

SURGYS® G40-FE

Surge arrester- Type 1 and 2

for installations with lightning conductor and for sensitive loads

new



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SURGYS G40-FE 2 poles

Function

The **SURGYS® G40-FE** surge arrester is designed to ensure the protection of your low voltage distribution installations and your electrical equipment. It acts against industrial operation surges and surges owing to lightning.

This type of surge arrester is particularly recommended where there is a risk of direct impact of lightning strikes, especially at the main switchboard level when electronic devices sensitive to surges are installed.

NEW: Versions 4 P compatible with IT and TT arrangements.

Advantages

Recommended where there is a risk of direct impact from lightning strikes

With its max. impulse current I_{imp} (10/350 µs surge) of 15 kA, it is recommended for use at the top of the installation.

Varistor / gas spark gap technology

This solution guarantees an optimised level of protection (low voltage Up=1.5 kV) and improved coordination between type 1 & type 2.

End of service life indicator

Indicates internal components' end-of-life.

Remote signalling

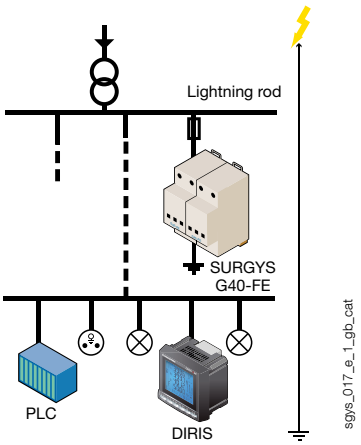
With the remote signalling contact (plug-in) you can upload the alert to a supervisory device.

Thermal disconnector

The surge arrester's internal disconnection device safeguards the system at the SPD's end-of-life.

Applications

- Main switchboard or main distribution panel of a building, equipped with electronic devices (multi-function measurement devices, PLC, etc.) with presence of lightning conductors or protection through meshed cages.
- Main switchboard equipped with electronics in buildings subjected to high level risk of lightning strikes such as classified installations, installations located in areas prone to high density of lightning strikes, high-rise buildings.
- Main switchboard equipped with PLC, BMS, remote monitoring, technical alarms, modems...
- High-rise building safety main switchboard.
- Lift control panel located at an elevated level within a building.
- Safety inverter units.
- Main switchboard or remote sites containing electronics.



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The solution for

- Industry
- All types of building (critical, non-critical)



Strong points

- Recommended where there is a risk of direct impact from lightning strikes
- Varistor / gas spark gap technology
- End of life signal
- Remote signalling
- Thermal disconnector

Compliance with standards

- NF EN 61643-11
- IEC 61643-11

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Front panel

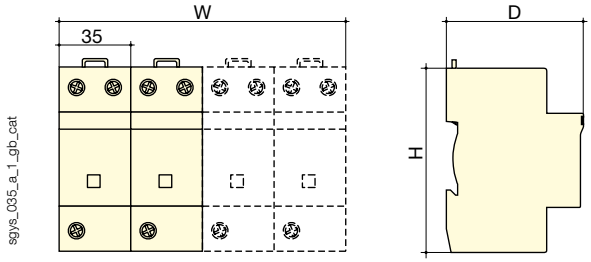


1. End of life signal.
2. Earthing comb bridging connection.
3. Remote signalling contact.
4. DIN rail mounting.

General characteristics

- Surge arrester- Types 1 and 2.
- Designed to withstand discharge currents linked to direct lightning strikes.
- Protection level Up improved at 1.5 kV.
- Guaranteed protection in common mode.
- End of service life indicator.
- Remote signalling contact.
- Absence of follow current.
- Recommended fuse combination switch FUSERBLOC (see page 254).

Switch body



Type	monobloc module
Dimensions W x H x D - 2 pole device	72 x 90 x 67 mm
Dimensions W x H x D - 3 pole device	108 x 90 x 67 mm
Dimensions W x H x D - 4 pole device	144 x 90 x 67 mm
Case degree of protection IP20	IP20
Terminal block degree of protection IP20	IP20
Case material	thermoplastic UL94-V0
Mains connection cross-section	6 … 35 mm²
Earthing connection cross-section	6 … 35 mm²

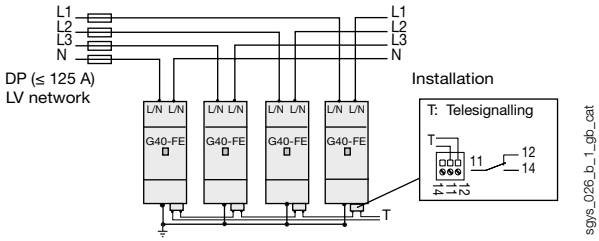
Specifications

Mains		
Mains type	230 / 400 VAC	
Neutral arrangement (see table)	TT, TN, IT	
Connection mode	MC (1)	MC (1) / MD (2)
Nominal voltage U_n	400 VAC	230 VAC
Max. voltage U_c	440 VAC	255 VAC
Protection characteristics		
Temporary overvoltage withstand @ 5 sec (U_T)	580 VAC withstand	335 VAC withstand
Temporary overvoltage withstand @ 120 sec (U_T)	770 VAC disconnection	440 VAC disconnection
Temporary overvoltage from a HV mains, between N & PE in a TT arrangement		1200 V / 30 A / 200 ms withstand
Level of protection U_P	1.5 kV	1.5/1.5 kV
Max. current discharge (1 impulse 8/20 µs) I_{max}	70 kA	70 kA
Nominal discharge current (15 impulses 8/20 µs) I_n	25 kA	25 kA
Residual voltage at limp	1.5 kV	1.5/1.1 kV
Impulse current (1 shock 10/350 µs) I_{imp}	25 kA (15 kA*)	25 kA (15 kA*)
Associated characteristics		
Residual current I_{pe}	< 10 µA	
Response time t_r	< 100 ns	
Follow current I_f	None	
Admissible short-circuit current I_{sccr}	50 kA (100 kA*)	
Recommended disconnector	gG 315 A (125 A*) fuses	
Type of mechanical disconnection indicator	Mechanical	
Number of disconnection indicators	1	
Remote signalling contact		
Number of contacts per pole	1	
Contact type	Inverter	
AC making capacity	0.5 A	
DC making capacity	3 A	
AC nominal voltage	250 VAC	
DC nominal voltage	30 VDC	
Sustained current	2 A	
Connection type	Plug-in screw terminal	
Max. cross-section of terminal connections	1.5 mm²	
Operating conditions		
Operating temperature range	-40 … +85°C	
Storage temperature range	-40 … +85°C	

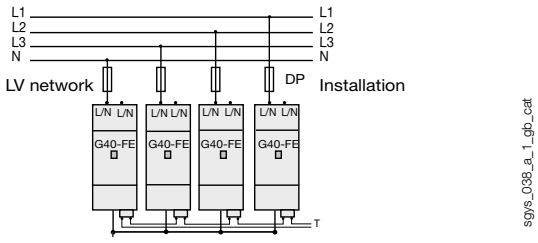
(1) MC: Common mode. *(*) used in association with gG 125 A fuse*
(2) MD: Differential mode.

Connections

Series arrangement



Parallel arrangement



References

No. of poles	No. of adjacent boxes	Neutral arrangements	Protection mode	I total (10/350µs)	SURGYS G40-FE Reference
2	2	IT	MC (1)	50 kA	4981 **0422**
3	3	TNC-IT	MC (1)	75 kA	4981 **0432**
4	4	IT	MC (2)	100 kA	4981 **0442**
4	4	TT-TNS	MC (1) / MD (2)	100 kA	4981 **0444**

(1) MC: Common mode. (2) MD: Differential mode.