ERITECH®

SGD
Spark Gap Diverter

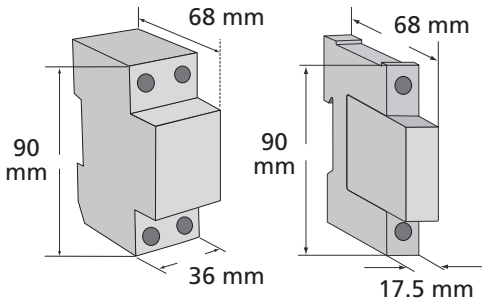
Features

- Effective equipotential bonding – provides N-E protection bond on TT power distribution systems
- The SGD1100 and SGD125 models meet the IEC® 61643-1 test class I and II
- The SGD125 and SGD112 models provide compact modular replaceable units with remote contacts as standard

The SGD1100 spark gap surge diverter has been specifically designed to provide equipotential bonding between the Neutral and Earth terminals of TT power distribution systems, as per IEC-60364-5-534. Its high surge rating makes it suitable to IEC zones 0A-1 and VDE classification B locations.

The SGD112 spark gap surge diverter is a compact modular SPD for applications where the lower surge ratings are acceptable.

The SGD125 spark gap surge diverter is a compact modular SPD for applications where a medium surge rating is required.



SGD1100 **SGD112/125** **SGD1100** **SGD112/125**

Model	SGD112-1SR-NE	SGD1251SRNE	SGD11002SNE
Part Number for Europe	702402	702426	702400
System Compatibility	TN-S, TN-C-S, TT for N-PE applications		
Frequency	50/60 Hz		
Operating Current @ U_n	0.50 mA		
Max Discharge Current, I_{max}	40 kA 8/20 µs	60 kA 8/20 µs	140 kA 8/20 µs
Impulse Current, I_{imp}	12 kA 10/350 µs	25 kA 10/350 µs	100 kA 10/350 µs
Protection Modes	N-PE		
Technology	Encapsulated Spark Gap		
Short Circuit Current Rating, I_{sc}	25 kA		
Voltage Protection Level, U_p	1.6 kV @ I_n		1.2 kV @ I_n 0.6 kV @ I_{imp}
Follow Current Extinguishing Capability	100A @ U_n	100A @ U_n	200A @ U_n
Dimensions H x D x W: mm (in)	90 x 68 x 18 (3.54 x 2.68 x 0.69)		90 x 68 x 36 (3.54 x 2.68 x 1.42)
Module Width	1 M		2 M
Weight: kg (lbs)	0.12 (0.26)		0.3 (0.66)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)		
Connection	≤25 mm² (#3AWG) stranded ≤35 mm² (#2AWG) solid		
Mounting	35 mm top hat DIN rail		
Temperature	-40°C to 80°C (-40°F to 176°F)		
Humidity	0 % to 90 %		
Approvals	CE, IEC® 61643-1		
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 1, 20 kA 8/20 µs IEC 61643-1 Class II	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 3, 100 kA 8/20 µs, 10 kA 10/350 µs IEC 61643-1 Class I, Class II	
Replacement Module	SGD112M (702403)	SGD125M (702427)	

(1) Should not be used in all modes of these systems. Refer to reverse side for Power Distribution Systems and SPD Installation.

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Power Distribution Systems and SPD Installation

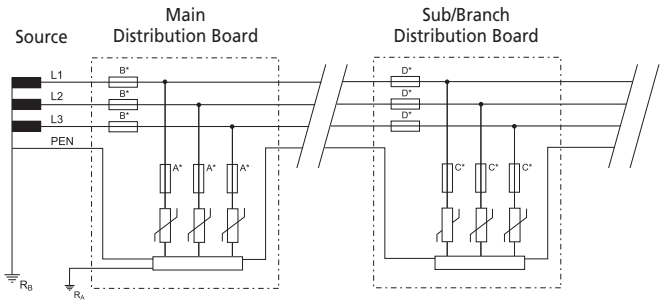
The IEC[SM] 60364 series of standards characterizes low-voltage distribution systems by their grounding method and the arrangement of the neutral and protective earth conductors. The selection of SPDs must consider among other issues, the level of over-voltage that may temporarily occur within the distribution system due to ground faults. IEC 61643-12 details the temporary over-voltages that may occur during fault conditions for these systems. To conform with European wiring rules an SPD with a U_c rating equal to, or greater than, this value should be selected. Effective protection does not require SPD s to be installed in all the modes detailed. The following diagrams provide guidance on the selection and installation of SPDs on the more common distribution systems. While three phase WYE systems are shown, similar logic can be applied to single phase, delta and other configuration sources.

U_o = Line to neutral voltage of the system

U_n = Nominal country specific system voltage (typically U_o x 1.10)

TN-C System

In the TN-C System, the neutral and protective earth conductor combine in a single conductor throughout the system. All exposed-conductive-parts are connected to the PEN conductor.

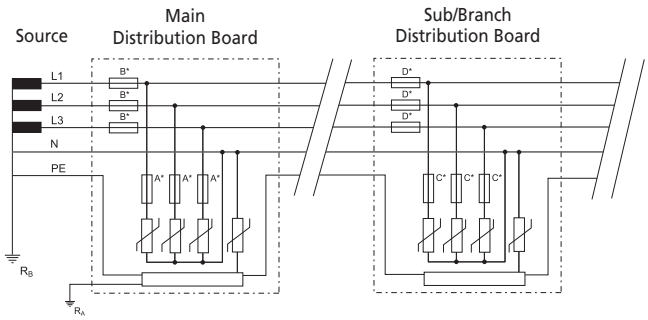


* Install fuse A if supply fuse B exceeds back-up overcurrent protection rating

* Install fuse C if supply fuse D exceeds back-up overcurrent protection rating

TN-S System

In the TN-S System, a separate neutral and protective earth conductor are run throughout. The protective PE conductor can be the metallic sheath of the power distribution cable or a separate conductor. All exposed-conductive-parts of the installation are connected to this PE conductor.



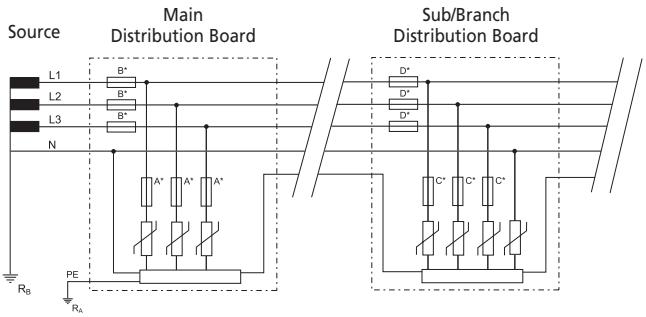
* Install fuse A if supply fuse B exceeds back-up overcurrent protection rating

* Install fuse C if supply fuse D exceeds back-up overcurrent protection rating

SPDs shown connected L-N and N-PE.
May also be connected L-PE and N-PE.

TN-C-S System

In the TN-C-S System, a separate neutral and protective earth combine in a single PEN conductor. This system is also known as a Multiple Earthed Neutral (MEN) system and the protective conductor is referred to as the Combined Neutral Earth (CNE) conductor. The supply PEN conductor is earthed at a number of points throughout the network and generally as close to the consumer's point-of-entry as possible. All exposed-conductive-parts are connected to the CNE conductor.



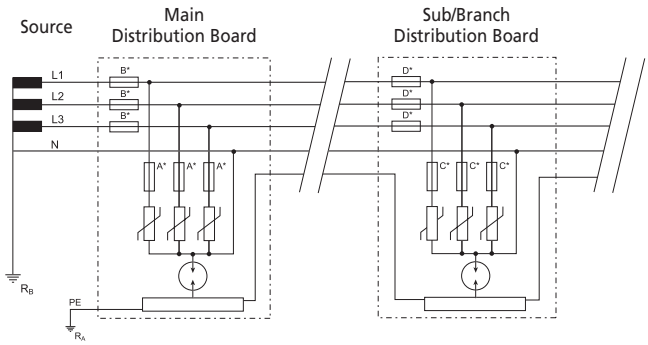
* Install fuse A if supply fuse B exceeds back-up overcurrent protection rating

* Install fuse C if supply fuse D exceeds back-up overcurrent protection rating

SPDs shown connected L-PE and N-PE.
May also be connected L-N and N-PE.

TT System

A system having one point of the source of energy earthed and the exposed-conductive-parts of the installation connected to independent earthed electrodes.



* Install fuse A if supply fuse B exceeds back-up overcurrent protection rating

* Install fuse C if supply fuse D exceeds back-up overcurrent protection rating