



Features

- Converts the digital data supplied by Vaisala Wind Set WA15 and Vaisala Wind Set WA25 into two industry standard analog current loops: one for speed, the other for direction
- Selectable loop current
- Suitable for nearly any input type
- Wide range of input power
- Provides the sensors with a throughput for optional heating power

WAT12 is designed to convert the wind speed and direction data measured by WA15 or WA25 into two analog current loop signals.

Vaisala Analog Wind Transmitter WAT12 is an economic solution to a standard interface between Vaisala wind sensors and analog panel meters, chart recorders, digital LCD or LED displays, data loggers, computers with analog inputs, or other instruments with an analog input interface. The transmitter converts the wind speed and direction data measured by either Vaisala Wind Set WA15 or Vaisala Wind Set WA25 into two analog current loop signals, respectively. The power to the sensors is also supplied through the WAT12 unit. WAT12 consists of a PC board unit in a junction box and a cross arm for mounting the wind sensors. A 4-wire cable for the wind speed and direction signals and power supply is needed between the transmitter and the receiving end.

User-selectable Loop Current

Several loop current ranges are available, such as 4 ... 20 mA, 0 ... 10 mA, and 1 ... 5 mA. The loops are supplied by high-side drivers with a return to the signal and power ground. Nearly any input type can be driven.

The transmitter accepts a wide range of input power, from 12 to 28 VDC. With 5 mA loop current selected, the total current consumed is less than 40 mA (including the sensors and the loop current). This makes it possible to remotely supply the operating power from a distance of several kilometers, even through private or leased telephone lines.

Optional Heating Power

WAT12 also provides the sensors for throughput of optional heating power. The heating power connection, if required, needs an extra pair of wires. Since the heating elements typically consume about 500 mA, the heating power is most conveniently supplied from a local power source. An optional thermostat switch is available for automatic connection of heating power in temperatures below +4 °C (+39.2 °F).

Technical Data

Operating Environment

Operating temperature	-55 ... +55 °C (-67 ... +131 °F)
Storage temperature	-60 ... +70 °C (-76 ... +158 °F)
Operating humidity	0 ... 100 %RH

Inputs and Outputs

Input operating power	12 ... 28 VDC, 30 mA
Output sensor power	On-board regulated to 10.7 VDC typically

Signal Input from Sensors

Wind direction	6-bit parallel GRAY code (optionally 7 bits)
Wind speed	Pulse frequency 0 ... 750 Hz

Output Signals

2 analog current loops	1 for direction, 1 for speed
Highside drivers; the loops return to the common signal and power ground	
Typical loop driving voltage	10 V
Output accuracy	> 1 % of full scale
Loop current options (jumper selectable)	0 ... 5 mA 1 ... 5 mA 0 ... 10 mA 2 ... 10 mA 0 ... 20 mA 4 ... 20 mA
Max. loop resistance (including cable resistance and receiver's input resistance)	5 mA loop: 1800 Ω 10 mA loop: 900 Ω 20 mA loop: 450 Ω
Full-scale options (jumper selectable)	For direction: 0 ... 360° / 0 ... 540° For speed: 0 ... 51.2 m/s (0 ... 115 mph) / 0 ... 76.8 m/s (0 ... 172 mph)
Signal cable	Min. 4 wires (Vin+, Vin-, DOP, SOP)

Mechanical Specifications

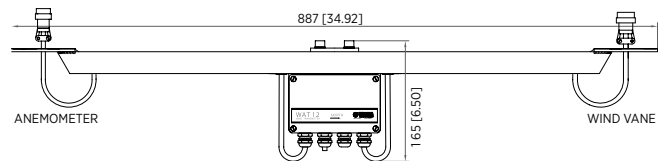
EMC compliance	EN 61326-1, Basic electromagnetic environment
Mounting	To Ø 60 mm (2.36 in) pole mast
Weight	1.5 kg (3.31 lb)

Dimensions

PC board	114 × 69 mm (4.49 × 2.72 mm)
Junction box (H × W × D)	80 × 125 × 57 mm (3.15 × 4.92 × 2.24 in)
Cross arm length	800 mm (31.50 in)

Materials

Cross arm	Anodized aluminum
Junction box	Aluminum, painted grey



Dimensions in mm (inches)



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