



# SURGYS® G51-PV

Surge arrester - Type 2  
for photovoltaic installations

Electronic  
protection



SURGYS G51 - 1000 PV

## The solution for

> Solar energy



## Strong points

- > Monobloc base with plug-in module
- > Remote signalling
- > New 1500 VDC version

## Approvals and certifications

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

## Function

SURGYS G51-PV surge Protective Device is designed to ensure protection for photovoltaic supply networks against transient overvoltages. It is compliant with test requirements UTE 61-740-51 and EN 50-539-11 as well as with installation requirements UTE C 15-712-1.

## Advantages

### Monobloc base with plug-in module

The SURGYS is supplied complete and ready for installation. Its Monobloc base is fitted with replaceable plug-in modules which, at the end of their service life, can be easily and quickly replaced without having to disconnect the Monobloc base.

### Remote signalling

The remote plug-in signalling contact allows alarm report to a supervision station.

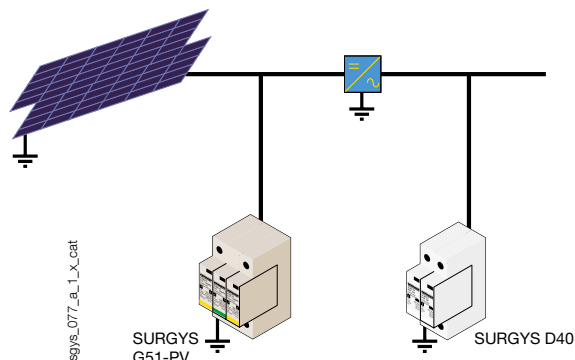
### New 1500 VDC version

Adapted to the protection of high power installations.

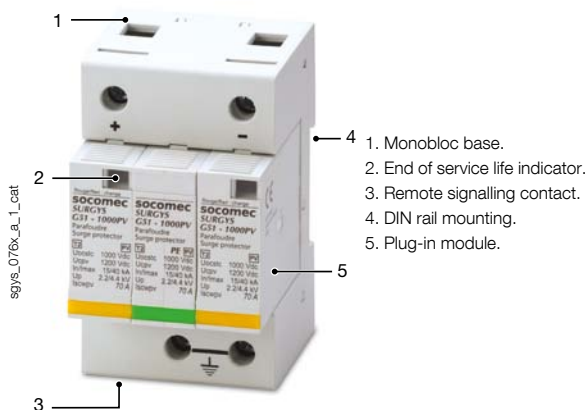
## Applications

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.

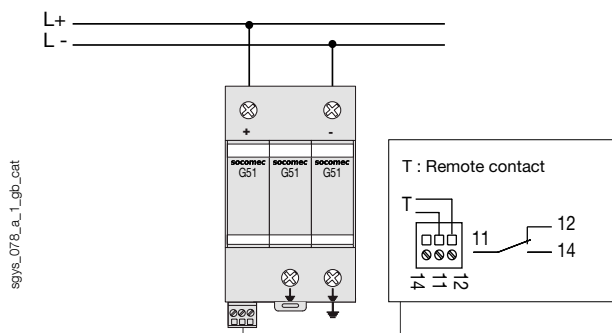


### Front panel



### Connection

Common mode / differential mode protection



### Characteristics

#### Network

Network 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 <sup>(1)</sup> : 500 V / 600 V / 800 V / 1000 V / 1500 V MD <sup>(2)</sup> : 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 ( $I_{SCMPV}$ )	1000 A
Maximum discharge current (1 shock 8/20 $\mu$ s) $I_{max}$	40 kA
Nominal discharge current (15 shocks 8/20 $\mu$ 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

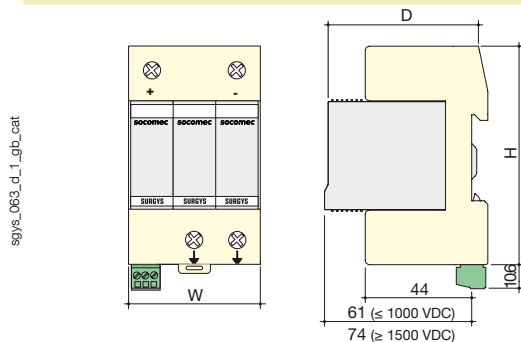
Contact type	inverter
AC making capacity	0.5 A
DC making capacity	3 A
AC nominal voltage	250 VAC
DC nominal voltage	30 VDC
Sustained current	2 A
Connection type	plug-in screw terminal
Max. cross-section of terminal connections	1.5 mm <sup>2</sup>

#### Operating conditions

Operating temperature	-40 ... +85 °C
Storage temperature	-40 ... +85 °C

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

### Case



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
Network connection cross-section	4 ... 25 mm <sup>2</sup>
Earth connection cross-section	6 ... 25 mm <sup>2</sup>

### References

Network voltage	Description	No. of poles	Mode of protection	Number of modules	SURGYS® G51-PV Reference
500 VDC	without remote signal	2	MC <sup>(1)</sup>	2	4982 2500
500 VDC	with remote signal	2	MC <sup>(1)</sup>	2	4982 2501
600 VDC	without remote signal	2	MC <sup>(1)</sup>	2	4982 2530
600 VDC	with remote signal	2	MC <sup>(1)</sup>	2	4982 2531
800 VDC	without remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2510
800 VDC	with remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2511
1000 VDC	without remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2520
1000 VDC	with remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2521
1500 VDC	without remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2540
1500 VDC	with remote signal	2	MC / MD <sup>(2)</sup>	3	4982 2541

Description of accessories	Mode of protection	Reference
Spare plug-in module m-G51 for 500 VDC	MC <sup>(1)</sup>	4982 2509
Spare plug-in module m-G51 for 600 VDC	MC <sup>(1)</sup>	4982 2539
Spare plug-in module m-G51 for 800 VDC	MC / MD <sup>(2)</sup>	4982 2519
Spare plug-in module m-G51 for 1000 VDC	MC / MD <sup>(2)</sup>	4982 2529
Spare plug-in module m-G51 for 1500 VDC	MC / MD <sup>(2)</sup>	4982 2549

(1) Common mode.

(2) MD: Differential mode.