



Features

- Excellent three-stage, transient surge protection
- Tolerates up to 10 kA surge currents
- Provides additional filtering for blocking the HF-conducted interference
- Both differential and common mode protection on each channel
- 2 power and 2 data channels
- Protects the USB connection of a PC connected to Vaisala Weather Transmitter WXT530 Series

Vaisala Surge Protector WSP152 is a compact transient overvoltage suppressor designed for the protection of the USB connection of a computer connected to Vaisala WXT530.

Excellent Protection

WSP152 is designed to protect the host PC against surges entering through the USB port. For example, a nearby lightning strike may induce a high-voltage surge, which is not tolerated by the protection of the USB cable or the port itself. Therefore, additional protection is needed, especially where frequent and severe thunderstorms are common and where cables longer than 30 m (98 ft 5 in) are used. Note that the USB connection of a PC is for indoor use only.

WSP152 offers three-stage protection against surge currents of up to 10 kA that may enter through the USB cable or the port.

How Does WSP152 Work?

WSP152 has 4 channels, 2 dedicated to power lines and 2 for data lines. Each channel uses a three-stage protection scheme: first there are discharge tubes, then voltage dependent resistors (VDR), and finally transient zener diodes. Between each stage, there are either series inductors or resistors.

Both differential and common mode protection is provided for each channel: across the wire pairs, against the operating voltage ground, and against earth.

WSP152 also includes noise filtering against HF and RF interference.

Applications

Vaisala recommends using WSP152 when USB cables are used for permanent connections. The surge protector is always recommended when there is an elevated risk of a lightning strike.

Technical Data

Operating Environment

Operating temperature	-52 ... +70 °C (-60 ... +158 °F)
Storage temperature	-52 ... +70 °C (-60 ... +158 °F)
Installation temperature	-40 ... +70 °C (-40 ... +158 °F)
Maintenance work temperature	-40 ... +70 °C (-40 ... +158 °F)

Inputs and Outputs

Input voltage ¹⁾	Power channels: max. ±43 V Data channels: max. ±13 V
Input common mode voltage	Any line to earth: max. ±72 V
Throughput current	Power lines: max. 1.5 A Data lines: max. 0.16 A
Throughput resistance (per line)	Power lines: max. 0.3 Ω Data lines: max. 15 Ω
Turn-on voltage	Power channels: max. ±60 V Data channels: max. ±16 V
Surge current	To earth: max. 10 kA Differential: max. 5 kA

¹⁾ Across channel line pair and from line to GND, terminals #3

Mechanical Specifications

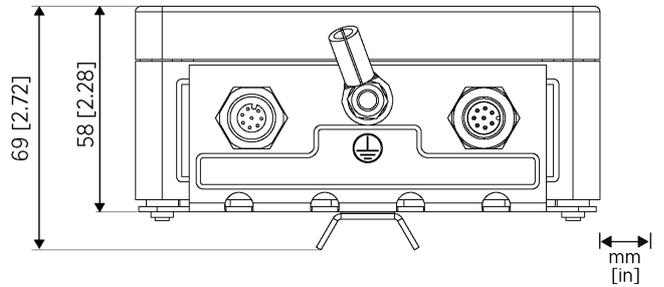
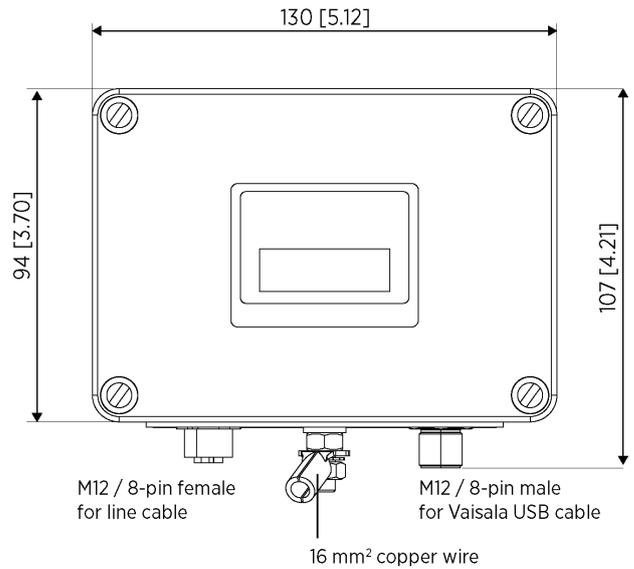
Weight	0.65 kg (1.43 lb)
Housing material	Polycarbonate, stainless steel
Housing dimensions (H × W × D)	94 × 130 × 58 mm (3.7 × 5.12 × 2.28 in)
Dimensions with cable glands and mounting assembly (H × W × D)	112 × 130 × 69 mm (4.41 × 5.12 × 2.72 in)
Cables (Ø)	4 ... 8 mm (0.16 ... 0.31 in)
Wires (Ø)	0.4 ... 1.7 mm (0.016 ... 0.067 in) (AWG 26 ... 14)

Compliance

EMC surge tolerance	EN 61000-4-5 (4 kV, 2 kA) IEEE C62.45 (6 kV, 3 kA)
IP rating	IP66 (NEMA 4X)

Accessories

Description	Order code
WXT530 Cable 10 m, connectors on both ends	215952
Vaisala USB Cable 1.4 m	220782



Dimensions in mm [in]



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