

Introduction

Power-related problems cost U.S. companies more than \$80 billion a year. The impact is far-reaching and affects just about every aspect of business. It drives up maintenance and production costs, causes production delays, lost sales, late deliveries, as well as increased spoilage and scrap. GE's Tranquell™ Surge Protective Devices (SPDs) help minimize power-related problems by protecting sensitive electrical equipment from harmful transients.

Most transients originate from within a facility and nearly 80% of today's overvoltage problems are caused by equipment and power disturbances within the plant. These inner-facility transients are caused by light load panels switching on and off, motors starting and stopping, and close conductor proximity, just to name a few. Less than 20% of transient problems originate outside of the facility due to lightning strikes, utility grid switching, switching of capacitor banks, and electrical accidents.

Transients cause three general types of damage to sensitive electrical equipment, for example:

- **Disruptive** – A voltage transient enters an electronic component which interprets the valid logic command, resulting in system lock-up, malfunctions, faulty output or corrupted files.
- **Dissipative** – A repetitive, short duration energy surge resulting in long-term electrical degradation.
- **Destructive** – Associated with high level energy surges, resulting in immediate equipment failure

Tranquell™ Series

Surge Protective Devices (SPD)

DIN Rail Mounted

IEC Class II



Features and Benefits

The Tranquell™ DIN Rail SPD is a Type 2 surge protective device that is modular and easy to install. DIN Rail mount housing allows for quick installation. The Tranquell™ DIN Rail SPD has a compact footprint and user-replaceable phase surge pluggable modules with an IP20 finger-safe design. Both visual indicators and remote indicators (dry contact) provide SPD status to critical control circuits.

- > Built-in thermal protection
- > DIN-rail mount
- > Pluggable modules, fingersafe design – IP20 package
- > Built-in visual status indicator
- > Remote indicator with 3 pin COM/NO/NC contacts
- > Easy installation or retrofit
- > Fail-safe / self-protected design
- > Small footprint
- > No dedicated external fusing or dedicated breakers required

Most SPDs are designed to function in tandem with fuses. If you need a space-saving option or are looking for ways to reduce costs, then consider an integrated system. GE's Tranquell™ DIN Rail SPD features thermally protected metal oxide varistor technology, eliminating the need for additional overcurrent protection.



Applications

- > AC/DC Distribution
- > Medium Voltage Power Supplies
- > Industrial Automation Controls
- > Telecom Equipment
- > Motor Controls and Starter Systems
- > Programmable Logic Controller (PLC) Applications
- > Power Transfer Equipment
- > HVAC Controls
- > AC Drives
- > Security Systems
- > IT Networks
- > Medical Equipment

Industries

- > Agriculture
- > Medical
- > Solar Power / Photovoltaic
- > Telecommunication
- > Water Treatment
- > Wind Power
- > Transportation
- > Oil & Gas
- > Utilities
- > Pulp & Paper

Approvals / Standards

- > IEC 61643-1 Class II
- > ANSI/IEEE C62.41
- > CE Listed
- > RoHS Compliant

Ratings

- > 25kA Short Circuit Withstand Rating (SCCR) 50/60 Hz, per IEC 61643-1 Standard
- > 25kA and 40kA (8/20 μ s) max discharge current (Imax) per mode
- > Operating and storage temperature: -25°C to +60°C (-13°F to 140°F)
- > Wiring Range: #14 AWG to #6 (2.08 mm² - 13.3 mm²)
- > 230/400 VAC
- > 600/1000 VDC
- > 20kA nominal discharge current (In)
- > Surge life @ 2kA (8/20 μ s): 1000 events



Product Views



Assembly System:
3-Pole

Rear View Assembly
System: 1-Pole



Front & Side View:
User-Replaceable
Pluggable Module

Assembly
System: 2-Pole

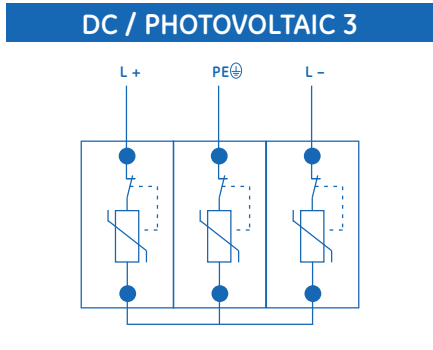
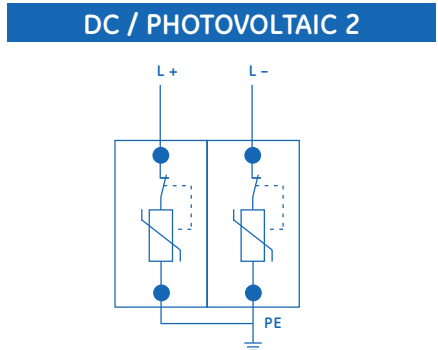
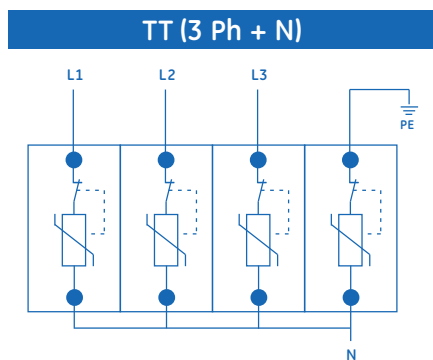
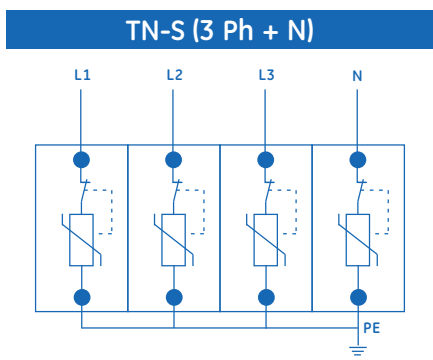
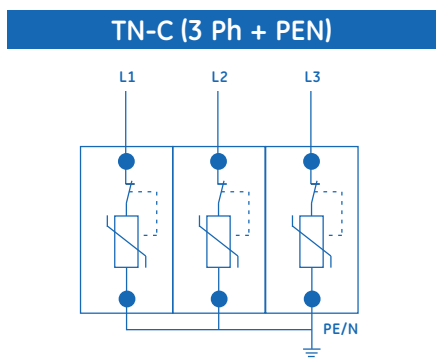
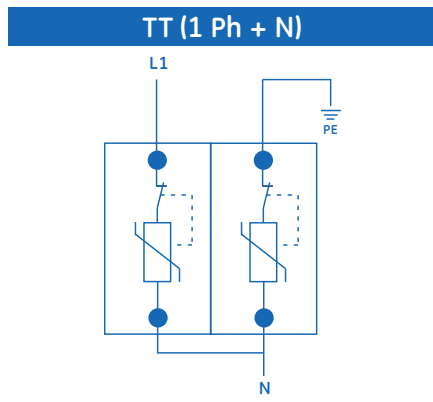
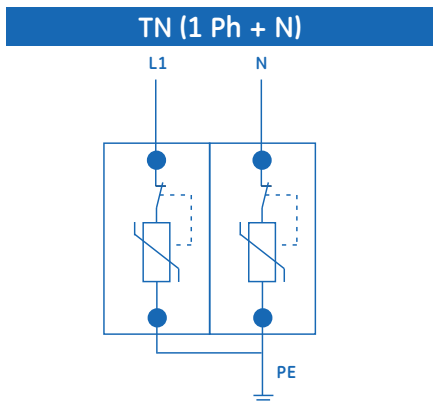
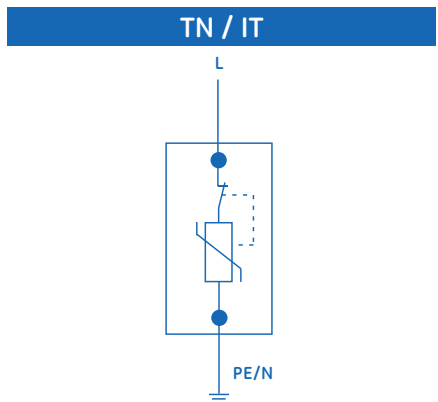


User-Replaceable
Pluggable Module

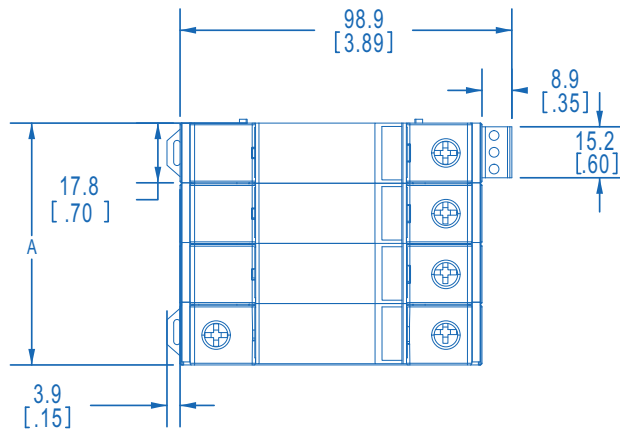
Part Numbers & Specifications

Assembly System Part Number	Product Configurations				IEC Specifications			
	Nominal Voltage (50/60Hz)	No. of Wires	Max. Discharge Current (Imax, 8/20µs, kA)	Wiring Configuration*	Nominal Discharge Current (In, kA)	Short Circuit Withstand Rating (Isc, kA) Per IEC 61643-1 Standard	Uc MCOV (L-PE/N)	Voltage Protection Level L-N (Up @ In)
TD2304025RMS	230	5-Wire / 4 Pole	25kA	TN-S	20	25	275	<1.5kV
TD2304040RMS			40kA		20	25	275	<1.5kV
TD2304025RMT			25kA	TT	20	25	425	<2.0kV
TD2304040RMT			40kA		20	25	425	<2.0kV
TD2303025RMC	230	4-Wire / 3 Pole	25kA	TN-C	20	25	275	<1.5kV
TD2303040RMC			40kA		20	25	275	<1.5kV
TD2302025RMN	230	3-Wire / 2 Pole	25kA	TN / IT	20	25	275	< 1.5kV
TD2302040RMN			40kA		20	25	275	< 1.5kV
TD2302025RMT			25kA	TT	20	25	425	<1.8kV
TD2302040RMT			40kA		20	25	425	<1.8kV
TD2301025RMN	230	2-Wire / 1 Pole	25kA	TN / IT	20	25	275	< 1.5kV
TD2301040RMN			40kA		20	25	275	< 1.5kV
TD4001025RMN	400		25kA		10	25	510	<2.0kV
TD4001040RMN			40kA		10	25	510	<2.0kV
TD600V2025RMD	600VDC	3-Wire / 2 Pole	25kA	DC / Photovoltaic 2	10	N/A	670VDC	<2.0kV
TD600V2040RMD			40kA		10	N/A	670VDC	<2.0kV
TD1000V3025RMD	1000VDC	3-Wire / 3 Pole	25kA	DC / Photovoltaic 3	10	N/A	1120VDC	<4.0kV
TD1000V3040RMD			40kA		10	N/A	1120VDC	<4.0kV

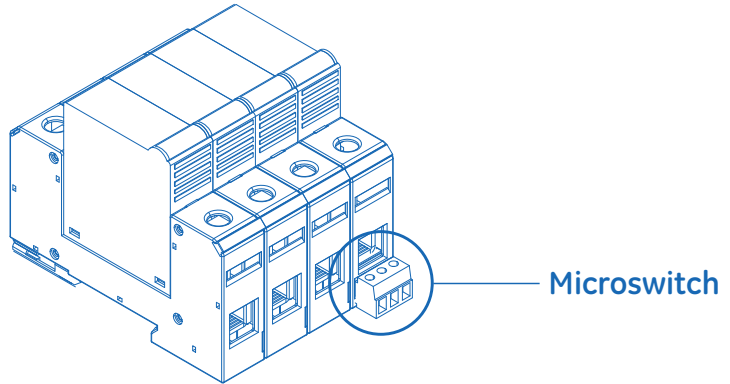
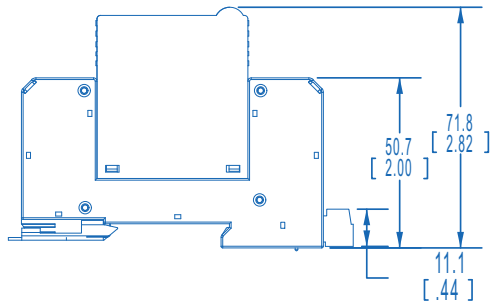
* Wiring Configuration Diagrams (NOTE: Shown with no power applied)



Dimensional Diagrams



Poles	A
1 Pole	18 mm [0.71 in]
2 Pole	36 mm [1.42 in]
3 Pole	54 mm [2.13 in]
4 Pole	72 mm [2.84 in]



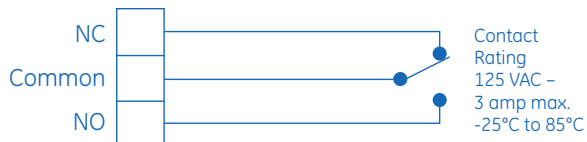
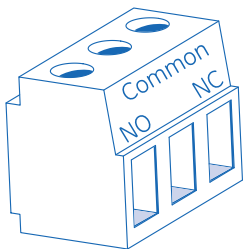
NOTE:

All dimensions in the diagram above are for reference only and are shown in Millimeters [inches]

Microswitch Wiring

Contact between Common + NO
= Product Offline, Not-Protected

Contact between Common + NC
= Product Online, Protected



Contact Rating
125 VAC –
3 amp max.
-25°C to 85°C

Signal Wire Range: .051 mm² - 1.31 mm² (#30 AWG to #16 AWG)
Terminal Torque: 0.113 N-m (1.8 lb-in)

NOTE:

- ✓ Shown with no power applied
- ✓ Field wiring by others



imagination at work



IEC61643-1
Class II



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