

Ultrasonic Anemometer Thies 2D Compact

S81100H

- Wind speed & direction and acoustic-virtual temperature
- Orthogonal wind speed vectors (X- and Y-distance)
- Scalar/vectorial wind speed, wind direction
- Acoustic-virtual temperature
- NMEA data protocol
- ASCII THIES FORMAT
- Analog data

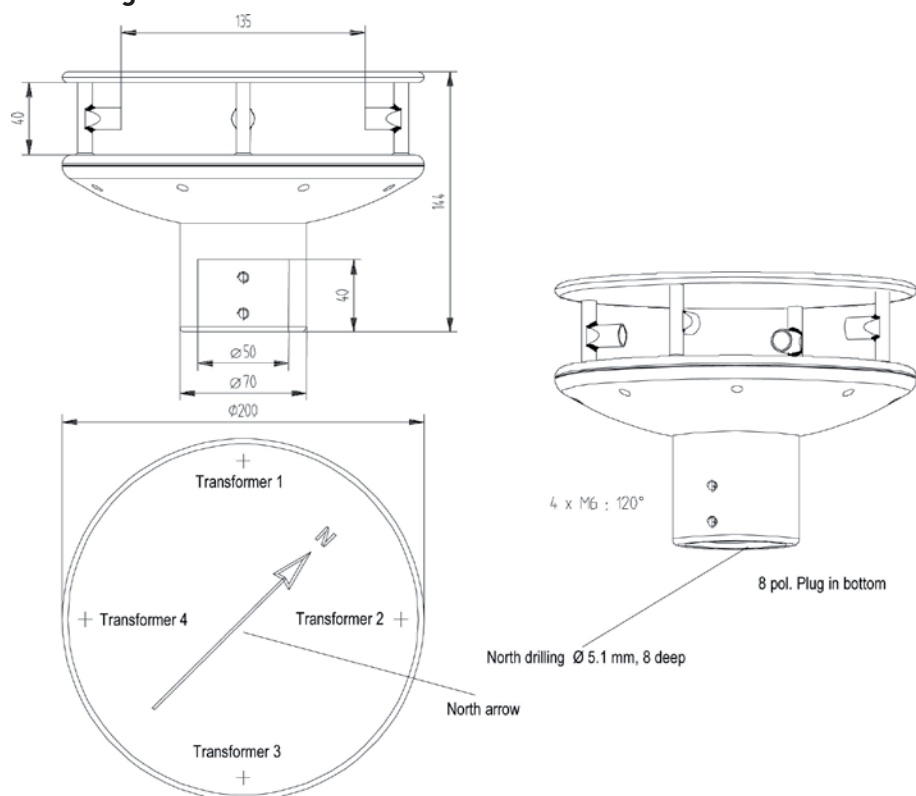


Description

The measurement principle allows, compared to the classic anemometers, an inertia-free measurement of running variable dimensions with highest precision and accuracy. The measuring values can be output digitally and/or in analog form. The serial or analogue output of the data is carried out alternatively as instantaneous value or as gliding mean value with selectable time frame.

If necessary, the instrument is automatically heated in case of critical ambient temperatures. The possibility of malfunction, caused by icing, is minimized. The sensor arms and the ultrasonic sensors are heated.

Dimensional drawing



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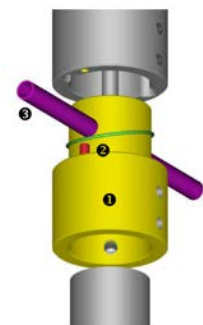
Specifications

Wind Speed	
Measuring range	0 ... 65 m/s
Resolution	0.1 m/s (standard); < 0.1 m/s (user-defined)
Accuracy	≤ 5 m/s: ± 0.2 m/s; > 5 m/s: ± 2% of meas. value
Wind Direction	
Measuring range	0 ... 360°
Resolution	1° (standard), < 1° (user-defined)
Accuracy	± 2° with wind speed > 1 m/s
Virtual Temperature	
Measuring range	-50 ... +70°C
Accuracy	± 2 K
Data Output Digital	
Interface	RS485 / RS422
Baud rate	1200 to 921600
Output	Instantaneous values, mean values
Output rate	1 per 10 msec to 1 per 10 sec
Status signal	Heating, distance errors, distance temperature
Data Output Analog	
Electr. output	0 ... 20 mA / 0 ... 10 V or 4 ... 20 mA / 2 ... 10 V
Load	current output: max. 300 Ω voltage output: min. 2000 Ω
Resolution	16 bit
General	
Bus operation	Up to 99 instruments
Operating voltage	Power supply electronics: 8 V to 36 VDC or 24 VAC / 1.2 VA Power supply electronics + heating: 24 V AC/DC, max. 250 VA
EMC	EN 61326, 61000-6-2, 61000-6-3
Electr. Connection	8-pole plug
Manufacturer	Thies
Ammonit Meteo-40	RS485-M (Half duplex, 2-wire, baudrate: 38400 bps)
Accessory	Module set M83575 (incl. isolated repeater)

Alignment to north with North ring adapter (S83010)

We recommend installing a North ring adapter (1; yellow), which assists aligning the sensor correctly and avoids re-alignment after sensor replacement.

The North ring adapter is installed between sensor and boom. It is equipped with a north pin (2; red) and a direction bearing tube (3; violet). By selecting a fixed point in north direction, the adapter can easily be aligned and fixed with screws on the boom. Remove the tube and place the sensor on the adapter. The sensor is mounted with its north drilling on the north pin of the adapter and screwed in place.



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Connector Pin Assignment (Serial interface, half-duplex and analog outputs)

Plug Pin No.	Ammonit Wire Color	Allocation	Function	Solder terminal of coupling socket
1		WG*	Analog output wind speed	
2	brown	TXD- / RXD-	Serial interface	
3	green	ADIO (Analog Digital Input Output)**	Function configurable	
4		WR*	Analog output wind direction	
5	white	TXD+ / RXD+	Serial interface	
6	yellow	AGND	Analog ground	
7	red/pink	AC/DC	Supply, reverse-polarity protected	
8	blue/grey	AC/DC	Supply, reverse-polarity protected	

* If configured by Ammonit, Pin not used.

** Pin configured for analog output of wind speed. OR If heating is managed by the Meteo-40 data logger, Pin 3 is configured to switch the sensor heating.

Cable type (without heating): LiYCY 4 x 2 x 0.25 mm²

Sensor Connection to Ammonit Meteo-40 Data Loggers

In order to connect the Ultrasonic sensor to the Ammonit Meteo-40 data logger, an additional module set (M83555 or M83575) has to be installed between sensor and data logger.

