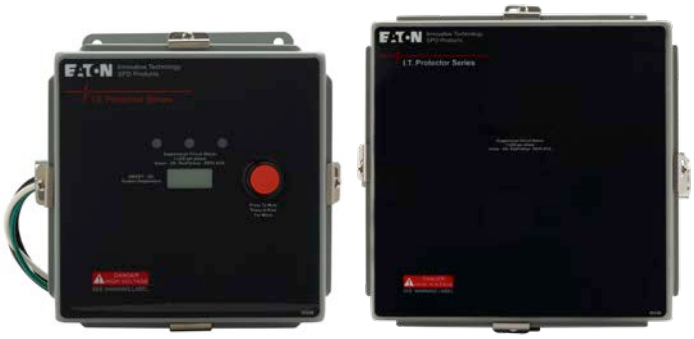
Eaton's Innovative Technology I.T. Protector

Providing surge protection under the harshest electrical conditions



Eaton's Innovative Technology® I.T. Protector™ surge protective device (SPD) protects electronic equipment from damaging transients. Available in a range of voltages and configurations, these devices offer maximum flexibility and are engineered to meet strict guidelines for durability and protection that is backed by a 20-year warranty with online registration.

Product application

The I.T. Protector is suitable for high, medium and low exposure levels and sensitive mission-critical load applications including:

- Switchboards/main panels
- Distribution panels
- Branch panels
- Critical loadcenters
- Dedicated load protection
- Variable frequency drives (VFDs)
- Motor protection

Benefits

- **Robust solution:** Obtain a lasting solution with its symmetrical current distribution and high current density capabilities
- **Enhanced protection:** Extend equipment life with Eaton's Active Tracking Network® (ATN) and Threshold Suppression Network (TSN)
- **Simplified monitoring:** Continuously monitor device and electrical system status with LED indicators; per phase diagnostics and dry relay contacts to help address problems proactively and maximize uptime (optional surge counter shows addressed transient activity)
- **Rugged weatherproof enclosure:** For installation in the most demanding industrial and commercial environments through the use of NEMA® 4 and NEMA 4X enclosures
- **Maximum flexibility:** Ease installation with the ability to mount the device in any position; if necessary, the cover can be rotated 180 degrees to improve label readability

Powering Business Worldwide

Features

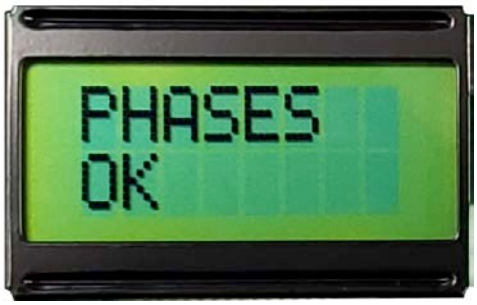
- Industry-best nominal discharge current (I_n) of 20 kA
- Rugged NEMA Type 4 (IP66) powder-coated steel enclosure
- Large diameter metal oxide varistors (MOVs) provide long life under high-stress transient environments
- Dry Form C contacts for remote status monitoring
- LED monitoring on each phase
- Wide range of voltage applications from 120 to 600 Vac
- Protection up to 400 kA
- 20-year free replacement warranty with product registration

Optional features

- NEMA Type 4X stainless-steel enclosure provides unparalleled corrosion protection and environmental strength for the most adverse installation conditions
- Enhanced filtering, Active Tracking Network (ATN) provides the best in transient protection against the continuous barrage of everyday transients; this filter is also UL® 1283 7th Edition listed as an EMI/RFI filter
- Available integral circuit breaker and disconnect switch for convenient installation and maintenance
- Available integral circuit breaker for installations requiring no external overcurrent protection
- S.M.A.R.T.™ diagnostics provide state-of-the-art diagnostics in the form of a digital surge event counter and audible alarm in conjunction with the standard status indicator lamps
- Available flush mount for recessed installations

S.M.A.R.T. diagnostics

- Comprehensive monitoring of critical system functions
- Real-time audible and visual reporting of unit status, phase loss/protection loss and transient events (alarm with reset and mute)
- Records low, medium and high surge events in approximate accordance with ANSI C62.1-1991, Type A, B and C surge levels
- Dual function surge counter provides non-volatile event history recording



S.M.A.R.T. diagnostics panel

Standards and certifications

- ANSI/UL 1449 5th Edition Type 1 and Type 2
- UL 1283 7th Edition
- Meets compliance standards of:
  - UL 96A
  - RoHS
  - NOM
  - Prop 65
  - NFPA® 780

Feature	PTE		PTX	
	Standard	Available option	Standard	Available option
Advanced encapsulation technology to extend the device's life and prevent adverse effects from environmental factors	✓		✓	
LEDs and dry relay contacts to monitor suppressor status	✓		✓	
Redundant, matched metal oxide varistors (MOVs)	✓		✓	
Suppression monitoring and recording technology (S.M.A.R.T.) monitors critical system functions and provides surge counter to record event history in non-volatile memory		✓		✓
Integral circuit breaker to take the device offline with minimal impact to facility operation (available with internal or external operating handle)		✓		✓
Active Tracking Network (ATN), providing up to 40 dB of EMI/RFI filtering attenuation	✓			
Threshold Suppression Network (TSN), offering the best suppression of high-energy, impulse-generated transients	✓		✓	

Specifications

Description	Specification	
Surge current capacity per phase (Standard)	50, 80, 100, 120, 160, 200 kA ratings available	
Surge current capacity per phase (Legacy)	48, 65, 80, 120, 160, 240, 300, 400 kA ratings available	
Nominal discharge current (I_n)	20 kA	
Short-circuit current rating (SCCR)	200 kA	
SPD type	UL 1449 5th edition and CSA Type 1 and Type 2 SPD	
Single-phase	100, 110, 120, 127, 200, 208, 220, 230, 240, 277	
Standard split-phase voltages available	100/200, 110/220, 120/240, 127/254	
Three-phase wye system voltages available	100/175, 110/190, 120/208, 127/220, 220/380, 230/400, 240/415, 277/480, 305/525, 347/600	
Three-phase delta system voltages	200, 208, 220, 230, 240, 380, 400, 415, 440, 480, 525, 600	
Three-phase high-leg delta system voltages	120/240	
Input power frequency	50/60 Hz	
Protection modes	Single split-phase	L-N, L-G, N-G, L-L
	Single-phase	L-N, L-G, N-G
	Three-phase wye	L-N, L-G, N-G, L-L
	Three-phase delta	L-G, L-L
	Three-phase high-leg delta	L-N, L-G, N-G, L-L, H-N, H-G, H-L
Maximum continuous operating voltage (MCOV)		
208Y, 220Y, 240S voltage codes	150 L-N, 150 L-G, 150 N-G, 300 L-L	
230L	320 L-N, 320 L-G, 320 N-G	
240H	150 L-N, 150 L-G, 150 N-G, 300 L-L, 320 H-N, 320 H-G, 470 H-L	
400 and 480Y voltage codes	320 L-N, 320 L-G, 320 N-G, 640 L-L	
600Y	420 L-N, 420 L-G, 420 N-G, 840 L-L	
240D	320 L-G, 300 L-L	
480D	550 L-G, 640 L-L	
600D	840 L-G, 840 L-L	
Ports	1	
Operating temperature	–40 °C to +50 °C (–40 °F to +122 °F) S.M.A.R.T. models rated 0 °C to 50 °C (32 °F to 122 °F)	
Operating humidity	5% through 95%, noncondensing	
Operating altitude	Up to 6561 ft (2000 m)	
Weight	50–100 kA—approximately 6.8 kg (15 lb), 120–200 kA—approximately 9.1 kg (20 lb)	
Form C relay contact ratings	125 Vac at 0.46 A, 30 Vdc at 1 A, terminal block connector rated 300 V, 1 A suitable for use with 26–16 AWG solid or stranded copper wire. Torque 5–7 lb-in	
Form C relay contact logic	Power on, normal state, NO contact = OPEN, NC contact = CLOSED Power off, fault state, NO contact = CLOSED, NC contact = OPEN	
Mounting feet torque rating	20.3 lb-in (2.3 N•m)	
EMI/RFI filtering attenuation	Up to 40 dB from 10 kHz to 100 MHz	
Agency certifications and approvals	UL 1449 Standard for surge protective devices—Edition 5 for SPD Type 1 and Type 2—revision date 2021/08/01 UL 1283 Standard for electromagnetic interference filters—Edition 7—revision date 2018/06/05 CSA C22.2 No. 269.1-17 surge protective devices—Type 1 permanently connected, 1st Edition, dated November 2014 CSA C22.2 No. 269.2-17 surge protective devices—Type 2 permanently connected, 1st Edition, dated June 2013 CSA C22.2 No. 8-13 electromagnetic interference (EMI) filters—Edition 5—issue date 2013/11/01	
Warranty	15 years, 20 years if you register on www.eaton.com/itvss and click the warranty registration icon	
UL 96A compliant	Yes	
RoHS compliant	Yes	
NOM compliant	Yes	
Prop 65 compliant	Yes	
NFPA 780 compliant	Yes	
Wire length and AWG	Factory prewired with ~30 inches of #10 AWG wire	

Catalog numbering systems

Standard I.T. Protector

PT X 100 3Y101- NS4N

Model
PT = Protector

Circuit design
X = Standard suppression
E = Active Tracking Network (ATN) Sine wave tracking, UL 1283 7th Edition

Per phase peak surge current (kA)	
050 = 50 ❶	**120** = 120
080 = 80 ❶	**160** = 160
100 = 100	**200** = 200

Options
NL = LED display
NS = S.M.A.R.T. system diagnostics

Options
4N = NEMA 4
4X = NEMA 4X

Configuration and voltage ranges (Vac)	Number of wires
1P101 = Single-phase—100, 110, 120, 127	2W+G
1P201 = Single-phase—200, 208, 220, 230, 240, 277	2W+G
1S101 = Split-phase—100/200, 110/220, 120/240, 127/254	3W+G
3Y101 = Three-phase wye (star)—100/175, 110/190, 120/208, 127/220	4W+G
3Y201 = Three-phase wye (star)—220/380, 230/400, 240/415, 277/480	4W+G
3Y300 = Three-phase wye (star)—305/525, 347/600	4W+G
3D101 = Three-phase high-leg delta—120/240	4W+G
NN201 = Three-phase delta (no neutral)—200, 208, 220, 230, 240	3W+G
NN400 = Three-phase delta (no neutral)—380, 400, 415, 440, 480	3W+G
NN501 = Three-phase delta (no neutral)—525, 600	3W+G

FLUSHMNTPLATE15 = flushmount plate, PTE/PTX 050–100 kA
FLUSHMNTPLATE16 = flushmount plate, PTE/PTX 120–200 kA

❶ 050/080 kA models PTE only.

Legacy I.T. Protector

PT X 160 3Y101 SD

Model
PT = Protector

Circuit design
X = Standard suppression
E = Active Tracking Network (ATN) sine wave tracking, UL 1283

Per phase peak surge current (kA)	
048 = 48	**160** = 160
065 = 65	**240** = 240
080 = 80	**300** = 300
120 = 120	**400** = 400

Optional upgrades ❶
C = Integrated circuit breaker
CD = Integrated circuit breaker with external disconnect
SD = S.M.A.R.T. surge counter
Note: Omit if no upgrades are needed.

Configuration and voltage ranges (Vac)
1P101 = Single-phase—100, 110, 120, 127
1P201 = Single-phase—200, 208, 220, 230, 240, 277
1S101 = Split-phase—100/200, 110/220, 120/240, 127/254
3Y101 = Three-phase wye (star)—100/175, 110/190, 120/208, 127/220
3Y201 = Three-phase wye (star)—220/380, 230/400, 240/415, 277/480
3Y300 = Three-phase wye (star)—305/525, 347/600
3D101 = Three-phase high-leg delta—120/240
NN201 = Three-phase delta—200, 208, 220, 230, 240
NN400 = Three-phase delta—380, 400, 415, 440, 480
NN501 = Three-phase delta—525, 600

Contact local Innovative Technology master distributor for available product configurations.

PTX units 48, 65, 80 kA: FLUSHMNTPLATE3A

❶ PTE 048/065/080/120/160 kA and PTX 120/160 kA models C/CD upgrade is required.

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