

# MCG Surge

MODELS: PT250•160•120

## Critical Load Surge Protector

Taking compact protectors to the next level, MCG's PT Series is the most advanced non-modular surge protector that money can buy. Within its compact 10x10" 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. The PT Series guards small to medium sized electrical panels. Delta models also available, contact the factory for more information.

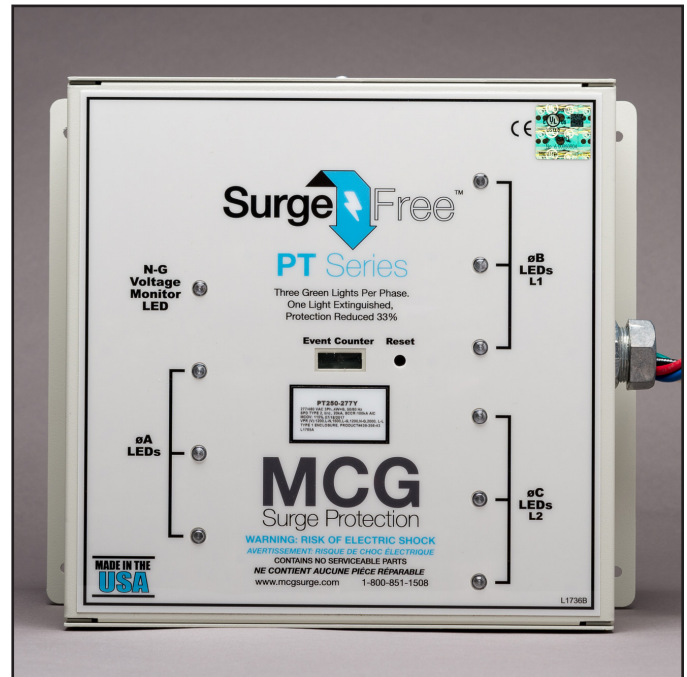
**Standout Feature:** Thermally-protected MOVs

### Features:

- I<sub>peak</sub>=250,000A/Phase (PT250)  
160,000A/Phase (PT160)  
120,000A/Phase (PT120)
- Redundancy: 3x (PT250), 2x (PT160/120)
- Thermally protected varistors with integral fuse
- Surge event counter optional (Standard on PT250)
- Remote 1 Form C relay contacts with status LED
- Neutral-Ground Voltage Monitor LED
- All modes protected: L-G, L-N, L-L, N-G
- Front panel status monitoring
- 10 AWG connection cable
- NEMA 1, Powder Coated Steel Enclosure
- DIN-Rail mounting kit available
- Optional outdoor non-metallic enclosure kit (NEMA 4X)

Made in the

**USA**



**I<sub>peak</sub> = 250,000/160,000/120,000A**

**UL 1449 5th Edition Listed**

**20-Year Warranty**

**Filter Attenuation (MIL STD 220A (50Ohm))**

db	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 & 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 (8/20μs):	PT250 1 Event: 250kA; PT160 1 Event: 160kA; PT120 1 Event: 120kA
Surge Life/Phase(8/20μs):	PT250 10,000 Events: 12kA; PT160 10,000 Events: 6kA; PT120 10,000 Events: 4.5kA
Surge Current/Mode (8/20μs) PT250:	L-N: 125kA; L-G: 125kA; N-G: 80kA; L-L: 250kA
Surge Current/Mode (8/20μs) PT160:	L-N: 80kA; L-G: 80kA; N-G: 80kA; L-L: 160kA
Surge Current/Mode (8/20μs) PT120:	L-N: 80kA; L-G: 40kA; N-G: 80kA; L-L: 120kA
Response Time:	<5 ns
Status Indicators:	LED Status Indicators
Operating Altitude:	13,000ft. (4000m)
Temp. (Operating/Storage):	-40 degrees to +70 degrees C/-40 degrees to +85 degrees C
Enclosure:	NEMA 1, 16 gauge steel, powder coated
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
Cable Connection:	#10 AWG Cable, 3ft (1M) provided
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 5th Edition
ARRA Certification:	Complies with ARRA 1605 requirements

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email: [info1@mcgsurge.com](mailto:info1@mcgsurge.com) phone: 631-586-5125 toll-free: 1-800-851-1508

# Specifications

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

- ANSI / IEEE C62.41-2002
- IEC 61643-1-1998
- UL 1449, 5th Edition

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

\*High-leg Delta Center Tapped \*\*Not tested to UL1449 \*\*\*Actual measurements with 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.

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