

SurgeFreeTM

MODELS

PT80 • PT40

Local Panel Protection

Small, yet packed with the latest technology available for transient voltage surge suppressors. The PT80 and PT40 contain high peak current fuses and large thermally-protected varistors that provide both reliable and safe protection for sensitive electronics. The units are ideal for use on local service panels, generators, transfer switches, dedicated equipment, OEM equipment and residential applications.

FEATURES

- I_{peak}: 80,000A/Phase (PT80)
40,000A/Phase (PT40)
- Thermally protected varistors with integral fuse element
- Surge event counter optional
- Remote 1 Form C relay contacts with status LED
- Neutral - Ground Voltage Monitor LED
- All modes protected
- Front Panel Status Monitoring
- 10 AWG connection cable
- EMI/RFI filter
- NEMA 1, Powder-Coated Steel Enclosure
- DIN-Rail mounting kit available



I_{peak} up to 80,000A

UL 1449, 3rd Ed. Listed

Filter Attenuation

MIL STD 220A (50 Ohm):	120VAC	240VAC	277VAC
-30db	50kHz	50kHz	80kHz
-40db	130kHz	130kHz	180kHz
-50db	195kHz	195kHz	270kHz
-60db	230kHz	230kHz	300kHz

SPD Type:	Type 2
I _n :	5kA
Maximum Continuous Operating VAC (MCOV):	115% Rated Line Voltage
Varistor MCOV:	125% Rated Line Voltage Minimum (standard models w/o "-xxxV" suffix)
Varistor MCOV:	115% Rated Line Voltage Minimum (models w/ "-xxxV" suffix)
SCCR:	100kA AIC
Surge Current/Phase (8/20μs):	PT80 1 Event: 80kA; PT40 1 Event: 40kA.
Surge Life/Phase (8/20μs):	PT80 10,000 Events: 3kA; PT40 10,000 Events: 2kA
Surge Current/Mode (8/20μs) PT80:	L-N: 40kA; L-G: 40kA; N-G: 40kA; L-L: 80kA
Surge Current/Mode (8/20μs) PT40:	L-N: 40kA; L-G: 40kA; N-G: 40kA; L-L: 40kA
Surge Current/Mode, "D" Models (8/20μs):	PT80: L-G: 80kA; L-L: 80kA; PT40: L-G: 40kA; L-L: 40kA
Response Time:	< 5ns
Status Indicators:	LED Status Indicators
Modes of Protection:	L-N, L-G, L-L, N-G
Operating Altitude:	13,000ft. (4000m)
Temp. (Operating/Storage):	-40° to +70°C/-40° to +85°C
Enclosure:	NEMA 1, 16 gauge steel (0.050" thick), powder coated
Cable Connection:	10 AWG (5.27mm ²) cable, 3 ft. (91.4cm) provided
Dimensions:	6.75" x 7.25" x 6" (171 x 184 x 108mm)
Mounting:	5.5" x 8.0"/.220"ID - 4 holes, (140 x 203mm/5.6mm ID) - 4 holes
Conduit Connector:	3/4" compression connector
Weight:	PT80: 5.75 lbs. (2.61 kg); PT40: 5.40 lbs (2.45kg)
UL File Number:	E322161
UL Certification:	UL Listed to 1449 3rd Edition
ARRA Certification:	Complies with ARRA 1605 requirements



MCG SURGE PROTECTION • 1-800-851-1508 • www.mcgsurge.com • E-Mail: info1@mcgsurge.com
12 Burt Drive, Deer Park, New York 11729 • Telephone: (631) 586-5125 • Fax: (631) 586-5120

Specifications

- ANSI/IEEE C62.41-2002
- IEC 61643-1-1998
- UL 1449, 3rd Ed.

6kV, 3kA Let-Thru V						
Model PT80	Service	VPR L-N	VPR L-G	VPR N-G	VPR L-L	L-N
-120Y	120/208VAC, 3 ϕ , 4W+Gnd	800	800	700	1200	630
-120T	120/240VAC, 1 ϕ , 3W+Gnd	800	800	700	1200	630
-120S	120VAC, 1 ϕ , 2W+Gnd	800	800	700	n/a	630
-120Y-140V	120/208VAC, 3 ϕ , 4W+Gnd	700	800	600	1200	590
-120T-140V	120/240VAC, 1 ϕ , 3W+Gnd	700	800	600	1200	590
-120S-140V	120VAC, 1 ϕ , 2W+Gnd	700	800	600	n/a	590
-220Y	220/380VAC, 3 ϕ , 4W+Gnd	1200	1500	1200	2500	1050
-220S	220VAC, 1 ϕ , 2W+Gnd	1200	1500	1200	n/a	1050
-240DCT	240/120/120VAC, 3 ϕ , 4W+Gnd	800/1200	800/1500	700	1200/1800	630/990
-240DCT-140V	240/120/120VAC, 3 ϕ , 4W+Gnd	700/1200	800/1500	600	1200/1800	590/990
-240Y	240/415VAC, 3 ϕ , 4W+Gnd	1200	1500	1200	2500	1050
-240S	240VAC, 1 ϕ , 2W+Gnd	1200	1500	1200	n/a	1050
-277Y	277/480VAC, 3 ϕ , 4W+Gnd	1200	1500	1200	2500	1050
-277S	277VAC, 1 ϕ , 2W+Gnd	1200	1500	1200	n/a	1050
-347Y*	347VAC, 3 ϕ , 4W+Gnd	n/a	n/a	n/a	n/a	1300
-240Y-320V	240/415VAC, 3 ϕ , 4W+Gnd	1200	1200	1000	1800	990
-240S-320V	240VAC, 1 ϕ , 2W+Gnd	1200	1200	1000	n/a	990
-277Y-320V	277/480VAC, 3 ϕ , 4W+Gnd	1200	1200	1000	1800	990
-277S-320V	277VAC, 1 ϕ , 2W+Gnd	1200	1200	1000	n/a	990
-240D	240VAC, 3 ϕ , 3W+Gnd	n/a	1200	n/a	1800	990 (L-G)
-480D	480VAC, 3 ϕ , 3W+Gnd	n/a	1800	n/a	4000	1790 (L-G)
-600D*	600VAC, 3 ϕ , 3W+Gnd	n/a	n/a	n/a	n/a	1940 (L-G)

6kV, 3kA Let-Thru V						
Model PT40	Service	VPR L-N	VPR L-G	VPR N-G	VPR L-L	L-N
-120Y	120/208VAC, 3 ϕ , 4W+Gnd	800	1500	700	1500	630
-120T	120/240VAC, 1 ϕ , 3W+Gnd	800	1500	700	1500	630
-120S	120VAC, 1 ϕ , 2W+Gnd	800	1500	700	n/a	630
-120Y-140V	120/208VAC, 3 ϕ , 4W+Gnd	700	1200	600	1500	590
-120T-140V	120/240VAC, 1 ϕ , 3W+Gnd	700	1200	600	1500	590
-120S-140V	120VAC, 1 ϕ , 2W+Gnd	700	1200	600	n/a	590
-220Y	220/380VAC, 3 ϕ , 4W+Gnd	1200	2500	1200	2500	1050
-220S	220VAC, 1 ϕ , 2W+Gnd	1200	2500	1200	n/a	1050
-240DCT	240/120/120VAC, 3 ϕ , 4W+Gnd	800/1200	1500/2500	700	1500/1800	630/990
-240DCT-140V	240/120/120VAC, 3 ϕ , 4W+Gnd	700/1200	1200/2500	600	1500/1800	590/990
-240Y	240/415VAC, 3 ϕ , 4W+Gnd	1200	2500	1200	2500	1050
-240S	240VAC, 1 ϕ , 2W+Gnd	1200	2500	1200	n/a	1050
-277Y	277/480VAC, 3 ϕ , 4W+Gnd	1200	2500	1200	2500	1050
-277S	277VAC, 1 ϕ , 2W+Gnd	1200	2500	1200	n/a	1050
-347Y*	347VAC, 3 ϕ , 4W+Gnd	n/a	n/a	n/a	n/a	1300
-240Y-320V	240/415VAC, 3 ϕ , 4W+Gnd	1200	2000	1000	2000	990
-240S-320V	240VAC, 1 ϕ , 2W+Gnd	1200	2000	1000	n/a	990
-277Y-320V	277/480VAC, 3 ϕ , 4W+Gnd	1200	2000	1000	2000	990
-277S-320V	277VAC, 1 ϕ , 2W+Gnd	1200	2000	1000	n/a	990
-240D	240VAC, 3 ϕ , 3W+Gnd	n/a	1200	n/a	2000	990 (L-G)
-480D	480VAC, 3 ϕ , 3W+Gnd	n/a	2000	n/a	4000	1820 (L-G)
-600D*	600VAC, 3 ϕ , 3W+Gnd	n/a	n/a	n/a	n/a	1960 (L-G)

* Not tested to UL1449

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SurgeFree™

MODELS

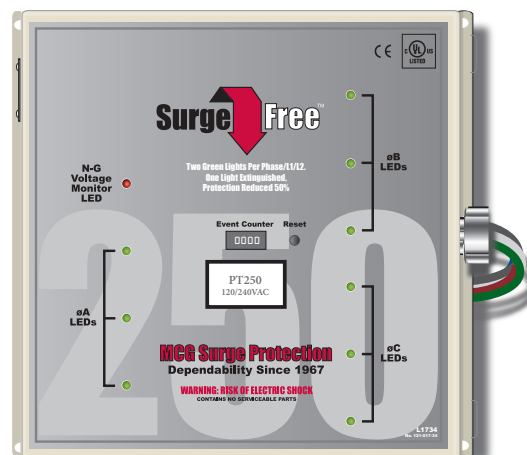
PT250 • PT160 • PT120

Critical Load Protection

Taking compact protectors to the next level, MCG's new PT Series is the most advanced non-modular protector money can buy. Within its small 10" x 10" enclosure, there are up to 20 high energy, thermally protected varistors packed inside. These high performance varistors are typically only found in much higher priced protectors. Guards small to medium panels.

FEATURES

- I peak: 250,000A/Phase (PT250)
160,000A/Phase (PT160)
120,000A/Phase (PT120)
- Redundancy: PT250 (Triple) ; PT160 & PT120 (Double)
- Thermally protected varistors with integral fuse element
- Surge event counter optional (Standard on PT250)
- Remote 1 Form C relay contacts with status LED
- Neutral - Ground Voltage Monitor LED
- All modes protected
- Front Panel Status Monitoring
- 10 AWG connection cable
- EMI/RFI filter
- NEMA 1, Powder-Coated Steel Enclosure
- DIN-Rail mounting kit available
- Optional outdoor non-metallic enclosure kit - NEMA 4X



Ipeak up to 250,000A

UL 1449, 4th Ed. Listed

Filter Attenuation			
MIL STD 220A (50 Ohm): 120VAC 240VAC 277VAC			
-30db	50kHz	50kHz	80kHz
-40db	130kHz	130kHz	180kHz
-50db	195kHz	195kHz	270kHz
-60db	230kHz	230kHz	300kHz

SPD Type: Type 2

I_n : 20kA (PT250 and PT160), 10kA (PT120)

Maximum Continuous Operating VAC (MCOV): 115% Rated Line Voltage

Varistor MCOV: 125% Rated Line Voltage Minimum

SCCR: 100kA AIC

Surge Current/Phase (8/20 μ s): PT250 1 Event: 250kA; PT160 1 Event: 160kA; PT120 1 Event: 120kA

Surge Life/Phase (8/20 μ s): PT250 10,000 Events: 12kA; PT160 10,000 Events: 6kA; PT120 10,000 Events: 4.5kA

Surge Current/Mode (8/20 μ s) PT250: L-N: 125kA; L-G: 125kA; N-G: 80kA; L-L: 250kA

Surge Current/Mode (8/20 μ s) PT160: L-N: 80kA; L-G: 80kA; N-G: 80kA; L-L: 160kA

Surge Current/Mode (8/20 μ s) PT120: L-N: 80kA; L-G: 40kA; N-G: 80kA; L-L: 120kA

Response Time: < 5ns

Status Indicators: LED Status Indicators

Modes of Protection: L-N, L-G, L-L, N-G

Operating Altitude: 13,000ft. (4000m)

Temp. (Operating/Storage): -40° to +70°C/-40° to +85°C

Enclosure: NEMA 1, 16 gauge steel (0.050" thick), powder coated

Cable Connection: 10 AWG (5.27mm²) cable, 3 ft. (91.4cm) provided

Dimensions: 10" x 10" x 4" (254 x 254 x 102mm)

Mounting: 10.75" x 8.5"/.220"ID - 4 holes, (273 x 216mm/5.6mm ID) - 4 holes

Conduit Connector: 3/4" Compression connector

Weight: PT250: 12 lbs. (5.5 kg); PT160: 11.40 lbs (5.2kg); PT120: 11.20 lbs (5.1kg)

UL File Number: E322161

UL Certification: UL Listed to 1449 4th Edition

ARRA Certification: Complies with ARRA 1605 requirements



Specifications

- ANSI/IEEE C62.41-2002
- IEC 61643-1-1998
- UL 1449 4th Edition

Model PT250/PT160/PT120

Model	Service	VPR L-N	VPR L-G	VPR N-G	VPR L-L	Cat. B3 6kV, 3kA	Cat. C3 20kV, 10kA
						Let-Thru V, L-N***	Let-Thru V, L-N***
PT250-120Y	120/208VAC, 3Ph., 4W+Gnd	800	800	700	1200	620	850
PT250-120T	120/240VAC, 1Ph., 3W+Gnd	800	800	700	1200	620	850
PT250-120S	120VAC, 1Ph., 2W+Gnd	800	800	700	N/A	620	850
PT250-220Y	220/380VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1140	1470
PT250-220S	220VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1140	1470
PT250-240Y	240/415VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1140	1470
PT250-240S	240VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1140	1470
PT250-240DCT*	240/120/120VAC, 3Ph., 4W+Gnd	800/1200	800/1200	700	1200/1800	620/1100	850/1430
PT250-277Y	277/480VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1140	1470
PT250-277S	277VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1140	1470
PT250-347Y**	347/600VAC, 3Ph., 4W+Gnd	N/A	N/A	N/A	N/A	1190	1530
PT160-120Y	120/208VAC, 3Ph., 4W+Gnd	800	800	700	1200	650	880
PT160-120T	120/240VAC, 1Ph., 3W+Gnd	800	800	700	1200	650	880
PT160-120S	120VAC, 1Ph., 2W+Gnd	800	800	700	N/A	650	880
PT160-220Y	220/380VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1200	1530
PT160-220S	220VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1200	1530
PT160-240Y	240/415VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1200	1530
PT160-240S	240VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1200	1530
PT160-240DCT*	240/120/120VAC, 3Ph., 4W+Gnd	800/1200	800/1200	700	1200/1800	650/1130	880/1500
PT160-277Y	277/480VAC, 3Ph., 4W+Gnd	1200	1200	1200	2000	1200	1530
PT160-277S	277VAC, 1Ph., 2W+Gnd	1200	1200	1200	N/A	1200	1530
PT160-347Y**	347/600VAC, 3Ph., 4W+Gnd	N/A	N/A	N/A	N/A	1240	1600
PT120-120Y	120/208VAC, 3Ph., 4W+Gnd	800	800	700	1200	650	880
PT120-120T	120/240VAC, 1Ph., 3W+Gnd	800	800	700	1200	650	880
PT120-120S	120VAC, 1Ph., 2W+Gnd	800	800	700	N/A	650	880
PT120-220Y	220/380VAC, 3Ph., 4W+Gnd	1200	1500	1200	2000	1200	1530
PT120-220S	220VAC, 1Ph., 2W+Gnd	1200	1500	1200	N/A	1200	1530
PT120-240Y	240/415VAC, 3Ph., 4W+Gnd	1200	1500	1200	2000	1200	1530
PT120-240S	240VAC, 1Ph., 2W+Gnd	1200	1500	1200	N/A	1200	1530
PT120-240DCT*	240/120/120VAC, 3Ph., 4W+Gnd	800/1200	800/1500	700	1200/1800	650/1130	880/1500
PT120-277Y	277/480VAC, 3Ph., 4W+Gnd	1200	1500	1200	2000	1200	1530
PT120-277S	277VAC, 1Ph., 2W+Gnd	1200	1500	1200	N/A	1200	1530
PT120-347Y**	347/600VAC, 3Ph., 4W+Gnd	N/A	N/A	N/A	N/A	1240	1600

*High-Leg Delta Center Tapped **Not tested to UL1449 ***Actual Measurements w/ 6" Lead Length

A Note On Headroom A surge protector responds to increases in voltage. Surge protectors triggered by the nominal line voltage are undesirable, consequently headroom is always factored into surge protector design. Long duration voltage swells occur on power lines and can damage a surge protector, leaving facility equipment vulnerable. By employing higher headroom, continuity of surge protection is guaranteed. This feature is standard in MCG surge protectors. Higher headroom allows varistors to ride out voltage swells while ensuring that let-through voltage remains within CBEMA (now ITIC) guidelines. The CBEMA curve is the most accepted graph worldwide for equipment susceptibility analysis.

A Note on PT Series VPR: These VPR represent wiring plus the upstream overcurrent safety device (circuit breaker)