

# SG Series Surge Protective Devices

High capacity Type I ,Type II SPDs for overvoltage protection on switchgear and power distribution panels



## Introduction

The SG Series of surge protective devices are tested by Underwriters Laboratory and Listed to UL 1449, 4th Edition to help ensure equipment is protected with highly reliable surge protection technology. Delta and Wye system units are available in three configurations to increase application flexibility. The SG Series is for installation external to an electrical enclosure or panelboard. Application of SG Series units throughout a facility will help ensure that equipment is protected.

## Applications

SG Series are available in all common voltage and system configurations, and in a variety of peak surge current capacity ratings from 50 through 200 kA per phase. Several feature package options (filtering, audible alarm and Form C contacts) extend application flexibility along with a range of configurable options suitable for most commercial and light industrial applications covering service entrances, distribution panelboards and point-of-use applications.

## ● Features

- Duo-colored LED status indicators display
- thermally protected Metal Oxide Varistor (MOV) technology to safely shunt overvoltages to ground while its thermal disconnect capability eliminates the need for additional fusing
- 200kA Short-Circuit Current Rating (SCCR) meets the highest NEC requirements
- Models available to meet the overvoltage protection needs of Wye and Delta electrical systems.
- SB+ Series has the highest nominal discharge current (In) of 20kA per UL 1449 4th Edition.
- 120kA to 400kA surge current capacity (Imax) ratings meet the needs of larger switchgear and power distribution panel applications
- Optional Form C contact relay, EMI/RFI filtering and surge counter available to meet additional system requirements.

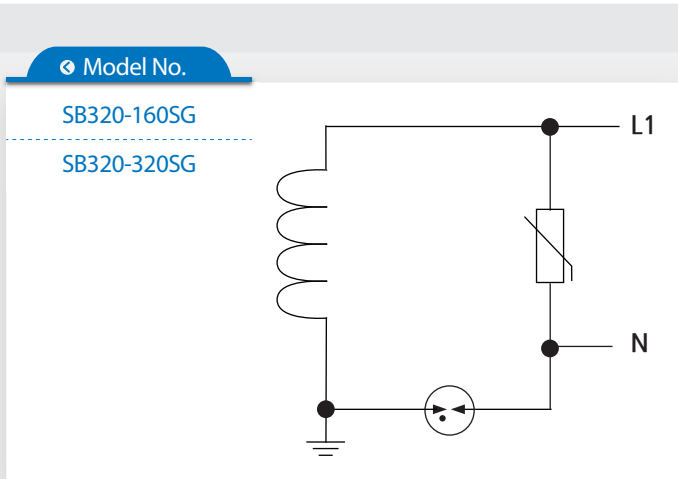
## ● Specifications

- Frequency (Hz)	: 50/60
- Protection Mode	: L-N / N-PE
- Degree of protection	: IP 20
- Diagnostics	: Green LEDs (Protected) / Red LEDs (Replace)
- Connection & Mounting Method	: Parallel Connection Type / Wall Mounting
- Internal Disconnecter	: Thermal Runaway Multi-Fusing Protection
- Size of connecting wir	: 10 ~ 16 mm <sup>2</sup> (or # 7 ~ 5AWG)
- <b>Optional Functions</b>	<b>: Remote Contact</b> <b>Surge Counter (Local 4-Digit Display &amp; Remote Signal)</b> <b>ModBus RS485 / Ethernet Data (Surge Counting &amp; Error Signal)</b> <b>Communication with Host</b>

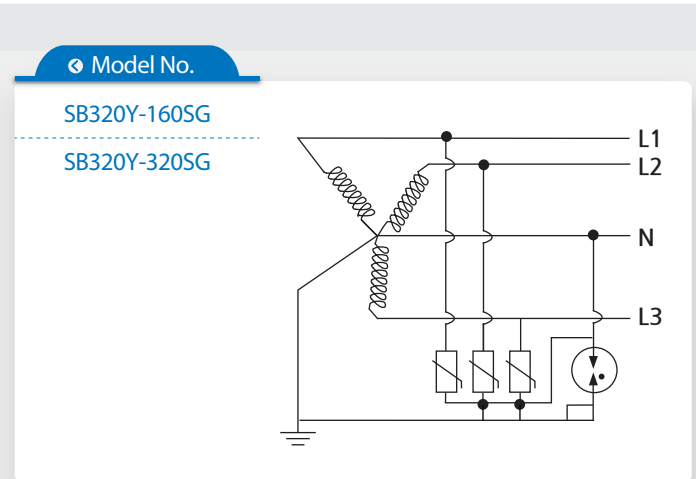
Model No.	SB320-160SG		SB320-320SG	
Rated System Voltage	Single-Phase 110~440V 2W+GND			
MCOV (Vac)	110 ~ 320			
$I_n$ (kA) / $I_{imp}$ (kA) -8/20 $\mu$ S- / -10/350 $\mu$ S-	L-N	40 / 12.5	80 / 25	
	N-PE	50 / 50	100 / 100	
VPR (Vpk) (kV)	L-N	1.2	1.3	
	N-PE	1.8	2.0	
SCCR (kA)	200		200	

Model No.	SB320Y-160SG		SB320Y-320SG	
Rated System Voltage	Tri-Phase 110~440V 4W+GND			
MCOV (Vac)	110 ~ 320			
$I_n$ (kA) / $I_{imp}$ (kA) -8/20 $\mu$ S- / -10/350 $\mu$ S-	L-N	40 / 12.5	80 / 25	
	N-PE	50 / 50	100 / 100	
VPR (Vpk) (kV)	L-N	1.2	1.3	
	N-PE	1.8	2.0	
SCCR (kA)	200		200	

## ● Circuit diagram



Single-Phase 110~440V 2W+GND



Tri-Phase 110~440V 4W+GND

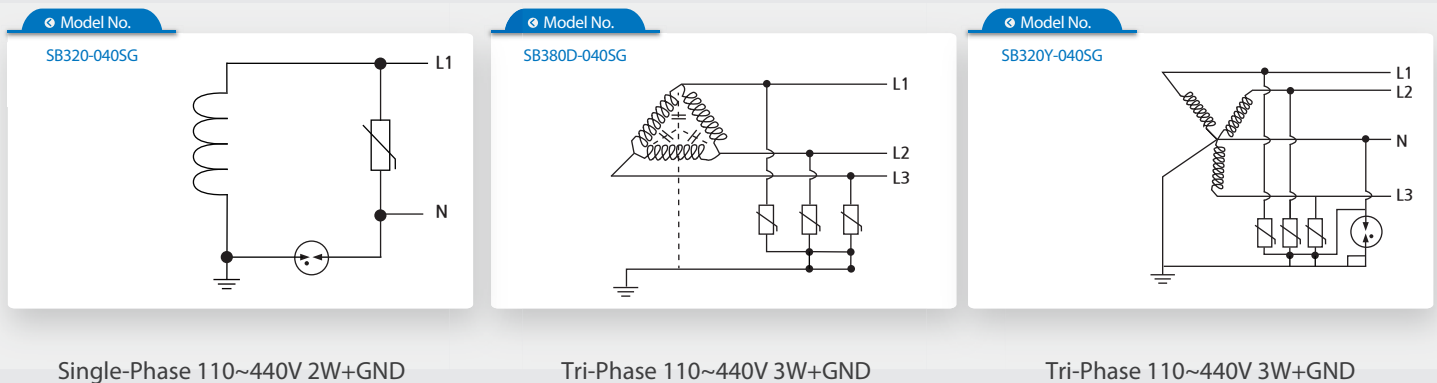
## ● Specifications

- Frequency (Hz)	: 50/60
- Protection Mode	: L-N / N-PE
- Degree of protection	: IP 20
- Diagnostics	: Green LEDs (Protected) / Red LEDs (Replace)
- Connection & Mounting Method	: Parallel Connection Type / Wall Mounting
- Internal Disconnecter	: Thermal Runaway Multi-Fusing Protection
- Size of connecting wir	: 4 ~ 6 mm <sup>2</sup> (or # 11 ~ 9AWG)
- <b>Optional Functions</b>	<b>: Remote Contact</b> <b>Surge Counter (Local 4-Digit Display &amp; Remote Signal)</b> <b>ModBus RS485 / Ethernet Data (Surge Counting &amp; Error Signal)</b> <b>Communication with Host</b>

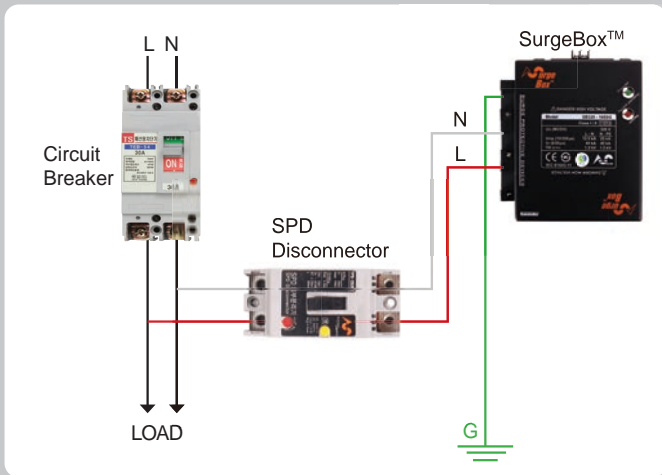
Model No.	SB320-040SG
Rated system voltage	Single-Phase 110~440V 2W+GND
MCOV (Vac)	320
$I_n$ (kA) -8/20 $\mu$ S- / $I_{max}$ (kA) -8/20 $\mu$ S-	20 / 40
VPR (Vpk) (kV)	1.5
SCCR (kA)	200

Model No.	SB380D-040SG	SB320Y-040SG
Rated system voltage	Tri-Phase 110~440V 3W+GND	Tri-Phase 110~440V 4W+GND
MCOV (Vac)	320	
$I_n$ (kA) -8/20 $\mu$ S- / $I_{max}$ (kA) -8/20 $\mu$ S-	20 / 40	
VPR (Vpk) (kV)	1.5	
SCCR (kA)	200	

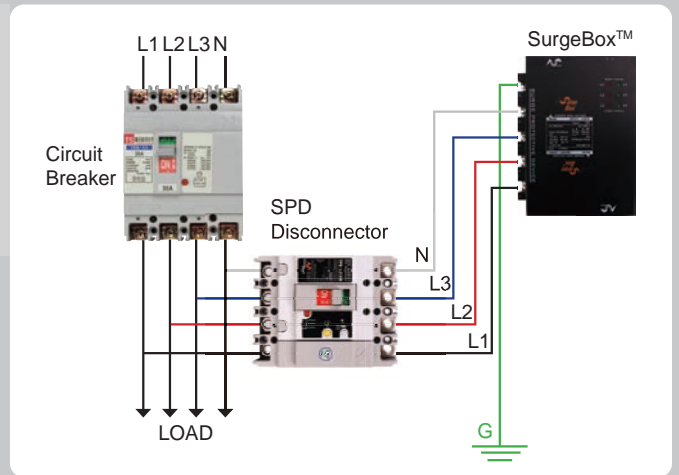
## ● Circuit diagram



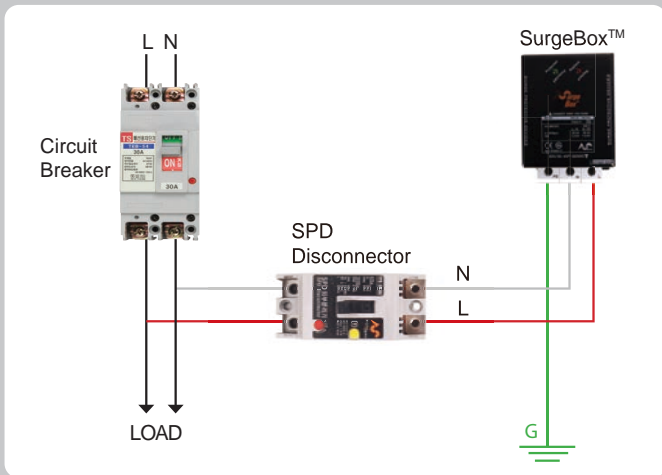
## ● Installation



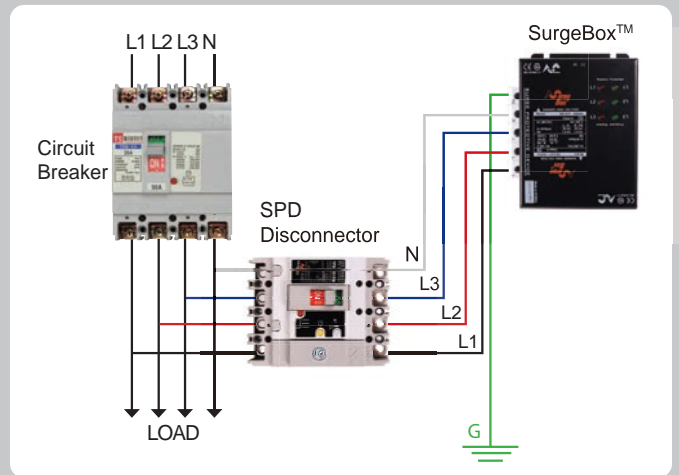
Type I – Single-Phase 2Wire



Type I – Tri-Phase 4Wire

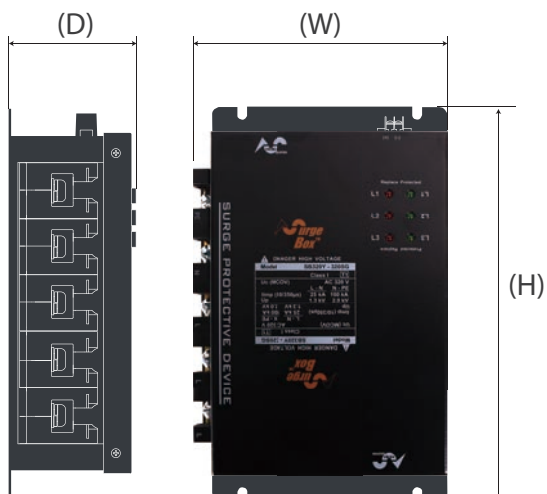


Type II – Single-Phase 2Wire



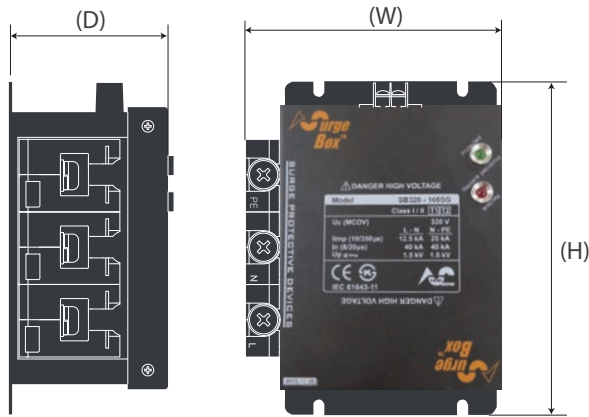
Type II – Tri-Phase 4Wire

## ● Dimension

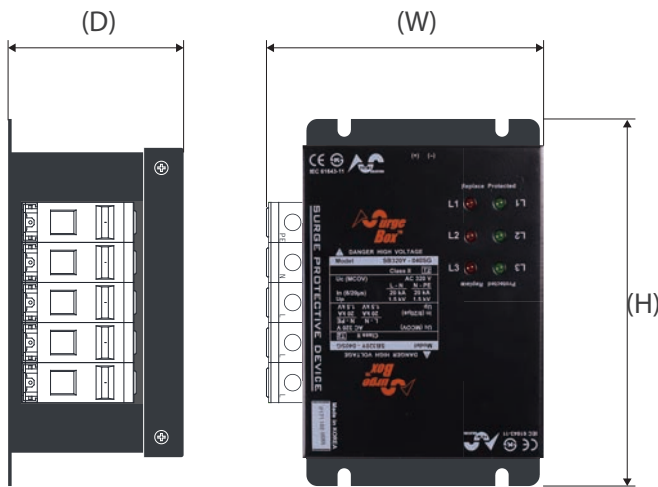


Size(inch/mm)	
W	6.35 / 161.5
H	9.84 / 250
D	3.11 / 79

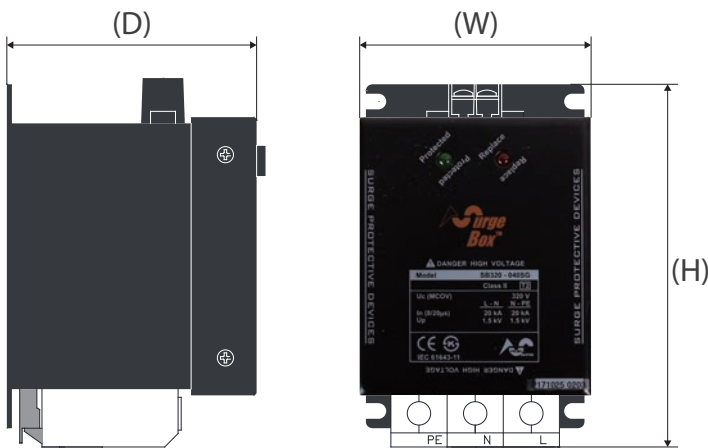
● Dimension



	Size(inch/mm)
W	5.00 / 127
H	6.49 / 165
D	3.11 / 79



	Size(inch/mm)
W	4.92 / 125
H	6.49 / 165
D	3.11 / 79



	Size(inch/mm)
W	2.91 / 74
H	4.33 / 110
D	3.14 / 80



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