

Cod. 50023656. Ed.1.26



### WARNING!

- The installation, maintenance and eventual replacement of this device must only be carried out by a qualified electrician.
- This device must not be repaired.
- All applicable local, regional and national regulations must be complied with during the installation, use, maintenance and replacement of this device.
- This device should not be installed if, when unpacking it, you observe that it is damaged.
- Toscano cannot be held responsible in the event of non-compliance with the instructions in this document and in the documents to which it refers.
- For the correct operation of the equipment, the phases must be connected to the "L" terminals, the neutral to the "N" terminal and the earth to terminal "PE". Do not install on lines without protective earth (PE).

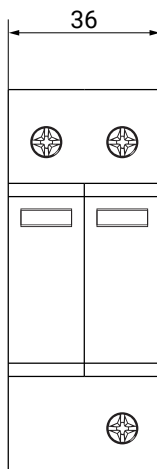
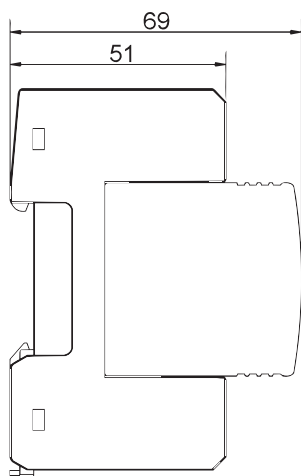


### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

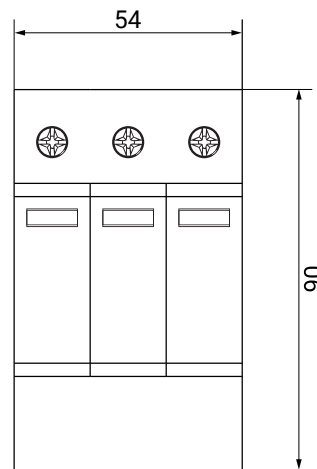
- Turn off all power supplying this device before working on it.
- Use a voltage tester on an appropriate range to verify that all live conductors are not energized.
- Failure to comply with these instructions may result in serious injury or even death.

## Dimensions

FV-600/2S

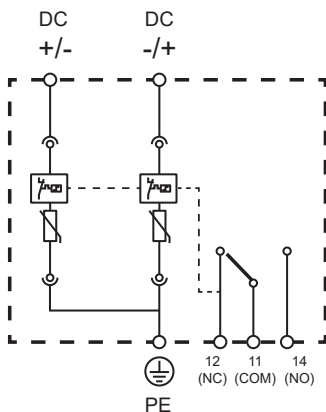


FV-1xxx/3S

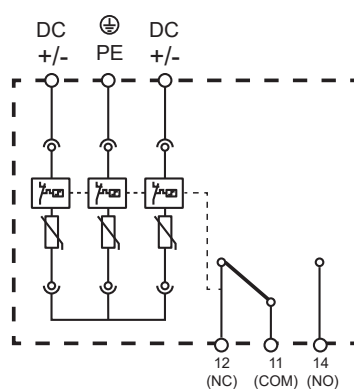


## Electrical diagrams

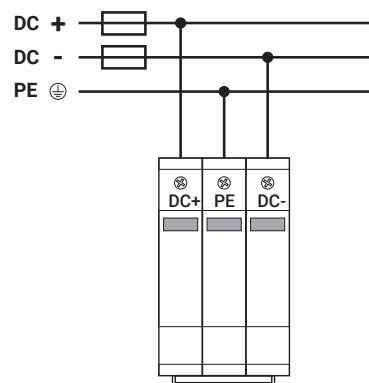
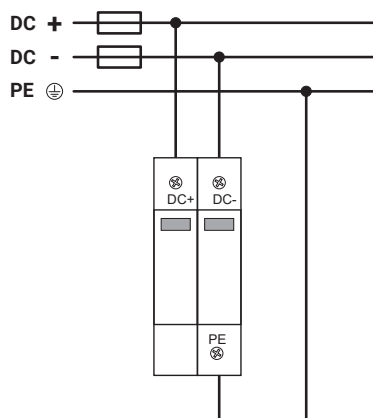
FV-600/2S



FV-1xxx/3S



## Wiring



## Technical specifications

|             |                                                | FV-600/2S                                                 | FV-1250/3S      |
|-------------|------------------------------------------------|-----------------------------------------------------------|-----------------|
| GENERALS    | Maximum DC operating voltage $U_{cpv}$         | 750 VDC                                                   | 1500 VDC        |
|             | Minimum terminal cross-section                 | 4 mm <sup>2</sup>                                         |                 |
|             | Maximum terminal cross-section                 | 35 mm <sup>2</sup>                                        |                 |
|             | Environmental limits                           | -40 ° +80 °C                                              |                 |
|             | Protection                                     | IP20                                                      |                 |
|             | Mounting                                       | Rail DIN 35                                               |                 |
|             | N° of DIN modules                              | 2                                                         | 3               |
|             | Standards                                      | 2014/35/UE (LVD)<br>2014/30/UE (EMC)<br>2011/65/UE (RoHS) |                 |
| OVERVOLTAGE | Dimensions (width x height x depth)            | 36 x 90 x 69 mm                                           | 54 x 90 x 69 mm |
|             | Average weight approx.                         | 255 g                                                     | 295 g           |
|             | Level protection $U_p$                         | ≤2.8 kV                                                   | ≤5.2 kV         |
|             | Maximum discharge current (8/20μs) $I_{max}$   | 40 kA                                                     |                 |
|             | Rated discharge current (8/20μs) $I_n$         | 20 kA                                                     |                 |
|             | Lightning impulse current (10/350us) $I_{imp}$ | 5 kA                                                      |                 |
|             | Overvoltage response time                      | ≤25 ns                                                    |                 |
|             | Type                                           | 2                                                         |                 |
|             | Product standards                              | IEC/EN 61643-11                                           |                 |

## ○ Description

This series of protectors for photovoltaic systems has been developed to protect against discharges and overvoltages caused by lightning strikes on the DC side of these systems.

The protection consists of two or three stages of varistors equipped with thermal disconnectors that indicate the failure of the element through a viewing window. It has a remote output (indication contact).

## ○ Operation

In the event of a transient overvoltage, the equipment absorbs it, preventing any damage to the devices connected to the network.

If, due to an overvoltage, the protection becomes inoperative, the equipment will show the indicator window in red. In such case, the protection module will have become unusable and must be replaced by another one (plug-in: easy replacement).

Check the standards that our products comply with and download their declaration of conformity at:  
**[toscano.es/standards](http://toscano.es/standards)**

