

# WSP150 Surge Protector



## Features/Benefits

- Superior three-stage, transient surge protection
- Tolerates up to 10 kA surge currents
- Noise filtering against HF and RF interference
- Robust structure, IP66 housing
- Both differential and common mode protection on each channel
- 2 power and 2 data channels
- Can be used with all Vaisala wind and weather instruments
- Applications: mast installations of weather measurement networks, MET stations in wind parks

*WSP150 - powerful technology in a compact size.*

## WSP150

The Vaisala Surge Protector WSP150 is a compact transient overvoltage suppressor designed for outdoor use. It can be used with all Vaisala wind and weather instruments.

### Superior protection

A lightning strike nearby may induce a high voltage surge, which the integral transient suppressor of the instrument may not tolerate. Therefore, additional protection is needed, especially where frequent and severe thunderstorms are common and where long cables of more than 30 m are used.

The WSP150 offers three-stage protection against surge currents up to 10 kA entering through the power and signal cables.

### Powerful technology

The WSP150 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 the earth.

The WSP150 also includes noise filtering against HF and RF interference.

### Applications

Vaisala recommends using the WSP150 when wind and weather instruments are installed on top of high buildings or masts and in open grounds, that is, anywhere with an elevated risk of lightning.

Also use the WSP150 if your cable length exceeds 30 m or you have unshielded, open-wire lines.



# 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)
Environmental protection class	IP66 (NEMA 4X)
Dimensions	
housing (w x h x d)	130 x 94 x 58 mm
with cable glands and mounting assembly	130 x 120 x 69 mm
cables	$\varnothing$ 4 ... 8 mm
wires	$\varnothing$ 0.4 ... 1.7 mm (AWG 26 ... 14)
Housing material	polycarbonate, stainless steel

**WSP150 can be used with, for example, the following Vaisala instruments:**

WXT510  
WMT50  
WM30  
WS425  
WA15 + WAC151/WAC155/WAT12  
WA25 + WAC151/WAC155/WAT12

## Dimensions

