If an inoperative condition were to occur, the built-in audible alarm will sound and a red "Service" LED will light, indicating that the unit is in need of service by a qualified electrician or technician.

The audible alarm can be silenced by pressing the front panel alarm touchpad Silence button until a qualified person is able to evaluate and service the SPD. The red "Service" LED will continue to be illuminated even though the audible alarm has been silenced, until the inoperative condition has been cleared.

If LEDs are illuminated in a manner that suggests contradictory information, there may be an internal logic problem and the unit needs replacement. If none of the LEDs are illuminated, the unit may not be installed correctly. Please note that the optional surge counter utilizes a long life Super Cap which may be energized despite an incorrect installation. If a green LED is not illuminated and is suspected of being faulty, a qualified electrician or technician may attempt to diagnose the problem by de-energizing the unit, removing the front cover and exchanging ribbon cable leads with another phase (if available). Upon re-energizing the SPD, the appropriate LED will illuminate if the suspect LED has failed. If troubleshooting indicates a failed LED, please contact APT's Field Support Services at: 1-800-237-4567 concerning diagnostic panel replacement.

Audible Alarm

The XT Series device is equipped with an audible alarm which will sound in the event of an alarm condition. Also, when there is an inoperative condition, the red ìServiceî LED will light, indicating that the device is in need of

service. The audible alarm can be silenced by pressing the audible alarm topuchpad Silence button. The red "Service" LED will remain lit even though the alarm has been silenced, until the inoperative condition has been cleared.

Dry Contacts Option

The XT Series is available with optional Dry Contacts which utilize a DB-9 connector. This feature provides two sets of normally open (N.O.) and normally closed (N.C.) contacts through the DB-9 connector. These relay contacts can be used for remote indication of the SPDís operating status. Examples could include a computer interface board, an emergency management system, etc. The relay contact pin arrangement is outlined in Table 2. (Please note the jumpered connections. Pins 7, 8 & 9 were used to drive an earlier version of the Remote Monitor option. Pins 7, 8 & 9 do not represent a third set of contacts.)

An optional Remote Monitor accessory is available that will provide visual and audible indication of an alarm condition. The Remote Monitor requires the Dry Contact option as it collects information through the Dry Contact's DB-9 connection. Please note that the DB-9 connector is completely utilized by the optional remote monitoring accessory. If the Remote Monitor is used, there will be no means to interface with another device.

For custom applications using Dry Contacts, please note the following information:

- The Dry Contacts are designed for low voltage or control signals only.
- Maximum switching current is 1 amp.
- Maximum switching voltage is 24 volts, DC or AC.

Higher energy application may require additional relay implementation outside the TVSS. Damage to the TVSS' relay caused by implementation with energy levels in excess of those discussed in this manual will not be covered by warranty. If you have design questions, please contact APT Technical Support at: 1-800-237-4567.

Table 2
DB-9 Pin Configuration

PIN	CONTACT TYPE
1	Normally Closed (1)
2	Common (1)
3	Normally Open (1)
4, 7	Normally Closed (2)
5, 8	Common (2)
6, 9	Normally Open (2)

NOTE: Pin pairs 4 & 7, 5 & 8, and 6 & 9, are connected via jumper internally. The combined current of each pin pair may not exceed 1 Ampere.

Surge Counter Option

The surge counter option provides a means to total the number of transient voltage surges since the counter was last reset. The 6 digit LCD display surge counter is powered by a long life Super Cap. This will provide power to retain memory should a power outage occur. There is a Reset/Test Switch on the right side of the XT Control and Diagnostic Panel which controls the surge counter option. When switched to the Test position, the surge counter will add one count to the currently displayed number. When switched to the Reset position, the surge counter will reset to zero count.

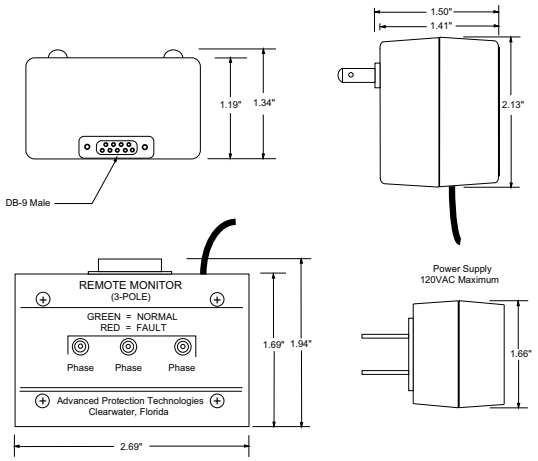
Remote Monitor Option

A Remote Monitor is available to provide SPD status up to 1000 feet away from the unit. The Remote Monitor option also requires the Dry Contact option as information is transferred via connections provided with the Dry Contact option.

The Remote Monitor has up to three dual color (red/green) LED's and a built-in audible alarm. If any mode of protection is lost, the green LED's will turn red and an alarm will sound. Normal status would be all LED's green and no audible alarm. The remote monitor device requires an external power source. The necessary power adapter 120VAC to 9VDC, with a six foot power cord, has been provided. If an alarm condition occurs, unplugging the external power source will silence the unit. When service of the SPD is complete, return power to the remote monitor. Connections are made by DB-9 connectors (provided) and the appropriate length of 26 gauge, 9 conductor cable (not provided).

Note that the Dry Contact option will allow the SPD to communicate with one (1) external device. If the Remote Monitor option is utilized, the SPD will not be able to communicate with other systems, such as a computer interface board or building and energy management system.

Figure 3
Remote Monitor (Model RM-3P)



Periodic Inspection and Cleaning

Inspection of the SPD should be performed periodically to maintain reliable system performance and continued transient voltage surge protection. While it is difficult to establish a preventive maintenance schedule because conditions vary from location to location, inspections for trouble utilizing the on-line diagnostics should be performed on a routine basis, weekly or monthly.

Every effort should be made to ensure that the SPD remains clean and dry. A towel may be used to wipe the exterior of the enclosure. Avoid excess moisture and dry with a towel as appropriate.

Corrective Maintenance and Repairs

APT Surge Protective Devices (SPD) are designed for many years of safe, reliable, trouble free operation. Unfortunately, even the most reliable equipment can become inoperative.

On-line diagnostics are an integral part of the SPD and indicate if service is required. Audible alarms and abnormal illumination of LEDs indicate problems within the SPD and possibly within the electrical system.

SPD's are an important link in managing power quality issues. Quality SPD's such as the XT Series are designed and tested to withstand severe duty. However, there are various electrical distribution problems that an SPD will not protect against. Should you suspect an SPD problem, a qualified technician should first perform an overview of the electrical distribution system including verification of proper voltages and phasing. Regardless of the cause, SPD's will sacrifice themselves while attempting to protect their load. Accordingly, a failed SPD may indicate other problems, as its failure is the effect rather than the "cause".

The XT Series is designed to be a replaceable unit. In the unlikely event that a unit becomes suspect or inoperative, replacement is the most effective solution.

Should you encounter an unusual problem, or request factory service support, please contact APT's Field Support Services.

Prior to calling APT for technical assistance or ordering parts, please have the following information available:

Model number SPD: _____

Serial number SPD: _____

Manufacture date: _____

Purchase date: _____

Your order number: _____

Optional features purchased with the SPD:

❑ Yes ❑ No 160kA Per Phase Surge Rating "/160"

❑ Yes ❑ No 240kA Per Phase Surge Rating "/240"

❑ Yes ❑ No NEMA Type 4 Enclosure "/04"

❑ Yes ❑ No Flush Mount "/FM"

❑ Yes ❑ No Surge Counter "/SC"

❑ Yes ❑ No Dry Contacts "/DC"

❑ Yes ❑ No Remote Monitor "/RM"

Return Shipment Address:

Advanced Protection Technologies, Inc.
Attn: RA #
14550 58th Streeet North
Clearwater, FL 33760

"Professionals Serving Professionals" SM

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