

Wind Gauges WNZ, WN, WMSC with Serial Interface



Triple component wind gauge WNZ



Dual component wind gauge WN



Cup anemometer WMSC

Our wind gauges WN and WNZ measure the east/west and north/south wind components which allows calculation of horizontal wind velocity. The WNZ model measures the vertical component as well. WMSC is a high-quality cup anemometer suitable for applications where the wind speed but not its direction is of interest. As the propellers or cups revolve, the rate of rotation is measured using high frequency initiators which allow operation without direct contact, free from feedback effects. As a result, the sensors react very well to the slightest air movements.

The bearings and sensor electronics are heated to prevent condensation and freezing of the mechanism.

Both the mechanical and electronic plug-in units can easily be assembled. This is especially advantageous when using the sensors in exposed locations. All the components are made from stainless steel or plastic.

Both sensors are mounted on an approx. 1.2 m-high tubular mast. The connection box is mounted at the base of the mast. This box contains electronics, the thermostat and lightning protection circuits.

The wind gauges are protected against the effects of lightning and power surges.

The output signal is connected with a watertight plug.

Data Processing and Interface to Data Collecting Unit (PC)

This series of wind gauges includes a microprocessor, which processes the sensor's pulses and calculates wind speed and direction.

Depending on the type of calculation, the wind gauges can store up to 4000 data sets.

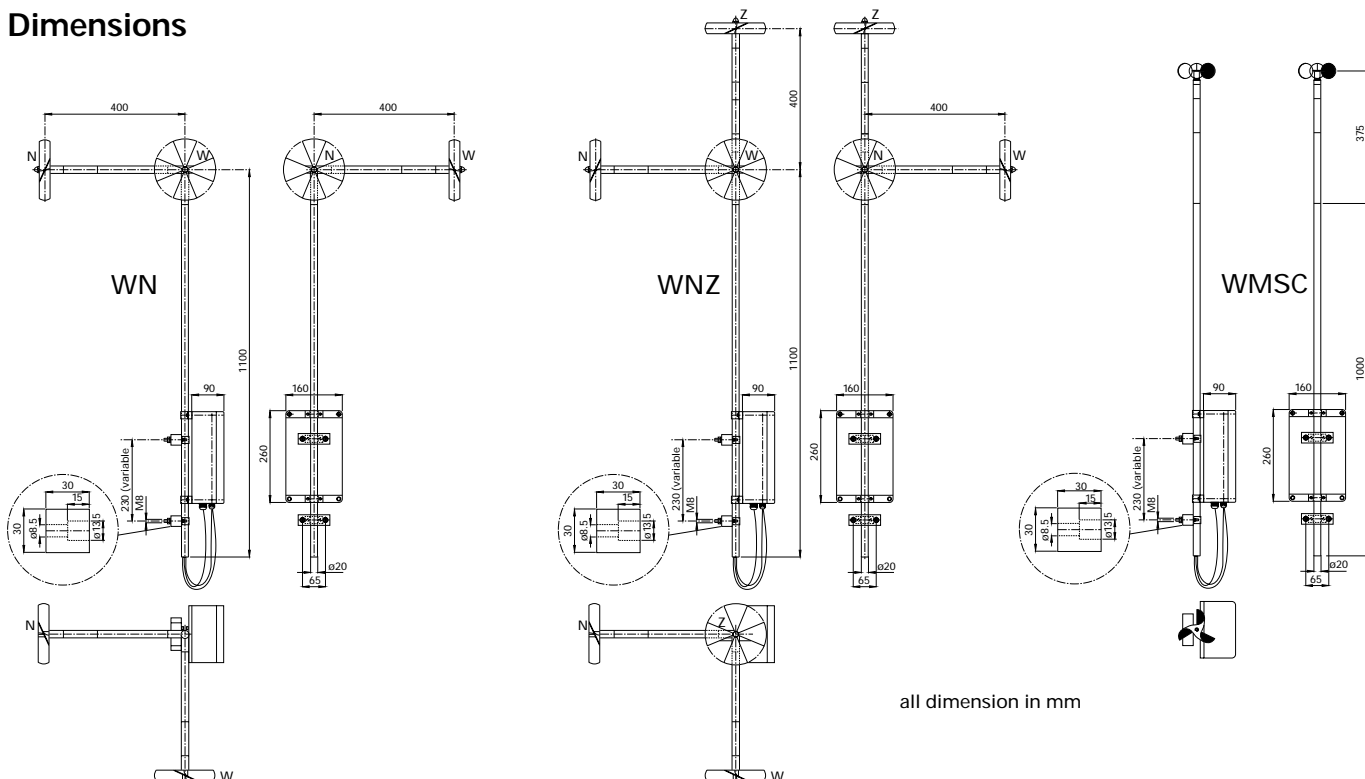
The wind gauges can be controlled and configured over the serial interface (RS232 or RS485). It is possible to build a multipoint connection between several wind gauges, other Meteolabor instruments and one data collecting unit (PC).

Technical Data

	WNZ	WN	WMSC
Resolution	0.100 m/s	0.100 m/s	0.22 m/s
Response distance (0 → 5m/s)	2.0 m	2.0 m	18 / 22 m*
Threshold	0.1 m/s	0.1 m/s	0.1 m/s
Accuracy	3%	3%	5 %
Max. wind speed	35 m/s	35 m/s	70 m/s
Average horizontal scalar wind speed	Yes	Yes	Yes
Average horizontal vector wind velocity	Yes	Yes	No
Average horizontal wind direction	Yes	Yes	No
Horizontal wind peak	Yes	Yes	No
Average vertical wind velocity	Yes	No	No
Vertical wind peak	Yes	No	No
Components (north, east, zenith)	All	North, east	No
Power supply			
DC voltage for electronics	12 V (+4 / -1 V)	12 V (+4 / -1 V)	12 V (+4 / -1 V)
DC current for electronics	approx. 150 mA	approx. 150 mA	approx. 150 mA
Heater voltage	48 V AC	48 V AC	48 V AC
Heater current	0.2 A	0.2 A	0.2 A
Weight	7 kg	5 kg	6 kg
Temperature range	-40 ... +50 °C		
Connecting cable	10 poles ≥ 0.14 mm ² (shielded)		
Max. cable length	300 m		
Interface to data collecting unit	RS232 or RS485 (2400 bps fix)		
Memory	Approx. 4000 depends on calculation		
Intervalls	1, 2, 5, 10, 15, 20, 30, 60 minutes		
Miscellaneous	- Internal real time clock - Status information - Programmable sensor address - Configuration in EEPROM		

* 18 m for an increase in wind speed, 22 m for a decrease

Dimensions



Ordering information

Wind gauge WNZ-RS232
 Wind gauge WN-RS232
 Wind gauge WMSC-RS232

Wind gauge WNZ-RS485
 Wind gauge WN-RS485
 Wind gauge WMSC-RS485

Spareparts

Propeller (WNZ, WN)
 Anemometer head (WMSC)
 Head bearing (1 per component)
 Replacement electronics (1 per component)

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