

Eaton Innovative Technology Protector series



Contents

Description

Page

Introduction	2
General features	2
Mechanical and electrical features	2
Optional features and equipment	2
Innovative Technology SPD dimensions in inches (mm)	3
Performance data	5



Powering Business Worldwide

Introduction

Since 1980, Eaton's Innovative Technology® has provided surge protective devices (SPDs) that have been used by power quality equipment users around the world. Whatever your electrical surge protection need may be, Eaton has a surge protective device to fill it.

General features

- Peak surge current: 50–200 kA per phase; 25–100 kA per mode
- ANSI/IEEE® C62.41 location categories: A, B and C
- Application: High to low exposure level, sensitive, mission-critical load applications including: distribution panels, branch panels and critical loadcenters
- Warranty: 20-year free replacement
- Agency listings: Compliant to UL® 1449 4th Edition as Type 1 Ⓢ and Type 2 SPD and UL 1283
- Manufacturer qualifications: ISO® 9001:1994 Quality System Certification BSI FM 30833
- The Protector Series products are produced in the USA and conform to ARRA requirements

Ⓢ UL 1449 4th Edition Type 1 products available only with PTX option.

Mechanical and electrical features

- Enclosure: Powder-coated steel, weatherproof; NEMA® Type 4 and Type 4X (IP65/IP66)
- Connection: #10 (6 mm²) stranded wire
- Weight: 12 lb (5.5 kg)
- Operating temperature: -40 to 122 °F (-40 to 50 °C)
- Protection modes: All mode L-N, L-L (normal mode), L-G, N-G (common mode)
- Input power frequency: 50 Hz to 60 Hz
- Response time: <1 nanosecond

Note: Ideal for applications utilizing a ground fault circuit interrupting (GFCI) main breaker.

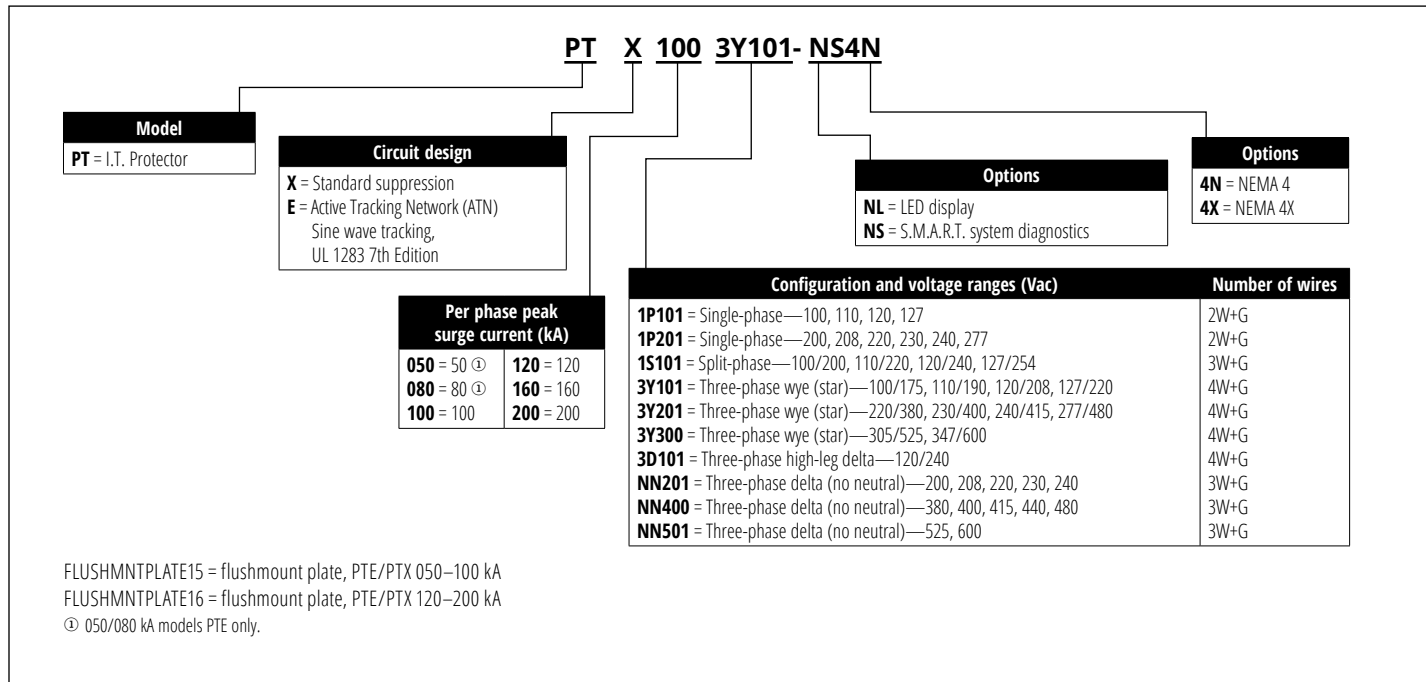
- Diagnostics: LED indicators, 1 per phase, normally on
- Remote alarm Form C (volt-free) relay, contact rating 60 W, or 125 Vac at 0.5 A, or 30 Vdc at 1 A
- Overcurrent protection device requirement: Reference installation instructions for details
- Nominal discharge current ($I_n = 20$ kA)
- Short-circuit current rating (SCCR): 200 kA

Optional features and equipment

- Audible alarm, surge counter and phase loss monitor (S.M.A.R.T.): -NS suffix

Standard I.T. Protector product selection

Table 1. Standard I.T. Protector catalog numbering system



Innovative Technology SPD dimensions in inches (mm)

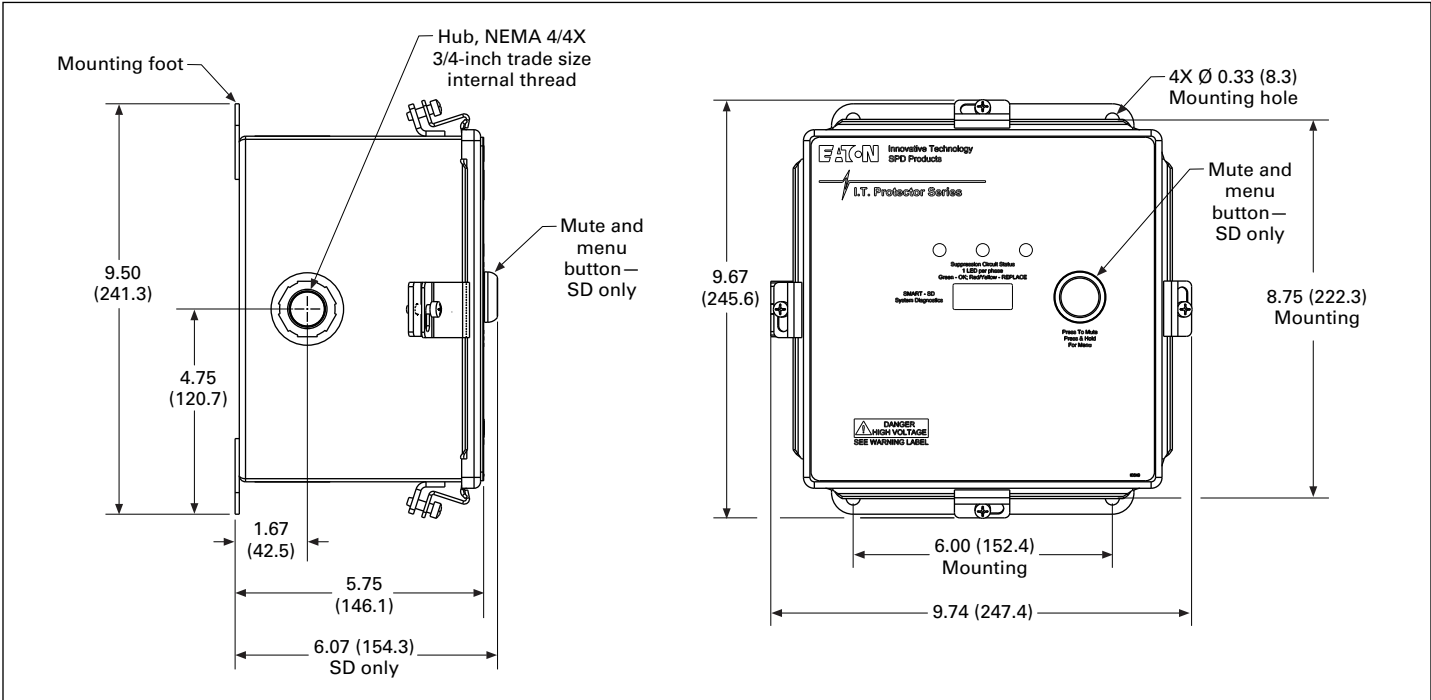


Figure 1. PTE050, 080, 100 (-NL) and (-NS) models and PTX100 (-NL) and (-NS) models

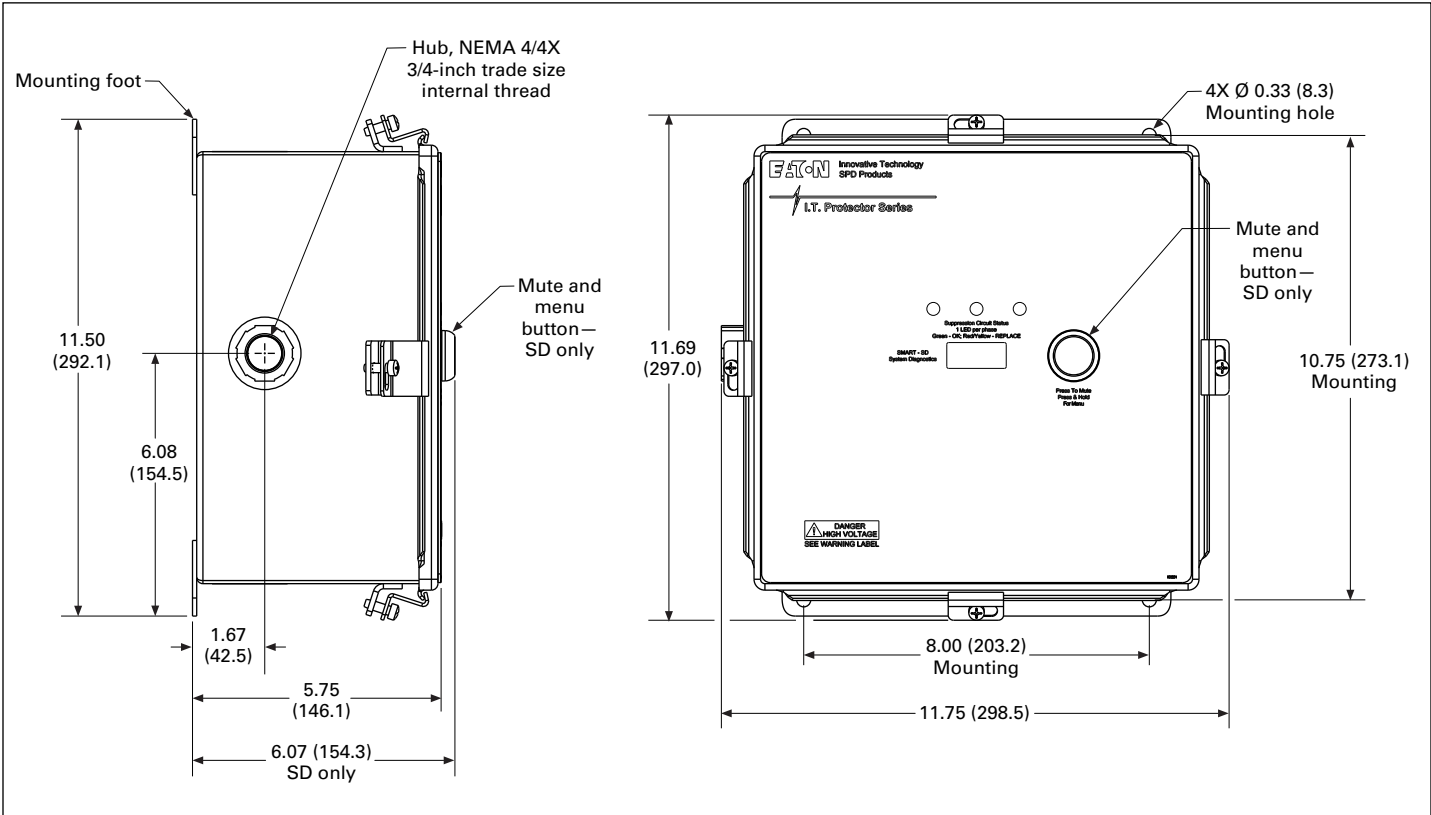


Figure 2. PTE120, 160, 200 (-NL) and (-NS) models and PTX120, 160, 200 (-NL) and (-NS) models

Performance data

ANSI/UL 1449 4th Edition voltage protection ratings

In the tables on the following pages, voltage protection rating (VPR) data is included for all IT Protector units, but varies based upon the filtering package and enclosure option.

VPR values for units containing the basic feature package are found in **Table 2** through **Table 5**. VPR data for unfiltered units in a NEMA 4 and 4X enclosure without an S.M.A.R.T diagnostics (catalog number starting with **PTX** and ending with **NLXX**).

Table 2. 100 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	600	600	600	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	600	600	600	1000
3Y101 - 208/120 V	600	600	600	1000
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	2000	N/A	2500
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	600	600	600	1000

Table 3. 120 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 4. 160 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 5. 200 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

ANSI/UL 1449 4th Edition voltage protection ratings

In the tables on the following pages, voltage protection rating (VPR) data is included for all IT Protector units, but varies based upon the filtering package and enclosure option.

VPR values for units containing the basic feature package are found in **Table 6** through **Table 11**. VPR data for filtered units in a NEMA 4 and 4X enclosure without an S.M.A.R.T Diagnostics (catalog number starting with PTE and ending with NLXX).

Table 6. 50 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	1200	700	N/A
1P201 - 277 V	1200	2000	1500	N/A
1S101 - 240/120 V	700	1200	700	1200
3Y101 - 208/120 V	700	1200	700	1200
3Y201 - 480/277 V	1200	2000	1500	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	2000	N/A	2500
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	1200	700	1200

Table 7. 80 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	600	600	600	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	600	600	600	1000
3Y101 - 208/120 V	600	600	600	1000
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	2000	N/A	2500
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	600	600	600	1000

Table 8. 100 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	600	600	600	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	600	600	600	1000
3Y101 - 208/120 V	600	600	600	1000
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	2000	N/A	2500
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 9. 120 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 10. 160 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 11. 200 kA unit VPR (catalog number ends with 4N, 4X)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
1P101 - 120 V	700	700	700	N/A
1P201 - 277 V	1200	1200	1200	N/A
1S101 - 240/120 V	700	700	700	1200
3Y101 - 208/120 V	700	700	700	1200
3Y201 - 480/277 V	1200	1200	1200	2000
3Y300 - 600/347 V	1500	1500	1500	2500
NN201 - 240 V	N/A	1000	N/A	1000
NN400 - 480 V	N/A	1800	N/A	2000
NN501 - 600 V	N/A	2500	N/A	2500
3D101 - 240 V high-leg delta	700	700	700	1200

Table 12. Specifications

Description	Specification
Surge current capacity per phase	50 ①, 80 ①, 100, 120, 160, 200
I_n (kA)	20 kA
SCCR (kA)	200 kA
Maximum continuous operating voltage (MCOV)	
120 V	150 V
277 V	320 V
240/120 V, 208/120 V, 480/277 V, 600/347 V, 240 V	300 V
480/277 V, 480 V	640 V
600/347 V, 600 V	840 V

① Not offered in PTX unfiltered units.

Specification Sheet PS01006050E

Effective January 2024

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

© 2024 Eaton
All Rights Reserved
Printed in USA
Publication No. PS01006050E / Z27985
January 2024



Eaton is a registered trademark.

All other trademarks are property
of their respective owners.