

SURGYS® G51-PV

Type 2 surge arrester
for photovoltaic installations



SURGYS G51 - 1000 PV

The solution for

> Building

Strong points

- > Monobloc design
- > Plug-in module
- > Remote signalling
- > New 1500 VDC version

Conformity to standards

- > Compliant with test guides UTE C61-740-51 and NF EN 50 539-11
- > Compliant with installation guide UTE C15-712-1 (2010)

Function

The SURGYS G51-PV surge arrester is designed to ensure protection for photovoltaic power supply networks against transient surges owing to lightning.

It is compliant with the test requirements of UTE C 61-740-51 and EN 50-539-11 as well as with installation requirements UTE C 15-712-1.

Advantages

Monobloc design

Easy to install.

Plug-in module

Quick maintenance on end-of-life modules.

Remote signalling

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

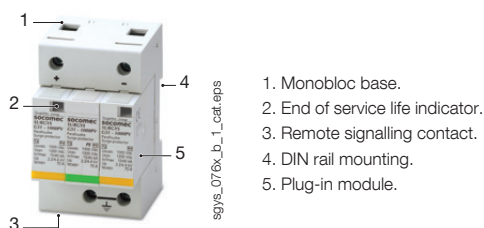
New 1500 VDC version

Suitable for the protection of high-power installations.

Caractéristiques générales

- Surge arrester type 2 for PV.
- Range from 500 VDC to 1500 VDC.
- MC or MC/MD modes.
- In: 15kA / Imax: 40kA.
- Plug-in.
- Remote signalling (optional).

Front panel



Characteristics

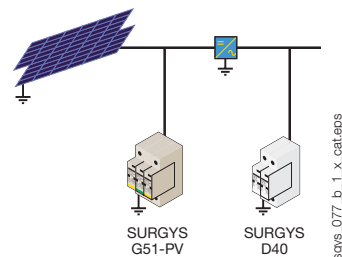
Mains	
Mains type	500 VDC / 600 VDC / 800 VDC / 1000 VDC / 1500 VDC
PV voltage U_{ocSTC}	500 VDC / 600 VDC / 800 VDC / 1000 VDC / 1500 VDC
Max. voltage U_{CPV}	600 VDC (version 500 V) / 720 VDC (version 600 V) / 960 VDC (version 800 V) / 1200 VDC (version 1000 V) / 1500 VDC (version 1500 V)
Protection characteristics	
Mode of protection	MC ⁽¹⁾ : 500 V / 600 V / 800 V / 1000 V / 1500 V MD ⁽²⁾ : 800 V / 1000 V / 1500 V
Level of protection MC ($U_p MC$)	2,2 kV (500 V) / 2,8 kV (600 V) / 2 kV (800 V) / 2,2 kV (1000 V) / 3,2 kV (1500 V)
Level of protection MD ($U_p MD$)	- / - / 3,6 kV (800 V) / 4,4 kV (1000 V) / 4,5 kV (1500 V)
Short circuit current (I_{SCWPV})	1000 A
Maximum discharge current (1 shock 8/20 μ s) I_{max}	40 kA
Nominal discharge current (15 shocks 8/20 μ s) I_n	15 kA
Associated characteristics	
Residual current I_c	500 / 600 V : < 0.1 mA 800 / 1000 / 1500 V : 0 mA
Response time t_r	< 25 ns
Follow current I_f	none
End of life mode	thermal disconnection
Type of disconnection indicator	mechanical
Number of disconnection indicators	1
Remote signalling contact	
Contact type	NO/NC
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 mm ²
Operating conditions	
Operating temperature	-40 ... +85 °C
Storage temperature	-40 ... +85 °C

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

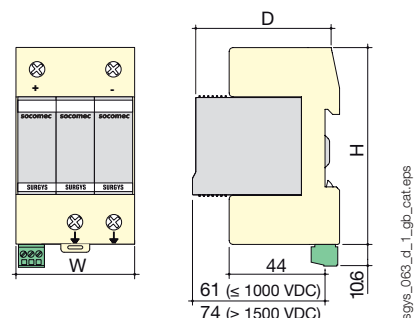
Applications

Main incoming protection in a photovoltaic network:

- SURGYS G51-PV is installed on the DC side, in the combiner box, close to the solar cell strings, for protecting the downstream DC equipment from the indirect effects of lightning.
- SURGYS AC, SURGYS D40 for instance, is installed downstream of the inverter for load protection.



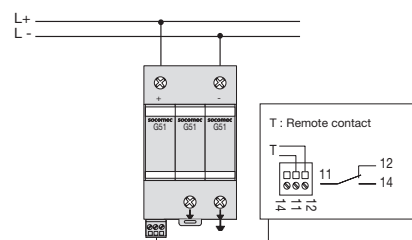
Switch body



Type	monobloc design
2 modules dimensions W x H x D $\leq$ 800 VDC	36 x 90 x 67 mm
3 modules dimensions W x H x D $\leq$ 1000 VDC	54 x 90 x 67 mm
3 modules dimensions W x H x D $\geq$ 1500 VDC	54 x 90 x 77 mm
Case degree of protection	IP20
Terminal block degree of protection	IP20
Case material	UL94-V0 thermoplastic
Mains connection cross-section	4 ... 25 mm ²
Earth connection cross-section	6 ... 25 mm ²

Connections

Common mode /
differential
protection mode



References

Mains voltage	Description	No. of poles	Mode of protection	Number of modules	SURGYS® G51-PV Reference
500 VDC	without remote signal	2	MC ⁽¹⁾	2	4982 2500
500 VDC	with remote signal	2	MC ⁽¹⁾	2	4982 2501
600 VDC	without remote signal	2	MC ⁽¹⁾	2	4982 2530
600 VDC	with remote signal	2	MC ⁽¹⁾	2	4982 2531
800 VDC	without remote signal	2	MC / MD ⁽²⁾	3	4982 2510
800 VDC	with remote signal	2	MC / MD ⁽²⁾	3	4982 2511
1000 VDC	without remote signal	2	MC / MD ⁽²⁾	3	4982 2520
1000 VDC	with remote signal	2	MC / MD ⁽²⁾	3	4982 2521
1500 VDC	without remote signal	2	MC / MD ⁽²⁾	3	4982 2540
1500 VDC	with remote signal	2	MC / MD ⁽²⁾	3	4982 2541
Description of accessories			Mode of protection	Reference	
Spare plug-in module m-G51 for 500 VDC			MC ⁽¹⁾	4982 2509	
Spare plug-in module m-G51 for 600 VDC			MC ⁽¹⁾	4982 2539	
Spare plug-in module m-G51 for 800 VDC			MC / MD ⁽²⁾	4982 2519	
Spare plug-in module m-G51 for 1000 VDC			MC / MD ⁽²⁾	4982 2529	
Spare plug-in module m-G51 for 1500 VDC			MC / MD ⁽²⁾	4982 2549	

(1) MC: Common mode.

(2) MD: Differential mode.