

# STABILINE®

DIN1 Plus Series - (SPD) Surge Protective Devices  
Parallel-Connected Design (For use in Series and Parallel Applications)



## **DIN1 PLUS Series Features**

- ◆ **Din-Rail Mounting or Wall Mount Tabs**
- ◆ **10 or 20 kA Surge Amp Capacity Protection per mode for DC use**
- ◆ **20 or 40kA Surge Amp Capacity Protection per phase for AC use**
- ◆ **15A and 30A models – Maximum Continuous Operating Current**
- ◆ **1Ø, 2-Wire plus Ground, 24, 48, 120 and 250 Volt Models**
- ◆ **Ultra Compact, Fail-Safe Design**
- ◆ **High-frequency Noise Filtering**
- ◆ **Hard-wired via Screw Terminals**
- ◆ **LED Visual Protection Status**
- ◆ **10-Year Warranty**

## **DIN1 PLUS Series Benefits**

- ◆ **Extends Equipment Life and Value**
- ◆ **Increased Uptime and Higher System Reliability**
- ◆ **Offers Low-cost, Point-of-Use Protection**
- ◆ **Reduces Maintenance Costs**
- ◆ **Simple and Quick Installation**

## **Din-Rail (SPD) Surge Protective Device and Filter for Instantaneous Protection of Sensitive Electronics**

DIN1 PLUS Surge Protective Devices deliver worry-free performance with an innovative and proven technology design. All models provide surge protection against harmful transient voltage and high-frequency noise that exceed the nominal operating voltage of AC and DC critical dedicated control loads.

The DIN1 PLUS Series unit is installed/connected in either Series or Parallel with the line and the equipment to be protected. The DIN1 PLUS contains no line/load sensitive components and therefore can be connected in any orientation.

DIN1 PLUS Series units respond reliably and repeatedly in less than 1 nanosecond. The fail-safe design incorporates thermal fuse links and TMOVs, and dual Component-Level Fusing (CLF) are standard in each unit. All models include an LED to visually indicate that protection is active. Units are self-contained in rugged plastic enclosures and employ twenty millimeter (20mm) MOVs as their key suppression elements.

For ease of installation, all DIN1 PLUS Series units are hard-wired connected via screw terminal (barrier strips) capable of handling conductors from #30 to #6 AWG depending upon application and current ratings. Units weigh 8 oz (small case) or 15 oz (large case) and measure an ultra-compact 3.94" H x 1.4" W x 2.28" D (small case) and 3.94" H x 2.8" W x 2.28" D (large case).

## **UL 1449 3rd Edition Protection**

All 120 and 250 volt models are cETL recognized components per ANSI/UL 1449 3rd Edition (SPD) and are UL 1283 as electromagnetic filter. All DIN1 PLUS units carry a ten year unlimited free replacement warranty



Model Number	Case Style	Service		System Configuration	kA ⚡ Rating Surge Amp Capacity	Maximum Continuous Operating Current	Protected Modes	MCOV (AC)	UL VPR UL 1449 3rd Ed	UL I <sub>n</sub> UL 1449 3rd Ed
		Voltage	Range						Voltage Protection Ratings (VPR)	Repetitive Discharge Ratings

PERFORMANCE SPECIFICATIONS

Low Voltage - 24V										
DIN1P-10-24-1G-15	Small	24	5-30 VAC	1 Ø	10 kA	15 Amp	L-N (L1)	30V	N/A	N/A
DIN1P-10-24-1G-30	Small	Volts	5-38 VDC	2-Wire + Ground	per mode	30 Amp	L-G (L2) N-G	30V		
DIN1P-20-24-1G-15	Large	24	5-30 VAC	1 Ø	20 kA	15 Amp	L-N (L1)	30V	N/A	N/A
DIN1P-20-24-1G-30	Large	Volts	5-38 VDC	2-Wire + Ground	per mode	30 Amp	L-G (L2) N-G	30V		
Low Voltage - 48V										
DIN1P-10-48-1G-15	Small	48	24-50 VAC	1 Ø	10 kA	15 Amp	L-N (L1)	50V	N/A	N/A
DIN1P-10-48-1G-30	Small	Volts	24-65 VDC	2-Wire + Ground	per mode	30 Amp	L-G (L2) N-G	50V		
DIN1P-20-48-1G-15	Large	48	24-50 VAC	1 Ø	20 kA	15 Amp	L-N (L1)	50V	N/A	N/A
DIN1P-20-48-1G-30	Large	Volts	24-65 VDC	2-Wire + Ground	per mode	30 Amp	L-G (L2) N-G	50V		
ETL Listed - 120V										
DIN1P-20-120-1G-15	Small	120	48-150 VAC	1 Ø	20 kA	15 Amp	L-N (L1)	150V	600V	3kA
DIN1P-20-120-1G-30	Small	Volts	48-200 VDC	2-Wire + Ground	per phase	30 Amp	L-G (L2) N-G	150V		
DIN1P-40-120-1G-15	Large	120	48-150 VAC	1 Ø	40 kA	15 Amp	L-N (L1)	150V	500V	3kA
DIN1P-40-120-1G-30	Large	Volts	48-200 VDC	2-Wire + Ground	per phase	30 Amp	L-G (L2) N-G	150V		
ETL Listed - 250V										
DIN1P-20-250-1G-15	Small	250	120-275 VAC	1 Ø	20 kA	15 Amp	L-N (L1)	260V	1000V	3kA
DIN1P-20-250-1G-30	Small	Volts	120-300 VDC	2-Wire + Ground	per phase	30 Amp	L-G (L2) N-G	260V		
DIN1P-40-250-1G-15	Large	250	120-275 VAC	1 Ø	40 kA	15 Amp	L-N (L1)	260V	800V	3kA
DIN1P-40-250-1G-30	Large	Volts	120-300 VDC	2-Wire + Ground	per phase	30 Amp	L-G (L2) N-G	260V		

⚡ VDC per wire Surge Amp Capacity L1-G and L2-G

GENERAL SPECIFICATIONS

<b>Surge Amp Capacity</b>	
<b>All Modes L-N, L-G &amp; N-G - AC Voltage</b>	10 or 20kA per mode / 20 or 40kA per phase
<b>L1-G and L2-G - DC Voltage</b>	10 or 20kA per wire
<b>Application</b>	Rated as Type 4 SPDs for application in Type 2 locations
<b>Design</b>	Ultra-compact, fail-safe design with dual component-level fusing (CLF) - employing twenty millimeter (20mm) MOVs as the key suppression element
<b>Warranty</b>	Ten years - unlimited free replacement
<b>Standards Compliance and Safety Approvals</b>	cETL recognized component per ANSI/UL 1449 3rd Edition (SPD) and UL 1283 as electromagnetic filter

ELECTRICAL SPECIFICATIONS

<b>System Configuration</b>	1Ø, 2-Wire plus Ground (for use in Series and Parallel applications)
<b>Modes of Protection</b>	AC Models - All Modes L-N, L-G and N-G DC Models - L1-G and L2-G
<b>Input Power Frequency Range</b>	47-64 Hz (Units can also be operated on DC)
<b>Maximum Continuous Operating Current</b>	15 or 30 Amps
<b>Response Time</b>	< 1 nanosecond
<b>Monitoring</b>	Status LED indicates active power and protection
<b>Fusing</b>	Coordinated current and thermal
<b>Required by UL 1449 3rd Edition</b>	
<b>Short Circuit Current Rating</b>	100kA RMS Symmetrical Amps with a 15 or 30 Amp Class T fuse
<b>In (Duty Cycle Test)</b>	3kA nominal discharge current



Note: The information and specifications stated in this document are subject to change without notice

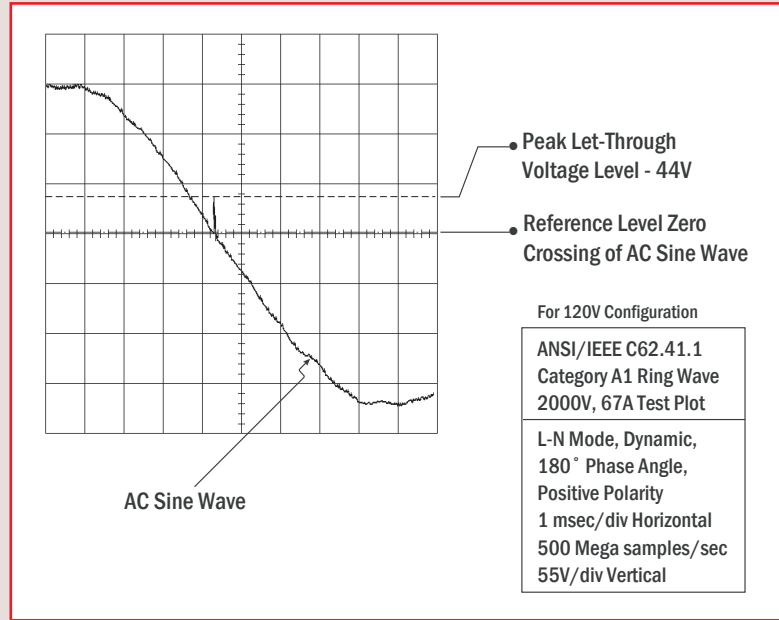
**ANSI/IEEE C62.41.1-2002,  
C62.41.2-2002, & C62.45-2002  
Measured Limited Voltage**

A1 Ring Wave 2kV, 67A 180° Ø Angle	A3 Ring Wave 6kV, 200A 180° Ø Angle	B3/C1 Combo Wave 6kV, 3kA 90° Ø Angle
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43V	102V	186V
102V	110V	188V
55V	104V	190V
47V	97V	180V
41V	123V	254V
41V	95V	220V
68V	102V	192V
105V	91V	184V
65V	72V	190V
43V	75V	166V
36V	99V	216V
50V	99V	182V
43V	182V	532V
45V	330V	508V
45V	154V	500V
44V	133V	464V
37V	120V	499V
48V	136V	468V
48V	132V	760V
46V	129V	800V
54V	128V	787V
35V	127V	740V
33V	122V	800V
46V	123V	780V

**PERFORMANCE SPECIFICATIONS**

Note: All voltages are peak values measured from the insertion point at the phase angles referenced above using a 10 µs/div display rate and 500 MS/s sampling rate.



**EMI/RFI FILTER ATTENUATION-MIL STANDARD 220B**

Frequency	Attenuation
1kHz	1 dB
10kHz	5 dB
100kHz	29 dB
1MHz	32 dB
10MHz	8 dB
20MHz	9 dB
Max. attenuation	34 dB @ 495kHz

**MECHANICAL SPECIFICATIONS**

<b>Dimensions</b>	<b>H x W x D (Inches)</b>	Small case 3.94 x 1.4 x 2.28, large case 3.94 x 2.8 x 2.28
	<b>H x W x D (mm)</b>	Small case 100.0 x 35.6 x 57.9, large case 100.0 x 71.1 x 57.9
<b>Enclosure</b>		ABS Plastic UL94-VO polycarbonate
<b>Connection</b>		Hard-wired via screw terminals (barrier strips)
<b>Minimum Conductor Wire Size</b>		#30 AWG THNN
<b>Maximum Conductor Wire Size</b>		#6 AWG THNN
<b>Mounting</b>		Din-Rail or wall mount
<b>Temperature - Operating &amp; Storage</b>		- 40° C to 70° C (- 40° F to 160° F)
<b>Humidity</b>		5 - 95% non-condensing
<b>Weight</b>		Small case - 8 oz (0.23 kg), Large case - 15 oz (0.45 kg)

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**APPLICATIONS**

All models are rated as type 4 Surge Protective Devices for application in Type 2 locations, making the DIN1 PLUS Series ideal for control cabinet protection:

- PLC and other control cabinet components
- Camera and surveillance equipment
- Alarm and security systems
- Metering and monitoring control panels
- Irrigation control systems
- POS terminals
- CNC machinery and Automation systems

**Wired DIN1 PLUS**





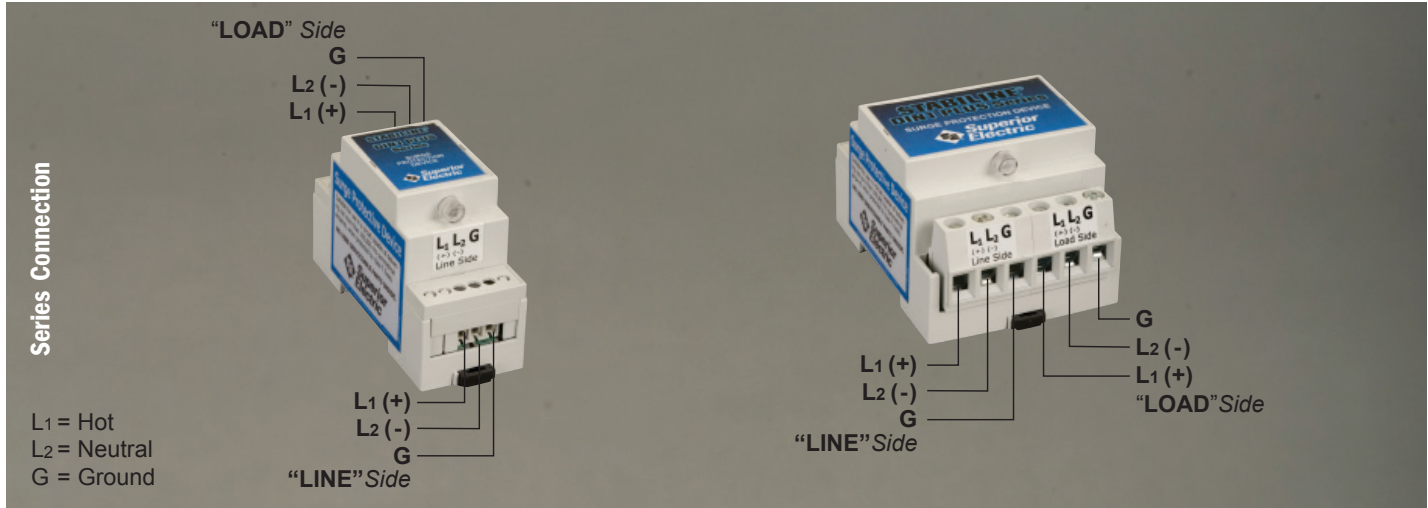
# Installation Series Connection

a) Connect "LINE" Side:

- System Ground to the terminal labeled **G**.
- Neutral (for AC) or Negative (for DC) to the terminal labeled "**L2 (-)**".
- HOT (for AC) or Positive (for DC) to the terminal labeled "**L1 (+)**".

b) Connect "LOAD" Side:

- System Ground to the terminal labeled **G** (connect safety ground directly to enclosure ground).
- Neutral (for AC) or Negative (for DC) to the terminal labeled "**L2 (-)**".
- HOT (for AC) or Positive (for DC) to the terminal labeled "**L1 (+)**".

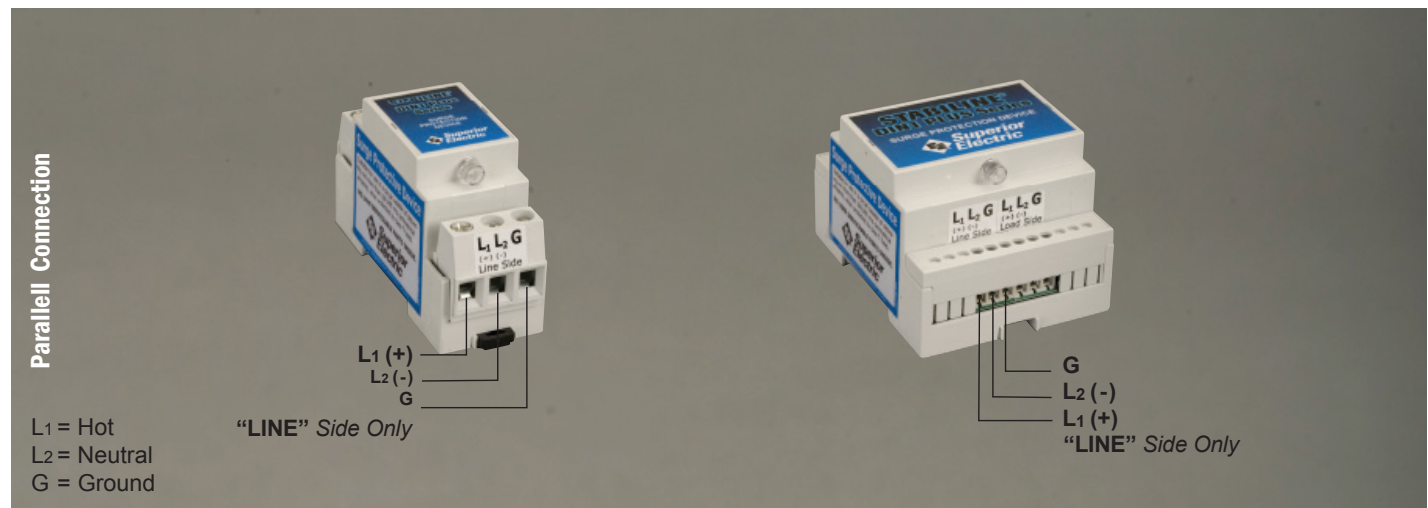


# Installation Parallel Connection

Connect "LINE" Side Only:

- System Ground to the terminal labeled **G**.
- Neutral (for AC) or Negative (for DC) to the terminal labeled "**L2 (-)**".
- HOT (for AC) or Positive (for DC) to the terminal labeled "**L1 (+)**".

**Note:** In Parallel Connection applications, units are not current limited as they are in Series Connection application. For Parallel Connection applications, unused output terminals are left empty and no plugs are provided.



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