AR200 / WS200

Compact Wind Sensors (Ultrasonic Anemometers)

Meteorology | Agrometeorology | Wind

General Description

The ultrasonic anemometers AR200 and WS200 provide **precise and maintenance-free measurement of wind speed and wind direction**. The compact devices are designed for applications in hydrology, meteorology and other weather-dependent applications where durability, precision and operations in different moderate climatic conditions are required.

The sensors are designed and developed with **corrosion-resistant durable materials** and with a solid structure. They are maintenance-free with no moving parts, light-weight and cost-effective for durable measuring performance. The devices are easy to use, install and integrate into 3rd party systems.

The sensors have been tested and approved against following environment conditions:

- High and low temperature ranges
- Humid weather (humidity and ingress protection)
- Windy and coastal environments (vibration and salt spray sustainability)

Applications

The anemometers are especially suitable for applications in

- Automatic weather stations according to WMO No8
- Hydrometerorology and climatology
- Ship navigation, coastal and marine environments
- Wind power industry
- Container ports / wharves
- Electric power transmission stations
- Road weather monitoring, infrastructure, airports, bridges, tunnels, photovoltaic farms
- Urban environment monitoring, smart cities, municipalities
- Agrimeteorology
- Building automation

Features

- Measuring interval 4 Hz and gust according WMO guideline No8
- Output of current value as “3 seconds gliding mean value“
- Wind speed measurement up to 60 m/s (AR200) or up to 75 m/s (AR200P-H), or up to 45 m/s (WS200)
- Durable materials: teflon coated aluminum alloy (AR200), polycarbonate (WS200)
- Low power consumption
- No moving parts and maintenance-free
- High accuracy
- Optional heating (AR200P-H only)
- Low costs of installation and total costs of ownership

- Universal and selectable interfaces and protocols such as SDI-12 or RS 485
- M12 connector and cable
- Metric and imperial units
- Extended version AR200 E-H with wind speed up to 75 m/s, heater and electronic compass

Related Product: WeatherSens

The WeatherSens compact weather sensors measure up to 6 parameters out of the following: wind speed, wind direction, temperature, humidity, air-pressure and radiation.

Please ask for details.

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Technical Specifications

Type	AR200	AR200P-H	WS200
			
Wind Speed Measurement	Ultrasonic Range: 0 to 60 m/s Accuracy: ±0.3 m/s or 3 % Resolution: 0.1 m/s	Ultrasonic extended range wind speed (75 m/s and heater) Accuracy: ±0.3 m/s or 3 % Resolution: 0.1 m/s	Ultrasonic Range: 0 to 45 m/s Accuracy: ±0.3 m/s or 3 % Resolution: 0.1 m/s
Wind Direction Measurement	Ultrasonic Range: 0 to 359.9° Accuracy: ±3° Resolution 0.1°	Ultrasonic Range: 0 to 359.9° Accuracy: ±3° Resolution 0.1°	Ultrasonic Range: 0 to 359.9° Accuracy: ±3° Resolution 0.1°
Material	Aluminum with teflon coating	Aluminum with teflon coating	Polycarbonate
Dimensions and weight	H 94 x ∅ 160 mm (H 3.7 in x ∅ 6.3 in), 1.1 kg	H 94 x ∅ 160 mm (H 3.7 in x ∅ 6.3 in), 1.1 kg	H 152 x ∅ 126 mm (H 6 in x ∅ 5 in), 0.5 kg
Power Consumption	20 mA @ 12 VDC	20 mA @ 12 VDC	20 mA @ 12 VDC
Operating Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Heater	-	1A@24 VDC or 24 Watt	-
Temperature Control Range (Heater)	-	-10 °C to +4 °C	-
IP Class	IP66	IP66	IP66
Interfaces	SDI-12 (default) / RS 485 (selectable)		
Protocols	SDI-12 V 1.3 (default) / RS 485 (MODBUS-RTU, ASCII, NMEA 0183, UMB)		
Operating Temperature and Humidity	-40 to +70 °C; 5 % to 100 % RH (without snow cumulation and/or ice accretion)		
Connector and Cable	Connector M12-8pol; Cable PUR 10 m (other lengths on request)		

Accessories

M12 cable: 10 m / 8-pol (sensor)
Poles: with 2" or 50 mm outer diameter for 2 m or 3.5 m measuring height

iRIS dataloggers and data modems:
- robust housing
- IP over one or two channels of your choice: xG / GPRS, satellite, IoT
- I/O: analog, digital, SDI-12, Modbus
- iLink software
- Telemetry or cloud app

Please ask for details.

Reseller

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