



# ***SUP303***

## **PROFIBUS-DP**

**PROFIBUS-DP TRANSIENT SUPPRESSOR  
AND ANTI-SURGE**

- The SUP303 is a protective device against transients and surges in PROFIBUS-DP networks
- Easy to install on DIN rail, it can be connected on every network segment or node. It guarantees the integrity of Profibus signals against lightning, transients or voltage peaks
- Whenever the effective distance is longer than 50m on the horizontal, or 10m on the vertical between two grounded points, the use of SUP303 is recommended at both points
- In networks with high susceptibility to noises the SUP303 is recommended
- Works at 9.6 kbits/s to 12 Mbits/s
- Increases the Profibus network operational safety
- Increases Profibus network availability
- Can be used with Modbus 485



**Modbus**

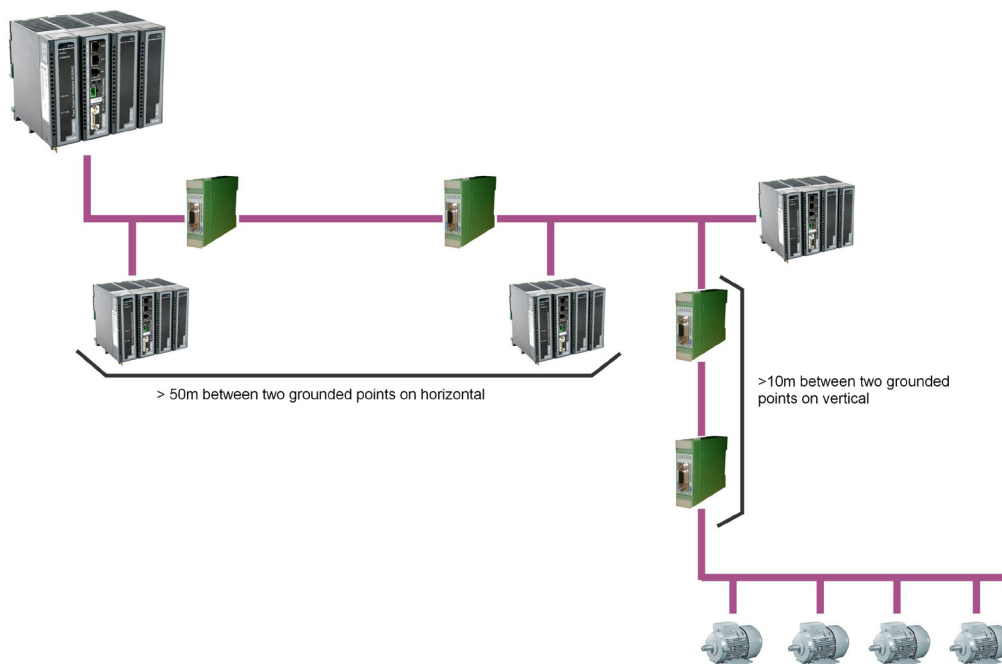
**smar**

The SUP303 has advanced technology for protection in three stages. Its advanced components work in peaks of high voltage and short duration, high current, high voltage, low impedance with fast response and effective protection against ESD and EMI. The SUP303 circuits were developed to provide effective and coordinate protection in reaction to a transitory at the PROFIBUS-DP port. The primary stage protects from the exposition to an excess of transitory voltage, at a lower level. When the current transient exceeds the trigger limit, the second stage responds in microseconds, thus limiting the current. The third stage keeps the voltage within the PROFIBUS-DP drive limits.

## Application

Whenever the effective distance is longer than 50m on the horizontal, or 10m on the vertical between two grounded points, the use of SUP303 is recommended at both points.

### Application - Effective Distance



## Technical Specifications

Function Specifications	
<b>Communication</b>	All variants of PROFIBUS RS-485: (DP, DP-V1, DP-V2, PROFIdrive, MPI, etc.)
<b>Standard</b>	Compliant with PROFIBUS EN50170 standard IEC61000-4-2 (ESD) IEC61000-4-4 (EFT) IEC61000-4-5 (Surge)
<b>Communication rates (kbps)</b>	9.6; 19.2; 45.45; 93.75; 187.5; 500; 1500; 3000; 6000 and 12000 (see note 1)
<b>Typical Capacitance</b>	0,5 nF
<b>Cable</b>	Type A - compliant with EN50170
<b>Protection Degree</b>	IP-20 (DIN EN 60529 VDE 0470)
<b>Wiring</b>	Cable up to 2.5mm <sup>2</sup> with connectors fixed with screws

Note 1: The amount of SUP303 to be connected in the line depends on the capacitance network.

Protection		
Protection Levels	Transient	Protection Level
	ESD (IEC61000-4-2)	Level 4 - 8kV (contact)/ 15kV (air)
	Surge (IEC61000-4-5)	Class 3 - 25 A
	EFT (IEC61000-4-4)	Level 3 - 1 kV
	Power Cross	28 Vrms & 120Vrms
Work Direction	Line-Line and Line-Ground	
Time to block	≤ 500 ns	

ESD: Electrostatic discharge; EFT: Electrical Fast Transient; Power Cross - via AC Power Supply

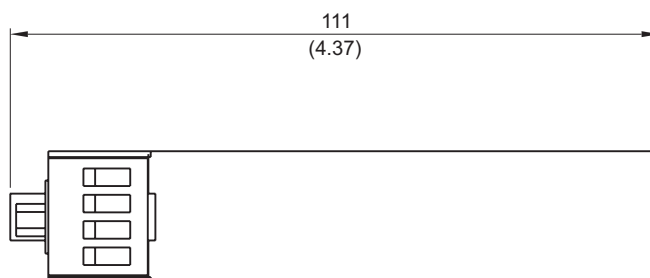
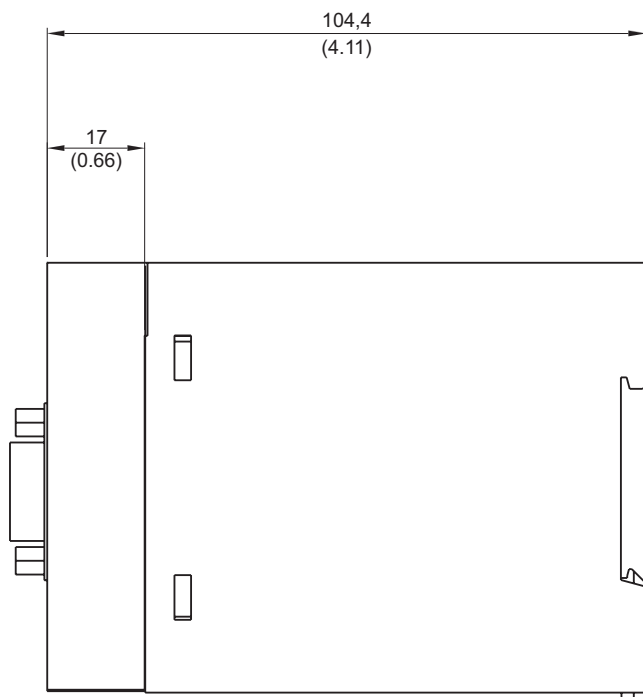
Environment Conditions	
Operation temperature	0 to 60 °C
Humidity	Up to 90%

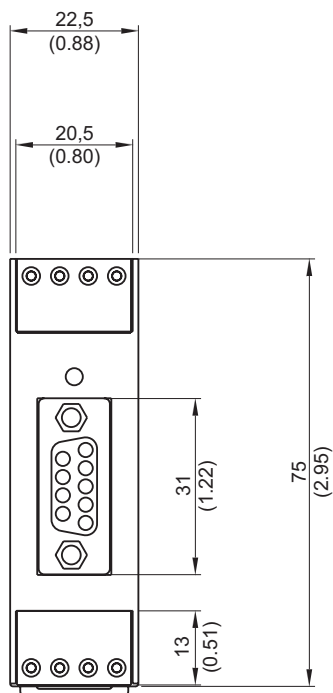
Dimensions and Weight	
Dimensions	75.0 x 22.5 x 104.4 (Height x Width x Depth)
Weight	90 g

Mounting	
Support	DIN35 rail (DIN EN 60715 TH35)

## Dimensional Drawings

The dimensions are in millimeters and in brackets for inches.

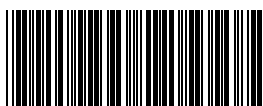




**smar**  
www.smar.com

Specifications and information are subject to change without notice.  
Up-to-date address information is available on our website.

web: [www.smar.com/contactus.asp](http://www.smar.com/contactus.asp)



SUP303CE