

## Model RGWMSP for ABB Wall Mounted Surge Protection

ReliaGear® Wall Mounted Surge Protective Devices (SPD)

### Differentiating Technology

The ReliaGear® RGWMSP Series offers robust surge protection with an emphasis on performance, safe operation, and user-friendly diagnostics.



### Standards

- UL 1449 5th Ed. – Listed, Open Type—Mil-Std-220C
- UL 1283 Listed EMI/RFI Filter—ANSI/NFPA 70 (Art. 242, Formerly 285)
- UL 96A – Meets SPD criteria—ANSI/IEEE C62.41 & .45
- cUL Listed to UL 1449 & CSA C22.2—ANSI/IEEE C62.62 & C62.72
- IEC 61643-11

ReliaGear® RGWMSP Series SPDs are engineered with smart thermal disconnecting technology that safely removes overstressed components before harmful external effects arise. This preventive approach enhances safety and avoids nuisance from OCPD tripping or thermal events.

The core suppression system includes proprietary Metal Oxide Varistors (MOVs) for surge energy diversion and metal film capacitors for filtering low-level transient voltages and electrical noise.

To support ongoing monitoring, the product includes an **LED status system**:

- **Red LED** indicates complete depletion and triggers replacement.
- **Orange LED** signals degraded but operational protection—giving the user a window to replace the SPD before total failure.

Additionally, a **rotatable LCD display** provides real-time feedback on key system parameters, including:

- Surge event counts
- TOV incidents
- Power outages
- Neutral-to-ground voltage over 20 V
- Remaining MOV life

This combination of protection, diagnostics, and replaceability makes the RGWMSP Series highly suitable for demanding power distribution applications.



# Electrical Specifications

**Surge Current Rating** – (there is no standardized test from UL, IEEE or IEC).

Values in the table below are **per mode**.

Model	L-N	L-G	N-G	L-L
RGWMSPXXX08XX	80 kA	80 kA	80 kA	80 kA
RGWMSPXXX15XX	150 kA	150 kA	150 kA	150 kA
RGWMSPXXX22XX	225 kA	225 kA	225 kA	225 kA
RGWMSPXXX30XX	300 kA	300 kA	300 kA	300 kA

\*225 & 300kA only available in NEMA 4 and 4X enclosures

Nominal Discharge Current	(In) 20kA all Models (UL 1449 Sec. 41.7; UL 96A Sec. 13; IEC 61643 Class II.)
Operating Frequency	50 Hz – 60 Hz
Modes of Protection	L-N, L-G, N-G, L-L
Short Circuit Current Rating	(SCCR) – 200 kA for all models
VPR & MCOV	See Table Below

## MCOV Table

Model	Voltage	L-L	L-N	L-G	N-G	H-L	H-N	H-G
RGWMSP120SXXXX	120S	300	150	150	150			
RGWMSP120YXXXX	120Y	300	150	150	150			
RGWMSP240DXXXX	240D	540		270				
RGWMSP240HXXXX	240H	300	150	150	150	420	270	270
RGWMSP277YXXXX	277Y	640	320	320	320			
RGWMSP347YXXXX	347Y	840	420	420	420			
RGWMSP480DXXXX	480D	1100		550				
RGWMSP600DXXXX	600D	1380		690				

## VPR Table

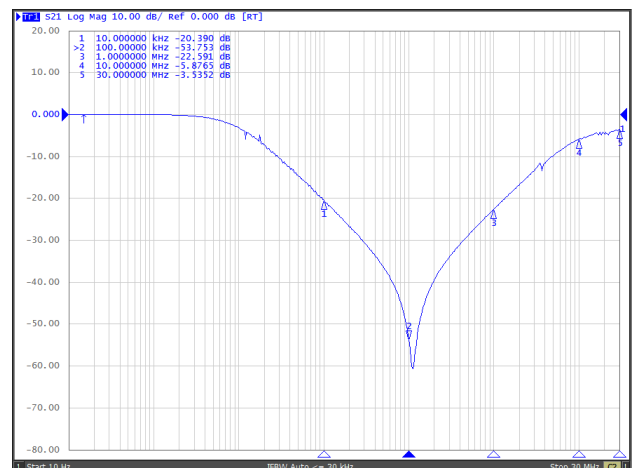
Model	Voltage	L-L	L-N	L-G	N-G	H-L	H-N	H-G
RGWMSP120SXXXX	120S	1200	700	700	700			
RGWMSP120YXXXX	120Y	1000	700	700	700			
RGWMSP240DXXXX	240D	1500		1000				
RGWMSP240HXXXX	240H	1200	700	800	700	1500	900	900
RGWMSP277YXXXX	277Y	2000	1200	1200	1200			
RGWMSP347YXXXX	347Y	2500	1500	1500	1500			
RGWMSP480DXXXX	480D	3000		1800				
RGWMSP600DXXXX	600D	4000		2000				

**EMI/RFI Noise Attenuation** (UL 1283 listed filter; UL Type 2 SPD Only).

Mil-Std-220C – US Dept of Defense Std for Method of Insertion Loss Measurement.

In a typical electrical system, frequencies above 30 MHz are radiated as opposed to conducted electrical noise; any measurement values above 30 MHz are considered irrelevant and should not be considered for specifying SPD filtering capability.

The overall frequency attenuation for all ReliaGear® SPD products is -3dB between 1 kHz and 30 MHz with the maximum attenuation at -61dB at 100.2 kHz.





# Electrical Specifications

## Fusing

All metal oxide varistors (MOVs) are thermally fused, providing event-free disconnection of the MOV from the electrical system upon the component's end of life. SPD status indication circuits (LEDs, Dry (volt-free) relay contacts, and Audible Alarms depending on features) give local and, if installed, remote status indication.

## OCPD (Disconnect Switch)

The RGWMSP series is integrated with a Surge Rated Disconnect Switch.

## SPD Status Monitoring

- Tri-Color LED indicators per phase (**See Truth Table in Troubleshooting section**).
  - Green LED per phase showing power applied and complete operational status of the SPD.
  - Red LED (one) when lit, the SPD componentry is compromised as one or more of the internal disconnectors have operated indicating that the SPD must be replaced.
  - MOV % loss & disconnection indication (Green / Orange / Red)
  - Red Service indicator alarm
- Advanced Thermally Stacked MOV(s)
- Rotatable Color View LCD display. Orientation for varying mounting configurations.
  - Single button control interface
    - Optional Remote monitoring cable for secondary alarm display.
    - See LCD Operational Manual in Annex 1 for more details.
- TOV Surge Discriminator Detection & Counter
  - Up to 10,000 events "Surge TOV, Phase loss, outage"
  - Resettable Counter
- Phase loss indication
- N-G Voltage Detection > 20V detected
- Audible alarm w/ silence option
  - Local audible alarm with a mute option activates upon the operation of any internal disconnecter indicating that the SPD must be replaced.
- Dry Contacts: Remote dry (volt-free) relay contacts rated at  $\leq 2$  A, 250Vac / 220Vdc, 1 Form C changes state upon any internal disconnecter operating indicating to a customer installed remote indication circuit that the SPD must be replaced.
  - Normally Open / Normally Closed
  - Normally Open = Open during normal operation
  - Normally Closed = Closed during normal operation
- Should any one phase be lost other than electrical anomalies and system issues, the SPD status indicators may change state providing false indication of the SPD end of life. Once all the phases of the electrical system are restored, and if the SPD is not damaged, the status indicators should reset automatically.

## Mechanical/Environmental

Operating Temperatures	-40°F (-40°C) to +149°F (+65°C)
Altitude	< 13,000 ft (datasheet value based on C&C calculations)
Surface Temperature	Less than 131°F (55°C)
Humidity	0 - 95% RH
Noise	No Audible Noise
NEMA/UL50 Enclosure	NEMA 1, 4, 4X/ Type 1, 4, 4X
SPD Enclosure Material	Powder Coated Steel, Stainless Steel
Weight	23.4lbs (Approx.)

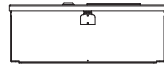
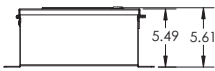
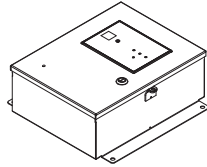
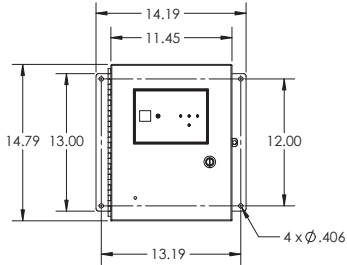
## Connections

Remote contact wire size Min-Max	#22-#12 AWG [.08mm <sup>2</sup> -4mm <sup>2</sup> ]
Ground and Neutral Termination Type	Set Screw Lugs
	Min-Max Wire Size: 14 AWG – 2 AWG
	Torque Requirements: 35 in-lb
Phase Wire Size	#10 – #2 AWG

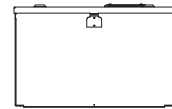
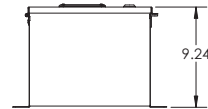
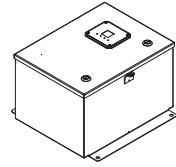
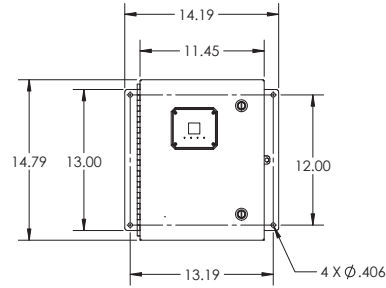


# Product Specifications

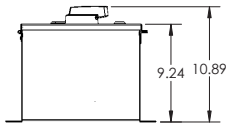
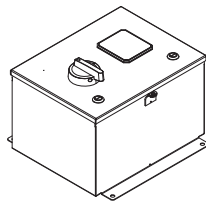
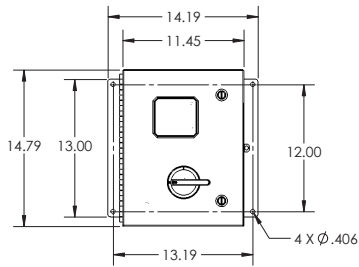
## Dimensions



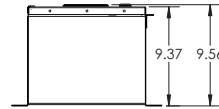
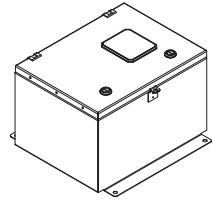
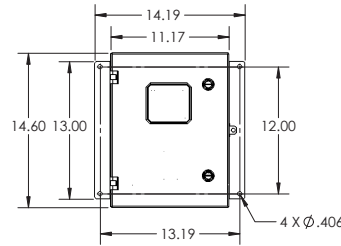
NEMA 1 without Disconnect



NEMA 4 without Disconnect



NEMA 4 with Disconnect



NEMA 4X with Disconnect

## SPD Part Number Configuration

\*For a full list of orderable products please visit this [resource](#)



### ReliaGear Surge Protection Devices - ReliaGear Wall Mount Only -

Code	ReliaGear Wall Mount SPD
RGWMSP	ReliaGear Wall Mount SPD

### Nominal Voltage (Volt RMS)

Code	Nominal Voltage (Volt RMS)
120S	120/240
120Y	120Y/208
240D	240 Delta
240H	120/240 Delta HL
277Y	277Y/480
347Y	347Y/600
480D	480 Delta
600D	600 Delta

### Max Surge Capacity

Code	Max Surge Capacity (per mode)
08	80kA
15	150kA
22**	225kA
30**	300kA

\*\*Available in NEMA 4 and 4X enclosures only

### Type

Code	Type
T1	UL Type 1
T2	UL Type 2

### 4D

Code	4D
1	NEMA 1 without Disconnect
1D	NEMA 1 with Internal Handle Disconnect
4	NEMA 4 without Disconnect
4D	NEMA 4 with External Handle Disconnect
XD	NEMA 4X with Internal Handle Disconnect



# Troubleshooting

There are no serviceable parts inside the SPD. Should SPD indicator LEDs change to RED during its lifetime, the SPD unit will have to be replaced. Please see the instruction manual for further replacement instructions.

## RGWMSP Series Truth Table

Operational "OK"	Audible Alarm: NONE
	LEDs: Green—ON
	Red Service Light: OFF
	Dry Contact: NORMAL
MOV Disconnect	Audible Alarm: Beeps
	Either Orange or Red. Depends on remaining percent protection
	Red Service Light: Flashes
	Dry Contact: Triggered
Phase Loss	Audible Alarm: Beeps
	LED color remains at current percent protection but will blink to denote which phase is out
	Red Service Light: Flashes
	Dry Contact: Triggered
N-G voltage (> 20V detected) TOV (Temporary Over Voltage) Surge Event	Audible Alarm: Beeps
	LEDs: Green—ON
	Red Service Light: Flashes
	Dry Contact: Triggered
N-G Voltage / TOV Sustained Event	Audible Alarm: Beeps
	LEDs: Green—ON
	Red Service Light: Flashes
	Dry Contact: Triggered during duration of event
MOV Life Remaining	LED(s) Status Per Phase
	Green: OK
	Orange: 50-100%
	Red: <50%

## Warranty

The RGWMSP series Surge Protection Device carries a standard 5-year limited warranty

ABB standard Ts&Cs (12/18)

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