

Pluggable Multi-Pole SPD for Photovoltaic Systems

FLY1-40PV

Class II • Type 2



Location of Use: String box, Inverter
 Mode of Protection: (DC+) - PE, (DC-) - PE, (DC+) - (DC-)
 Surge Ratings: $I_n = 20 \text{ kA (8/20 } \mu\text{s)}$
 $I_{max} = 40 \text{ kA (8/20 } \mu\text{s)}$
 IEC/EN Category: Class II / Type 2
 Protective Elements: High Energy MOV
 Housing: Pluggable Design
 Compliance: IEC 61643-31
 EN 50539-11

Technical Data

FLY1-40PV

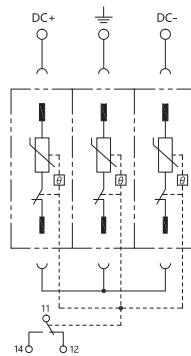
| IEC Electrical | | | | | | |
|---|-----------|---|--------|--------|--------|---------------|
| Maximum Continuous Operating DC Voltage | | 500 V | 600 V | 800 V | 1000 V | 1200 V 1500 V |
| Nominal Discharge Current (8/20 μs) | I_n | 20 kA | | | | |
| Maximum Discharge Current (8/20 μs) | I_{max} | 40 kA | | | | |
| Voltage Protection Level | U_p | 1900 V | 2300 V | 2800 V | 3800 V | 4600 V 5500 V |
| Residual Current at U_c | I_{PE} | < 0,5mA | | | | |
| Response Time | t_A | < 25ns | | | | |
| Mechanical & Environmental | | | | | | |
| Operating Temperature Range | T_a | -40 °F to +158 °F [-40 °C to +70 °C] | | | | |
| Permissible Operating Humidity | RH | 5%...95% | | | | |
| Atmospheric pressure and altitude | | 80k Pa ... 106k Pa / -500 m ... 2000 m | | | | |
| Conductor Cross Section (max) | | 2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25 mm ² (Flexible) | | | | |
| Mounting | | 35 mm DIN Rail, EN 60715 | | | | |
| Degree Of Protection | | IP 20 (built-in) | | | | |
| Housing Material | | Thermoplastic: Extinguishing Degree UL 94 V-0 | | | | |
| Thermal Protection | | Yes | | | | |
| Operating State / Fault Indication | | Green ok / Red replace | | | | |
| Remote Communication | | Optional | | | | |
| RC Switching Capacity | | AC: 250V/0.5A; DC: 250V/0.1A; 125V/0.2A; 75V/0.5A | | | | |
| RC Conductor Cross Section (max) | | 16 AWG (Solid) / 1.5 mm ² (Solid) | | | | |

Internal Configuration

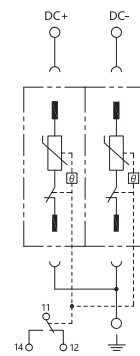
Legend

- ⊕/PE Protective Earth
- S Signalling Contacts Optional

FLY1-40PV 1000V. 1200V. 1500V

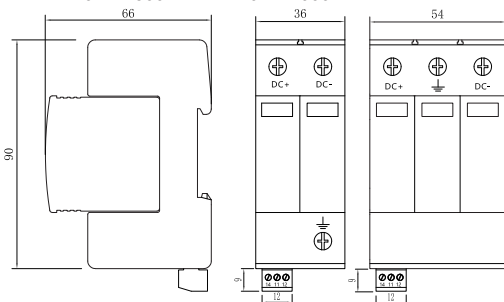


FLY1-40PV 500V. 600V. 800V. 1000V



Dimensions & Packaging

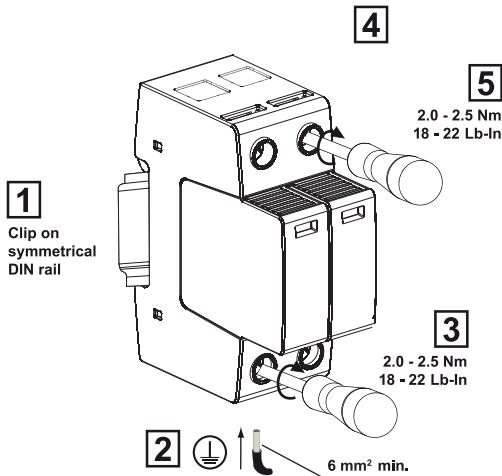
FLY1-40PV 500
 FLY1-40PV 1000 FLY1-40PV 600
 FLY1-40PV 1200 FLY1-40PV 800
 FLY1-40PV 1500 FLY1-40PV 1000



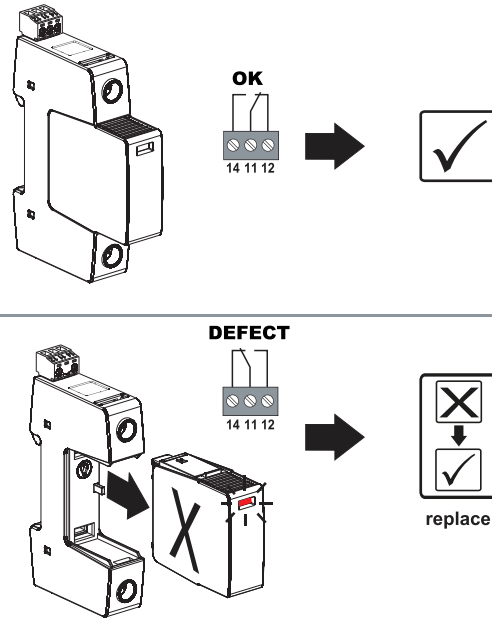
| Dimensions & Packaging | 500 | 600 | 800 | 1000 | 1200 | 1500 |
|---------------------------------|----------------------|-----|-----|-------|------|------|
| FLY1-40PV | 1 CTN | | | | | |
| Single Unit DIN 43880 Dimension | [490 × 235 × 310 mm] | | | | | |
| Packaging Dimensions (HxWxL) | 120PCS | | | 80PCS | | |
| Minimum Order Quantity | | | | | | |

Installation

| min-max Ø | |
|-----------|-------------------------------------|
| | 2.5 - 35 mm ² 13 - 2 AWG |
| | 2.5 - 25 mm ² 13 - 4 AWG |

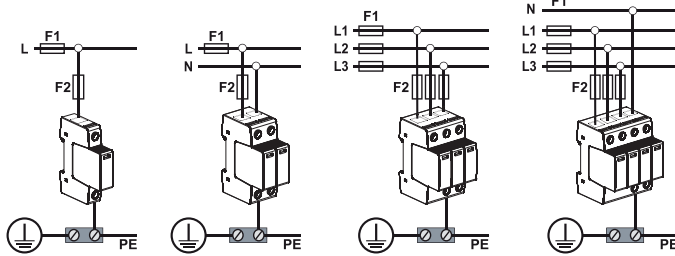


Maintenance

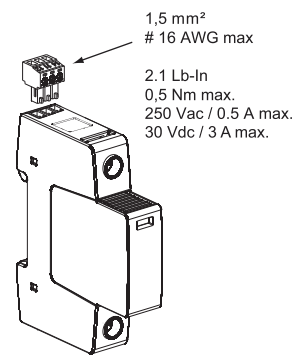


Wiring

Standard wiring



Remote contact wiring



Fuses Type gG

| FLY1-40PV series | FLY1-40PV series | FLY1-40PV series |
|------------------|------------------|------------------|
| F1 > 63 A | F1 > 125 A | F1 > 160 A |
| F2 = 63 A | F2 = 125 A | F2 = 160 A |
| F1 ≤ 63 A | F1 ≤ 125 A | F1 ≤ 160 A |
| ①** F2 ≤ F1 | ②** No F2 | ①** F2 ≤ F1 |
| ②** No F2 | ①** F2 ≤ F1 | ②** No F2 |

** depending on national rules : Solution ① or ②

Table 2

Remote signal for disconnection information

11-12 Closed = SPD OK
11-14 Open = SPD OK
11-12 Open = SPD disconnect
11-14 Closed = SPD disconnect

Table 3



SAFETY INSTRUCTIONS
CONSIGNES DE SECURITE
SICHERHEITSHINWEISE
ADVERTENCIA DE SEGURIDAD
AVVERTENZE IMPORTANTI

BEZPEČNOSTNÍ POKYNY
安全須知
AVISOS IMPORTANTES
МЕРЫ БЕЗОПАСНОСТИ
WSKAZÓWKI BEZPIECZEŃSTWA

VARNOSTA NAVODILA
VEILIGHEIDSVORSCHRIFTEN
BEZPEČNOSTNÉ POKYNY
SIKKERHEDSANVISNINGER
SÄKERHETSANVISNINGAR



ATENCIÓN !

ES

- Solo un operador eléctrico capacitado puede realizar la instalación.
- Las reglas generales nacionales de instalación eléctrica deben ser respetadas.
- El producto solo tiene un uso de protección contra sobretensiones transitorias y debe ser utilizado en las condiciones mencionadas en este documento.
- Las protecciones contra sobretensiones transitorias se usan en relación con una red de baja tensión determinada (ver tabla 1).
- Fusibles dedicados deben ser instalados aguas arriba de la protección, en la conexión en paralelo (ver tabla 2).
- Se debe sustituir la protección cuando el indicador esta puesto en rojo.

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Información actualizada en el sitio web.



ATTENTION !

GB

- Installation must be performed only by electrically skilled operator.
- National electrical installation rules must be followed.
- The unit must be used only as surge protector and according to the conditions described in this document.
- Surge protectors must be selected in relation with an dedicated AC network (see Table 1)
- Dedicated fuses must be installed in the surge protector branch (see Table 2 column 1).
- In case of red indicator, the surge protector must be replaced.

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Updated Information on Website.