

# WSP152 Surge Protector



*WSP152 for the protection of a PC's USB connection.*

## Features/Benefits

- Excellent three-stage, transient surge protection
- Tolerates up to 10 kA surge currents
- Noise filtering against HF and RF interference
- Both differential and common mode protection on each channel
- 2 power and 2 data channels
- Especially designed to protect the USB connection of a PC connected to the Vaisala Weather Transmitter WXT520 or Vaisala WINDCAP<sup>®</sup> Ultrasonic Wind Sensor WMT52

## WSP152

The Vaisala Surge Protector WSP152 is a compact transient overvoltage suppressor designed for the protection of the USB connection of a PC connected to the Vaisala WXT520 or WMT52.

## Excellent protection

The 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 long cables of more than 30 m are used. Please note that the USB connection of a PC is for indoor use only.

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

## How does WSP152 work?

The WSP152 has four channels, two of which are dedicated to power lines and two for data lines. Each channel uses a three-stage protection scheme as follows: 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.

The WSP152 also includes noise filtering against HF and RF interference.

## Applications

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



# Technical Data

## Maximum characteristics

Input voltage (across channel line pair and from line to GND, terminals #3)	
power channels	max. $\pm 43$ V
data channels	max. $\pm 13$ V
Input common mode voltage any line to earth	max. $\pm 72$ V
Throughput current	
power lines	max. 1.5 A
data lines	max. 0.16 A
Throughput resistance (per line)	
power lines	0.3 ohms
data lines	15 ohms
Turn-on voltage	
power channels	max. $\pm 60$ V
data channels	max. $\pm 16$ V
Surge current	
to earth	max. 10 kA
differential	max. 5 kA
EMC surge tolerance	EN 61000-4-5, (4 kV, 2kA) IEEE C62.45 (6 kV, 3 kA)

## General

Operating and storage temperature	-52 ... +70 °C (-60 ... +158 °F)
Installation and maintenance work temperature	-40 ... +70 °C (-40 ... +158 °F)
Dimensions	
housing (w x h x d)	130 x 94 x 58 mm
with connectors and mounting assembly	130 x 120 x 69 mm
cables	$\varnothing 4 \dots 8$ mm
wires	$\varnothing 0.4 \dots 1.7$ mm (AWG 26 ... 14)
Housing material	polycarbonate, stainless steel
Weight	0.65 kg

**WSP152 can be used with a PC connected to, for example, the following Vaisala instruments:**

WXT520  
WMT52

## Dimensions

Dimensions in cm (inches)

