

## Weather Station Saturne-IND



### Features

- \* Integrated weather station for wind speed, wind direction, air temperature, barometric pressure, relative humidity with no moving parts technology
- \* Maintenance-free measuring element with permanent air density compensation
- \* Operation under severe climatologically conditions and wind speed up to 80 m/s
- \* Solid-state controlled sensor heating device to prevent icing (optional)
- \* Simple installation on a 50 mm standard pipe and central plug connector
- \* Operational condition from  $-40\text{ }^{\circ}\text{C}$  to  $+70\text{ }^{\circ}\text{C}$
- \* Rugged and corrosion-free housing with integrated plug connector
- \* Serial interface RS485
- \* MTBF of 10 years
- \* Automatic cyclic self-testing and reporting

### Applications

- \* The Saturne-IND is especially designed for operating under severe conditions and wind speed up to 80 m/s

### Standards

- \* Standard of construction: VDE 100
- \* Low voltage guideline: 73/23 EWG and VDE 100
- \* EMV: DIN EN 50081-1  
VG 95373  
EC 630004-3,-6
- \* ESD / Burst: EC 630004-2,-4
- \* Vibration: BV 0440, diagram 1,8,9
- \* Shock resistance: BV 0430, diagram 3
- \* Salt spray test: MIL STD 810 D
- \* Class protection: IP 67
- \* Message format: HEX or NMEA 0183
- \* Interface: RS485 (EIA standard)

## Technical Data & Dimensions

### General

Operation temperature range	-40 °C to +70 °C
Storage temperature	-50 °C to +90 °C
Interface	RS485
Power supply	12 or 24 VDC / 15 Watt
Isolation voltage	500 VDC

### Measurement Specifications

#### Wind speed

Range	0...80 m/s
Accuracy (RMS)	0.5 m/s $\pm 5$ % of actual wind
Resolution	0.1 m/s

#### Wind Direction

Azimuth	0...360° (no electrical gap)
Accuracy (RMS)	$\pm 3^\circ$
Resolution	1°

#### Air Temperature

Range	-40...70 °C
Accuracy (RMS)	$\pm 1^\circ\text{C}$ at wind speed $\geq 2\text{m/s}$
Resolution	0.1°C

#### Barometric Pressure

Range	600...1100 mbar
Accuracy (RMS)	$\pm 1.5\text{mbar}$ at 20°C $\pm 3\text{ mbar}$ , -40°C to +70°C
Resolution	0.1 mbar

#### Relative Humidity

Range	0...100 %
Accuracy (RMS)	$\pm 3$ % at 20...80 % $\pm 4$ % for <20 % and >80 %
Resolution	0.1 %

### Option

#### Heating

Power supply	24 VDC / 100 Watt
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#### Dew Point

Range	Calculated from air temp. and relative humidity
Resolution	0.1 °C

#### Analog Input

Range	0...10 VDC
Resolution	2.44 mV

#### Digital Counter

Range	16-bit counter
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### Mechanical

Class of protection:	IP 67
Height:	3050 mm
Diameter:	105 mm
Weight:	2.0 Kg
Mast adapter:	51 mm

Note: See also mechanical drawings for installation

### Accessory (not included)

Mating connector for cable

### Version

#### Saturne-IND

Compact and robust weather station for wind speed, wind direction, air temperature, barometric pressure and relative humidity, with serial interface RS485

#### Saturne-INDH

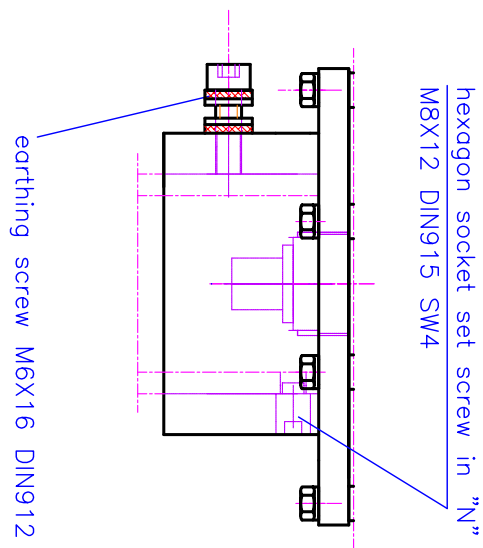
Heated, compact and robust weather station for wind speed, wind direction, air temperature, barometric pressure and relative humidity, with serial interface RS485

#### Note:

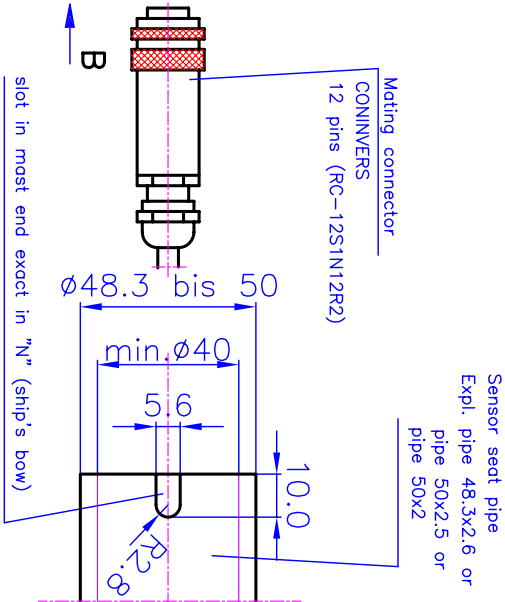
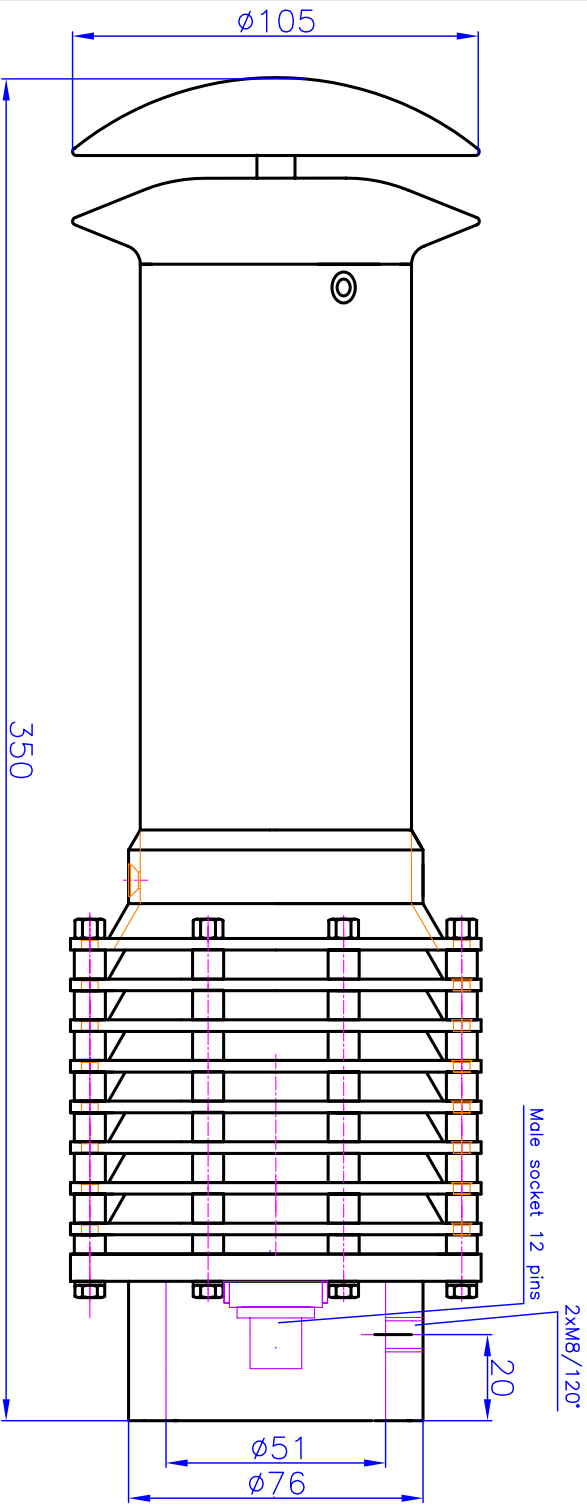
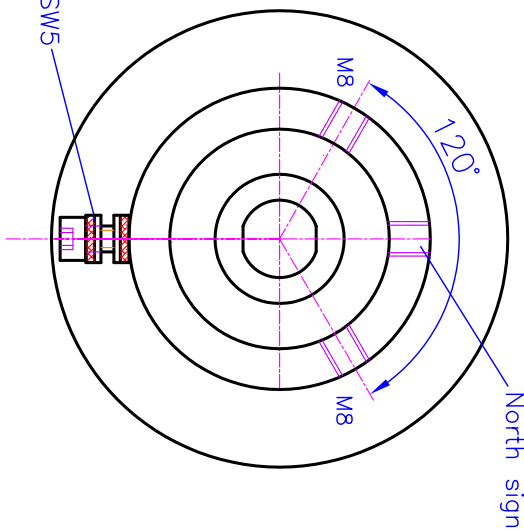
For dew point, analog input and digital counter, please specify in the request

The standard communication protocol is in HEX, but it is also available in NMEA 0183 (send us a request for detail about communication protocol)

View from A



View from B



A

B

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