



The economical alternative for the acquisition of meteorological measuring data.

- Wind velocity
- Wind direction
- Precipitation
- Brightness
- Air temperature
- rel. Air humidity
- Air pressure
- GPS receiver
- Magnetic compass

CLIMA SENSOR US

The Clima Sensor US acquires the most important meteorological data with high precision in only one instrument.

The Clima Sensor US measures up to 10 meteorological parameters (s. figure), depending on model available. On this basis diverse derived measures are calculated in addition, such as:

- Wind chill temperature,
- Heat index temperature,
- Absolute humidity,
- Dew point temperature.

An integrated GPS sensor serves for the position determination and as real time source. With this information the air pressure on sea level can be corrected, and the current sun position can be calculated.

A version with integrated magnetic compass calculates the aspecular angle of the sensor to the magnetic north pole, and thus can be used for the automatic north correction of the wind direction, and the brightness.

Models available

The Clima Sensor US can be delivered in four basic variants. The measurements of the wind speed and wind direction are standard.

The instruments are equipped with a 19-pole plug, which leads through, among others, the signals of the analogue outputs, and serial interface.

An integrated boot loader offers the option to simply update also future innovation, via the serial interface in full-duplex mode (4-wire cable, RS422/455) as well as in half-duplex mode (2-wire cable, RS422/455)

8 analogue output channels (0 ... 10 V) are available, 5 channels of them can alternatively be configured universally.

Field of application

The compact design, the easy installation, and the flexible data output are the basis for the application in many fields of the meteorological data acquisition.

The data output of the measuring values as analogue standard signal and/or MODBUS-RTU via RS485 as well as the minimum maintenance expense thanks to omission of mechanically-movable elements, proves to be advantageous with the use in the following fields of application:

- Building control
- Traffic control systems
- Meteorology
- Renewable energy
- Agriculture

Output signals

Different means of communication offer highest-possible flexibility with the connection to super-ordinated controls and data acquisition systems.

Serial ASCII protocol

Connection RS422/485, communication through serial data transmission in ASCII format.

Serial MODBUS protocol

Connection RS485/422, communication through serial data transmission with MODBUS-RTU protocol.

Analogue outputs

8 analogue voltage outputs, 0 ... 10 V each, 5 of them are free configurable.

For more connectivity options please contact our sales staff, and request detailed information for your projects.







Brightness -

Wind direction

The wind velocity and

-direction are detected by means of an ultrasoundbased measurement.

and -velocity

Four sensors detect the brightness of the individual cardinal directions.

Precipitation

A radar sensor acquires the precipitation quantity, and distinguishes between solid and liquid events.

Derived measures

From the basic measures can be calculated, for ex. the wind chill temperature, the heat index temperature, the absolute humidity, the dew point temperature.

Compass

An inclination-compensated magnetic compass determines the deviation of the Clima Sensor US to the North direction.

Air pressure

A piezo-resistive MEMS sensor inside measures the absolute air pressure. The air pressure on sea level (QNH) is calculated internally by means of the international height formula.

Digital data output

With all models, the signals are available via the digital output. Supported are MODBUS RTU and ASCII formatted data telegrams. Air temperature Rel. Air humidity An integrated hygro-thermo sensor measures the air temperature and relative air humidity.

Analogue data output There are up to 8 analogue output signals 0 ... 10 V available, depending on model.

Receiving port for mast tube The instrument is mounted on a mast tube of R 1¹/₂" diameter.





CLIMA SENSOR US TECHNICAL DATA

Order-No.: 4.9200.00.00x

Accuracy±0.5 KOutputinstantaneous value, mean valuesAir temperature0utputinstantaneous value, mean valuesMeasuring range-40 +80 °CResolution16 bitResolution0.1 KGeneralAccuracy±0.3 K @ 25 °CBus operationup to 99 instrumentsrel. Air humidityOperating voltage6 40 V DC or 10 28 V AC, 50 Hz / 60 HMeasuring range0 100% rel. HumidityBus operation19 pole plugResolution0.1% r. H.Heating24 V AC / DC, 25 VAAccuracy±1.8% @ 10 90% r. H.Electrical connection19 pole plugAccuracy±1.8% @ 10 90% r. H.Housingplastic material, UV stabilized, shock-proofAir pressureProtectionIP67DimensionØ 150 x 220/175 mmMeasuring range500 1200 hPAMountingMast tube R 1½" (Ø 48.3 mm)Accuracy±0.2 hPa @ 0 65 °C and 800 1100 hPaWeightapprox. 900 gBrightnessMeasuring range0 150 kLuxTatperature range-40 +70 °CMeasuring range0 150 kLux7.1415.00.200: Universal data converter RS485 / analogueAccuracy0.3% of meas. value7.1415.00.200: Universal data converter RS485 / analogue	Wind velocity		Precipitation intensity			
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Models available: All models have RS485/422 interface, and analogue output										
Order-No.	Wind	Precipitation	Brightness	Temperature	Air humidity	Air pressure	GPS-Receiver			
4.9200.00.00x	Х	X	Х	Х	Х	Х	Х			
4.9201.00.00x	Х			X		Х				
4.9202.00.00x	Х	X	Х				Х			
4.9203.00.00x	Х									

4.920x.00.000 = Data protocol: ASCII (Thies-format) 4.920x.00.001 = Data protocol: MODBUS RTU



