560 Surge Protective Device

Proven Performance

Repetitive life cycle capability, high-energy capacity and years of proven field experience allow us to confidently recommend the Emerson Network Power 560 Series surge protective device for any "HIGH-RISK" location or "CRITICAL" process.

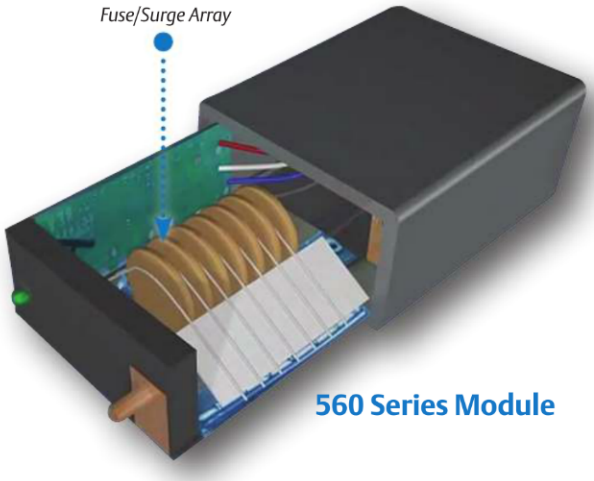
560 SPD specifications and ordering information are located on pages 18-19.

Recommended for CRITICAL Locations

Fusing

It all starts with our patented fuse technology. Component level fuse arrays have been the core of our design advantage for more than 15 years; consistently exceeding industry safety and performance levels.

- **Coordinated Surge Path** — the surge path between the suppression element and the fuse ensure the array can deliver its rated surge performance without interruption to the link.
- **Fault Tested Array** — the fuse/surge array is designed to quickly and safely open in the case of both limited and high current fault conditions.
- **Balanced Configuration** — placement of the fuse link and surge components in a custom engineered geometrical pattern serve to balance the array, resulting in improved repetitive capability and an over-voltage withstand that's unmatched in the surge protection industry.



560 Series Module

Testing the Limits...Emerson Network Power's state-of-the-art surge protection test lab in Binghamton, NY

Surge Current

Real world events look a little different than what's simulated in a controlled lab setting. An 8x20µs waveform is a nice place to start when testing a surge protector, but in reality, impulse levels and waveform characteristics are diverse. Factors such as the magnitude of the event, the number of impulses in the event and the proximity of the event to your system, all impact what the surge protective device will actually experience when installed.

We put the design of our Emerson Network Power 560 surge protective device to the test by subjecting it to a wide variety of impulse characteristics and levels; testing the limits and longevity of the design.

Survivability

To ensure our 560 surge protective device is ready for your harshest environments, we tested it to multiple waveforms, multiple times and at the highest rated levels:

- **Endurance Testing** — Minimum of 15,000 impulses per module at 20,000 volts and 10,000 Amps
- **Waveforms** — Long duration (10x350µs) representing a close strike and shorter duration (8x20µs) representing an indirect impulse is applied at a variety of levels.
- **High-Energy Testing** — Testing conducted on the complete unit – including fuse elements, and accessories such as disconnects and monitoring boards. The entire product withstands and performs multiple times at its highest rated level.

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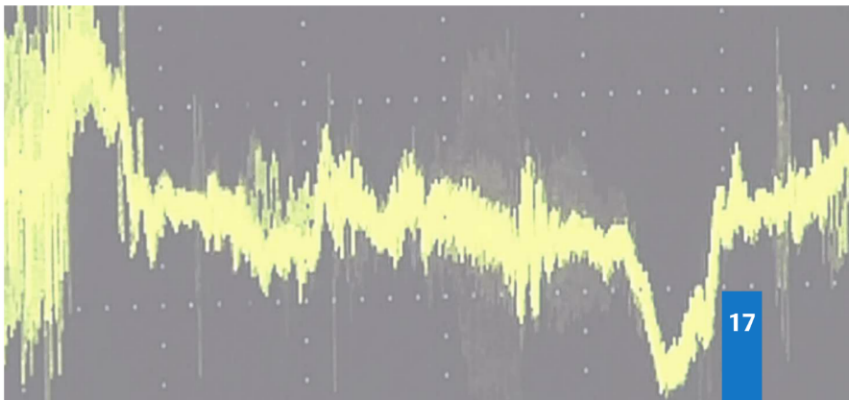


560 Surge Protective Device

Specifications

General Specifications *(All Models)*	
Connection Type	Parallel Connected
Agency Listings	ANSI/UL 1449 Third Edition, UL 1283 (Type 2 Locations), cUL (Type 2 Locations), FCC Part 15 Class B
Maximum Continuous Operating Voltage Range	120VAC 125%, all others 115%
Maximum Surge Current Rating	80kA-375kA per mode; 160kA-750kA per phase
Short Circuit Rating	200kAIC
UL 1449 Location Type	Type 1, Type 2
UL 1449 Nominal Discharge Current (In)	20kA
Operating Frequency Range	47 - 63 Hertz
50 ohm EMI/RFI Attenuation	63 dB max from 10kHz to 100MHz
Protection Modes	All applicable modes standard (Line to Neutral, Line to Ground, Neutral to Ground and Line to Line)
Monitoring Features	Internal/External Status LEDs, Audible Alarm, Summary Alarm Contact (2 sets), Built-in-test circuit tests MOV/fuse array capacities, Phase loss indication, Low voltage indication, Loss of power indication, Surge counters (optional)
Response Time	<0.5 nanoseconds
Temperature	-40 to +60 degrees C
Operating Humidity	0% to 95% noncondensing
Enclosure	NEMA 4
Altitude	0 to 18,000 feet
Audible Noise	Less than 45 dBa
Labor Warranty	5 Years on site labor
Parts Warranty	10 Years on all parts

General Specifications *(Motorola R56 Approved Models Only)*	
Connection Type	Parallel Connected
Maximum Surge Current Capacity	160kA per mode / 160kA per phase
Short Circuit Current Rating (SCCR)	65kAIC
Motorola R56 Unit Type	Type 2 (MOV only)
Status Indication	LEDs, Relay alarm contacts
Enclosure	NEMA 4X
Protection Mode	L-N, L-L

UL 1449 Third Edition, Type 1 VPRs				
Source Configuration	L-N	L-G	L-L	N-G
YA	700	700	1000	700
YC	1000	1200	1800	1000

UL 1449 Third Edition, Type 1 VPRs *(Motorola R56 Approved Models Only)*		
Source Configuration	L-N	L-L
SA, YA	700	1000
YC	1000	1800

Life Cycle Surge Testing (10kA, 20kV, IEEE Cat. C3)		
Surge Rating	Per Mode	Per Phase
80kA-125kA Per Mode	15,000	30,000
160kA-200kA Per Mode	30,000	60,000
375kA Per Mode	45,000	90,000

**Source Configuration Chart A ("xx")	
120/208VAC, 127/220VAC 3 Phase, Wye, 4W+G	("YA")
277/480VAC, 254/440VAC 3 Phase, Wye, 4W+G	("YC")
480VAC 3 Phase, Delta, 3W+G	("DF")

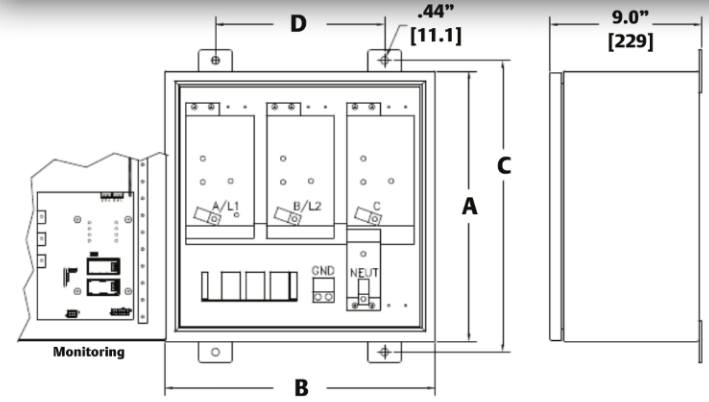
Ordering Information

Dimensional Data

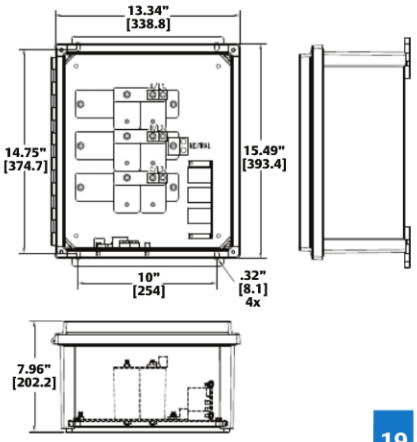
Ordering Information				
Model Number	Source Configuration ("xx")	Surge Rating	Connection Type	Monitoring Option
560xx08ANAG1S	See Chart A, page 18	80kA Mode/160kA Phase	Wire Compression Lugs	Standard
560xx08ARAG1S	See Chart A, page 18		Rotary Disconnect Switch	Standard
560xx08ANCG1S	See Chart A, page 18		Wire Compression Lugs	Counter
560xx08ARCG1S	See Chart A, page 18		Rotary Disconnect Switch	Counter
560xx12ANAG1S	See Chart A, page 18	125kA Mode/250kA Phase	Wire Compression Lugs	Standard
560xx12ARAG1S	See Chart A, page 18		Rotary Disconnect Switch	Standard
560xx12ANCG1S	See Chart A, page 18		Wire Compression Lugs	Counter
560xx12ARCG1S	See Chart A, page 18		Rotary Disconnect Switch	Counter
560xx16ANAG1S	See Chart A, page 18	160kA Mode/320kA Phase	Wire Compression Lugs	Standard
560xx16ARAG1S	See Chart A, page 18		Rotary Disconnect Switch	Standard
560xx16ARCG1S	See Chart A, page 18		Wire Compression Lugs	Counter
560xx16ARCG1S	See Chart A, page 18		Rotary Disconnect Switch	Counter
560xx20ANDG1S	See Chart A, page 18	200kA Mode/400kA Phase	Wire Compression Lugs	Dual Counter
560xx20ARDG1S	See Chart A, page 18		Rotary Disconnect Switch	Dual Counter
560xx25ARDG1S	See Chart A, page 18	250kA Mode/500kA Phase	Wire Compression Lugs	Dual Counter
560xx37ARDG1S	See Chart A, page 18	375kA Mode/750kA Phase	Rotary Disconnect Switch	Dual Counter
Consult Factory for additional source configurations, Surge Ratings, Monitoring Options, Enclosure Ratings, Etc.				

Monitoring Options: "Standard" = Red & Green LED's, Audible Alarm, Alarm Enable & Disable feature, 2 sets of Relay Alarm Contacts, Built-in-Test
"Counter" = Standard option plus Surge Counter
"Dual Counter" = Standard option plus Dual Surge/Swell Counter

Ordering Information *(Motorola R56 Approved Models)*				
Model Number	Source Configuration	Surge Rating	Connection Type	Monitoring
560SA16AFNRJ1S	120/240VAC, 120/208VAC Single 'Split' Phase, 3W+G, ("SA")	160kA Mode/160kA Phase	Wire Compression Lugs	Standard
560YA16AFNRJ1S	120/208VAC, 127/220VAC 3 Phase, WYE, 4W+G, ("YA")	160kA Mode/160kA Phase	Wire Compression Lugs	Standard



Dimensional Data *(Motorola R56 Approved Models Only)*	
Unit	Weight
560SA16AFNRJ1S	24 lb. (12.7 kg)
560YA16AFNRJ1S	28 lb. (14.5 kg)



Dimensional Data					
Surge Rating	Connection Type	A x B	C	D	Weight
08-12	Wire Lug (N)	16" x 12" (406 x 305)	17.25" (438)	9.5" (241)	35 lb. (15.9 kg)
16-25	Disconnect (R)	16" x 16" (406 x 406)	17.25" (438)	10" (254)	45 lb. (20.4 kg)
	Wire Lug (N)				
	Disconnect (R)	20" x 16" (508 x 406)	21.25" (540)	10" (254)	55 lb. (24.9 kg)
37	Wire Lug (N)				
	Disconnect (R)	20" x 20" (508 x 508)	21.25" (540)	14" (356)	85 lb. (38.6 kg)