

TABLE OF CONTENTS

Before Installation	3
<i>System Configuration Verification</i>	3
<i>Environmental Condition Verification</i>	4
<i>Wiring Connection Diagrams</i>	4
<i>Upstream Over-Current Protection Device</i>	4
<i>Conductor Routing</i>	4
<i>Mounting</i>	5
<i>Optional Flush Mounting</i>	6
<i>Electrical Connections</i>	7
<i>Verification and Power Up</i>	7
Troubleshooting	8
Warranty Statement	8

BEFORE INSTALLATION



WARNING: HAZARDOUS VOLTAGES PRESENT Improper installation or misapplication may result in serious personnel injury and/or damage to electrical system. Read the complete installation instructions before proceeding with installation. Remove all power to the electrical panel before installing or servicing the surge protective device (SPD).

IMPORTANT SAFETY INSTRUCTIONS All work must be performed by licensed and qualified personnel. The electrical system must be properly grounded in accordance with the U.S. National Electrical Code, state and local codes or other applicable codes for this SPD to function properly. This device is suitable for installation where the available short circuit current is 200,000 rms symmetrical amperes at 600VAC or less.



WARNING: Check to ensure that a proper bond is installed between neutral and ground at the transformer upstream from the split-phase TransTrack2 device (See NEC Article 250). If the transformer is not accessible, check the main service disconnect/panel for the N-G bond. Lack of a proper bond will damage TransTrack2 and void the warranty.

1. System Configuration Verification

Confirm that the voltage and service configuration shown on the TransTrack2 product label is consistent with the voltage and service configuration of the facility. A model number is located on a label on the outside of unit.

MODEL NUMBER	NOMINAL VOLTAGE	L-N VOLTAGE RANGE	L-L VOLTAGE RANGE	CONFIGURATION
TK-TT2-xxx-1P240	240	N/A	216-264	Single Phase, 2-wire+ground
TK-TT2-xxx-1S240	120/240	108-132	216-264	Split-Phase, 3-wire+ground
TK-TT2-xxx-3Y208	120/208	108-132	187-228	Three-Phase, 4-wire+ground
TK-TT2xxx-3Y380	220/380 230/400	198-242 207-253	342-418 360-440	Three-Phase WYE 4-wire+ground
TK-TT2-xxx-3Y480	277/480	249-305	432-526	Three-Phase, 4-wire+ground
TK-TT2-xxx-240NN	240	N/A	216-264	Three-Phase, 3-wire+ground DELTA
TK-TT2xxx-380NN	380 400	N/A	342-418 360-440	Three-Phase DELTA 3-wire+ground

xxx denotes 65kA or 100kA surge rating per phase.

Suffix at end of model number denotes available options (-M for monitoring package; Form C dry relay contacts and audible alarm with mute button).

2. Environmental Condition Verification

Confirm that the environmental conditions are consistent with the following ranges:

- Ambient Temperatures: Between -40° and +158°F.
- Relative Humidity: Between 5% and 95% non-condensing.
- Altitude: Less than 13,000 feet.

3. Wiring Connection Diagrams

Figure 1 shows the electrical relationship between TransTrack2 and the service configuration: Single Phase, 2-wire; Split-Phase, 3-wire, and Three Phase, 4-wire WYE.

Fig. 1: Single Phase, 2-Wire

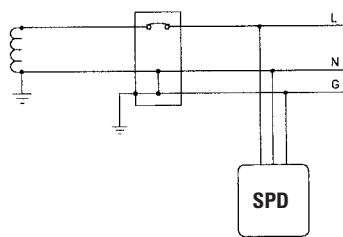


Fig. 2: Split Phase, 3-Wire

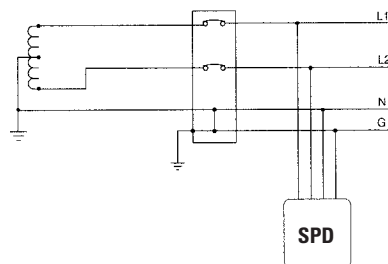


Fig. 3: 3-Phase, 4-Wire WYE

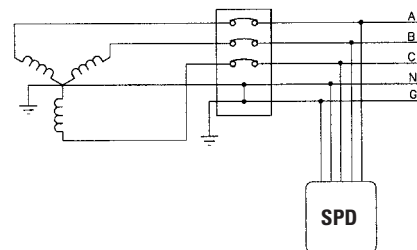
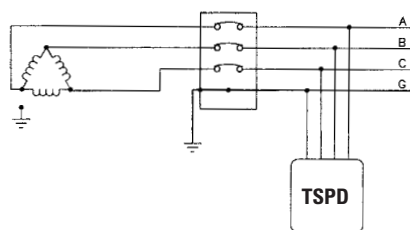


Fig. 4: 3-Phase, 3-Wire DELTA



Connections to the SPD are clearly identified and are made via pigtail leads supplied with the unit. For split phase units, the phase connections are marked "A/L1" and "C/L2". The neutral (when applicable) is a white wire and the ground is a green wire.

4. Upstream Over-Current Protection Device

The TransTrack2 is listed as a Type 1 SPD per UL 1449 3rd Edition, suitable for use in both Type 1 and Type 2 SPD applications. This means that the TransTrack2 can be installed on the line or load side of the main service disconnect. TransTrack2 must be connected in parallel to the electrical system.

TransTrack2 units have built-in over-current fusing rated at 200,000 rms symmetrical ampere at 600VAC or less and can be connected directly to the electrical distribution system bus without an upstream over-current protection device.

The use of a non-fused disconnect or external over-current protection device is recommended as it allows the TransTrack2 to be de-energized during service without disturbing the electrical service to the rest of the facility. If the TransTrack2 is connected to a dedicated over-current protection device, a 30A breaker is recommended (30A minimum, 400A maximum).

5. Conductor Routing



Do not splice TransTrack2's conductors within the unit's enclosure or Manufacturer's warranty will be void. TransTrack2's performance will be limited severely if the conductors are (a) too long, (b) have too many bends or (c) have sharp bends.

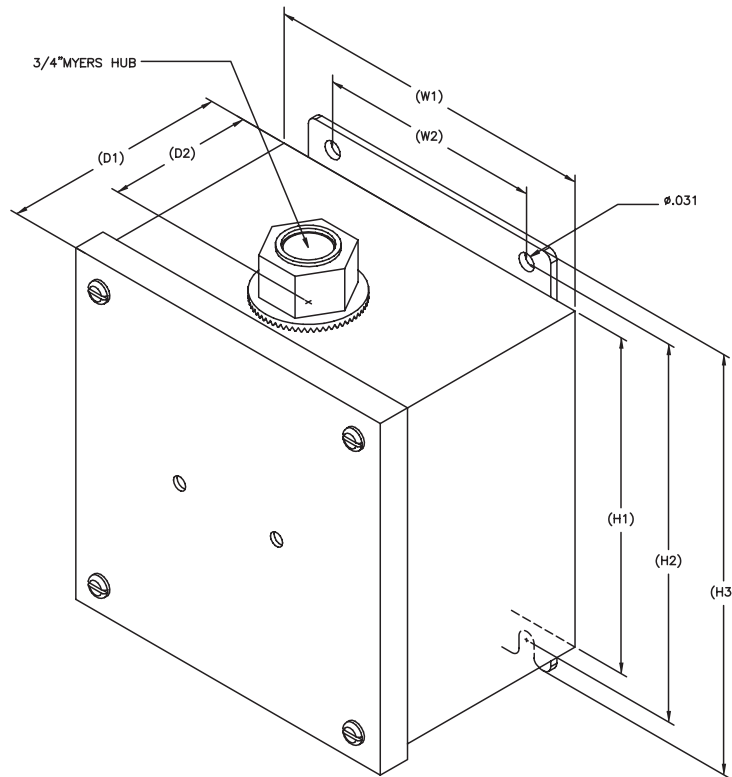
The factors listed above should be addressed during the design of an installation to reserve a suitable place for TransTrack2 next to its point of connection to the electrical system. The selected mounting location should allow for the shortest possible conductor runs and a direct route with a minimum of bends. If bends are required, they should be *sweeping* bends (12" radius). Do not make sharp 90° bends for appearance purposes because they will severely decrease the effectiveness of TransTrack 2.

Braiding or twisting conductors together using tie-wraps or electrical tape increases the protection performance of the device. One or two twists or braids of all conductors per foot and securely tie-wrap when conductor lengths must exceed 12".

6. Mounting

TransTrack2 can be mounted in a variety of methods. The basic method is to wall mount using the mounting feet attached to the base of the enclosure. TransTrack2 can also be mounted even (or flush-mount) to the exterior wall surface. Mount TransTrack2 using construction methods and hardware appropriate for your site. The TransTrack2 enclosure is designed with a 3/4-inch myers hub which will accept rigid or IMC conduit. See Figure 2 for enclosure and mounting dimensions.

Fig. 2
Enclosure/Mounting
Dimensions



Without Flush Plate

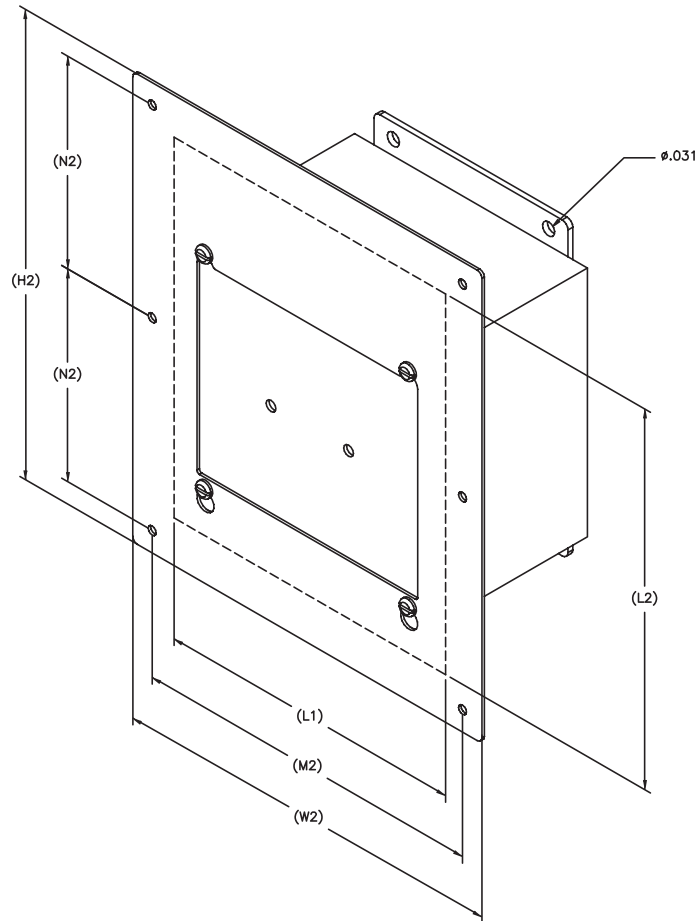
DIM	IN	(mm)
H1	6.00	(152.4)
H2	6.75	(171.5)
H3	7.50	(190.5)
W1	6.00	(152.4)
W2	4.00	(101.6)
D1	4.16	(105.7)
D2	2.50	(63.5)

All measurements in inches (mm)

7. Optional Flush-Mount Plate

Optional flush-mount plate, part number FMP, can be purchased for flush-mount installation. Typically a cutout, larger than the TransTrack2 enclosure, is created in the drywall or other finish material. See Figure 3 for the recommended cutout gap (dimensions L1 and L2). Use the flush-mount plate to hide the gap between the enclosure and the cutout edges. Prior to installation, attach the plate to the enclosure using the existing cover screws.

**Fig. 3:
Flush-Mount Plate
Dimensions**



With Flush Plate

DIM	IN	(mm)
H2	10.50	(266.7)
L1	7.00	(177.8)
L2	8.50	(215.9)
M2	8.00	(203.2)
N2	4.75	(120.6)
W2	9.00	(228.6)

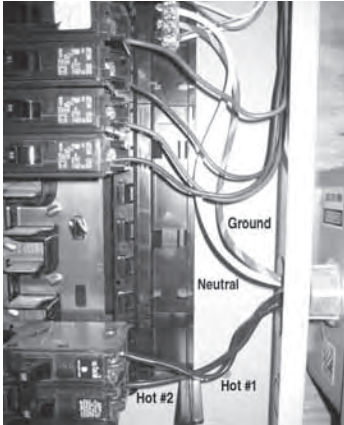
All measurements in inches (mm)

8. Connection and Wiring Instructions



CAUTION: Prior to installation ensures the system configuration and voltage is equivalent to the voltage rating of the TransTrack2 unit being installed. Do not splice TransTrack2 conductors within the unit's enclosure or Manufacturer's warranty will be void.

Following all applicable National Electrical Code standards as well as state and local codes, connect phase, neutral* and ground to TransTrack2. Ensure that the conductor lengths are kept as short and straight as possible.



Install SPD directly adjacent to the point of termination to insure conductor length is as short as possible for optimum performance and protection.

9. Verification and Power Up

Apply power to TransTrack2 by closing the over-current protection device or switch feeding the suppressor.

Fig. 4
TransTrack2 Diagnostics

Verify that all "Phase Protection Status" indicating lights are illuminated.



