LPI® Spark Gap Shunt Protector - SG Range

Features

- Encapsulated Spark Gap Technology
- Low follow on current
- 35mm DIN rail mount

Product Description

The LPI Spark Gap Protector is a high performance encapsulated spark gap offering a high surge rating with low follow on current, ideal for point of entry protection. It is intended for installation within the lightning protection zone concept at the boundaries LPZ O $_{A(B)}$ -1 according to IEC 62305-4.

The LPI Spark Gap Protector has been designed for the protection of Phase-to-Neutral, Phase-to-Earth, or Phase-to-Neutral-Earth protection in LV supply systems.

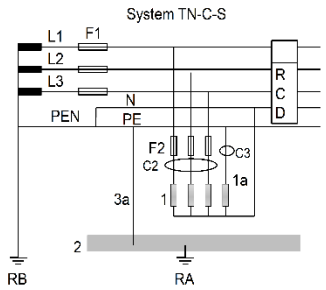
Follow on current performance for these devices is kept within acceptable levels by the rapid extinguishment of the arc allowing transients to be clamped without activating upstream protection devices.

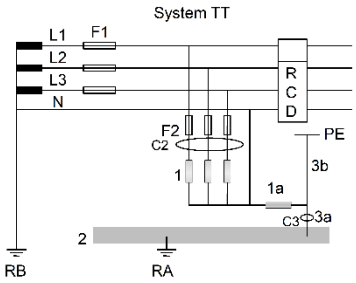
Ordering Code		SGT50-25	SG60
Nominal Operating Voltage:	U_N	230 Vac @ 50/60 Hz	400 Vac @ 50/60 Hz
Max. Continuous Operating Voltage:	U_C	265 Vrms (up to 480 Vrms, however with lower follow current extinguishing capability)	440 Vrms
Follow current extinguishing capability at: U_c	I_f	25 k Arms	3.5 k Arms
Voltage protection level at: I_{imp}	U_P	<1.3 kV	<2.5 kV
Max. lightning impulse current:	I_{imp}	50 kA (10/350 µs)	60 kA (10/350 µs)
Max. discharge current:	I_{max}	135 kA (8/20 µs)	135 kA (8/20 µs)
Max. lightning charge:	Q	25 As	30 As
Specific energy:	W/R	600 kJ/Ω	900 kJ/Ω
Insulation resistance:	R_i	>100 MΩ	
Response time:	t_A	<100 ns	
Standard:		IEC 61643 and EN 61643	
Recommended backup fuse:		315 AgL/gG	
Operating temperature section of connected conductors:e range:		-40 to +80 ˚C	
Recommended cross-section		50 mm² (solid) or 35 mm² (flexible) (at 4Nm clamping force)	
Protection type:		IP 20	
Mounting:		DIN rail 35 mm	
Housing material:		SLOVAMID 6FRC2	
Weight:		224 g	
Application:		Main and sub-distribution boards (>100 A capacity)	
Dimensions:		65 mm (H) x 35 mm (W) x 90 mm (L)	
Warranty:		5 Years	

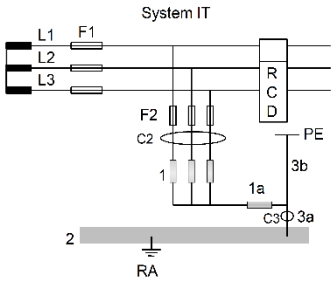
Installation Guide for Spark Gap

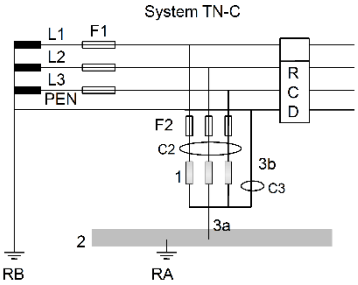
The use of a closed, high performance spark gap (gas filled) renders the blow-out vent superfluous. A safety gap between adjacent components for fire protection reasons is unnecessary. The installation of this unit is normally in the main distributor at the building entrance. The protection circuit is contained in a snap-on housing for installation on 35 mm DIN rail (in compliance with EN 50022) with multi-function terminals for wires and wiring bridges.

As this protector has to discharge lightning currents of up to 50 kA or 60 kA (10/350 µs), we recommend the use of stranded copper cable of 35 mm². Connections should preferably be tightened to 3 Nm. The entire length of the cable should not exceed 0.5 m. However, if it does exceed 0.5 m, the PE line should be installed with a Kelvin connection. This device must not be bonded exclusively via the wiring bridge. Lightning currents must be discharged via a cable with an adequate cross-sectional area. Protected and unprotected lines must not be laid toq









Legend

1 - LPI SGT50-25/ SG60
1a - LPI NE100
2 - Main equipotential bus bar
3a, 3b - Grounding wires for arresters
F1 - Main back-up fuse of service main
F2 - Recommended back-up fuse 315AgL/gG (only if the main back-up fuse F1 is fitted with back-up fuses >315AgL/gG)
RA - Equipment grounding
RB - Grounding system

Schematic Diagram for different distribution system

Fuse F1 gL/gG	C2 mm² connection at F2	C3 mm² connection to ground	Fuse F2 gL/gG
100 A-125 A	16	16	-
160 A	25	25	-
200 A-315 A	35	35	-
≥ 500 A	35	35	315 A