

WIND

Clima Sensor US

Part number: 4.920x.x0.00x

This instrument has a GPS receiver. It serves for the determination of position and time, the sun position is additionally calculated herefrom. Position, Time and sun position are transmitted serially.

The compact construction, easy mounting, and diverse options of data output are the basis for the use in several fields:

- Building control system
- Traffic engineering
- Meteorology
- Energy supply
- Ecological monitoring



Specification

Part number: 4.920x.x0.00x

Wind speed	
Measuring range	0 ... 60 m/s 0 ... 75 m/s
Resolution	0.1 m/s (standard)
Accuracy	±0.3 m/s rms (< 5 m/s) ±3 % rms (5 m/s ... 60 m/s)
Wind direction	
Measuring range	0 ... 360 °
Resolution	1 ° 0.1 ° in special telegrams
Accuracy	±2 ° WS > 2 m/s
Data output digital	
Interface	RS485 / RS422
Baudrate	1200 ... 921600 Baud
Data values	div. meas. data, date, time, check sum etc.
Output range	1 per 10 msec up to 1 per 60sec
Status signals	heating, Meas section error, Temperature of meas section
Protocol	ASCII (preselected)
Data output analog	
Type	max. 8 x 0 ... 10 V
Wind speed	0 ... 10 V



Stromausgang	max. 400
Wind direction	0 ... 10 V
Voltage output	min. 2000
Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
Operating voltage	
Electronic	6 ... 40V DC or 10 ... 28 V AC / 1.2 W
Heating	24 V AC/DC, typ 25W
General	
Bus operation	up to 98 sensors
Electr. connection	19 pol. connector
Mounting	on a mast tube 1,5``
Housing	Plastic LEXAN (Polycarbonat, UV-stabilised)
Protection	IP 67

Versions

As per 4.920x.x0.00x, but:

Product number 4.9200.00.001

Precipitation	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%
Temperature	
Measuring range	-40 ... +80 °C
Accuracy	±0,3 K (@ 25 °C)
Rel. Humidity	
Measuring range	0 ... 100 % rel. h.
Accuracy	± 1.8 % rel. h. (10 ... 90 % rel. H.)
Brightness	
Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value
Twilight	
Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value
Radiation	
Measuring range	0 ... 2000 W/m ²
Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position
Air pressure	
Measuring range	260 ... 1260 hPa



Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa
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Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
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General

Dimension	Ø 150 x 220 mm
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Weight	0.9 kg
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Product number 4.9201.00.000

Temperature

Measuring range	-40 ... +80 °C
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Accuracy	±0,3 K (@ 25 °C)
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Rel. Humidity

Measuring range	0 ... 100 % rel. h.
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Accuracy	± 1.8 % rel. h. (10 % ... 90 % rel. H.)
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Air pressure

Measuring range	260 ... 1260 hPa
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Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa
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Data output analog

Output parameters	wind speed, wind direction, rel. humidity, air temperature, air pressure , etc.
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General

Dimension	Ø 150 x 220 mm
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Weight	0.9 kg
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Product number 4.9201.00.001

Temperature

Measuring range	-40 ... +80 °C
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Accuracy	±0,3 K (@ 25 °C)
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Rel. Humidity

Measuring range	0 ... 100 % rel. h.
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Accuracy	± 1.8 % rel. h. (10 % ... 90 % rel. H.)
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Air pressure

Measuring range	260 ... 1260 hPa
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Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa
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Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, rel. humidity, air temperature, air pressure , etc.
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General

Dimension	Ø 150 x 220 mm
Weight	0.9 kg

Product number 4.9202.00.000
Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Brightness

Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

Twilight

Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value

Radiation

Measuring range	0 ... 2000 W/m ²
Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position

Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, etc.
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General

Dimension	Ø 150 x 175 mm
Weight	0.7 kg

Product number 4.9202.00.001
Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Brightness

Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

Twilight

Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value

Radiation

Measuring range	0 ... 2000 W/m ²
Accuracy	±30 W/m ² im Vergleich zu einem Class B Pyranometer, berechnet aus Helligkeiten und Sonnenstand

Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, etc.
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General

Dimension	Ø 150 x 175 mm
Weight	0.7 kg



Product number 4.9203.00.000
Data output analog

Output parameters	wind speed, wind direction, etc.
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General

Dimension	Ø 150 x 175 mm
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Weight	0.7 kg
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Product number 4.9203.00.001
Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, etc.
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General

Dimension	Ø 150 x 175 mm
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Weight	0.7 kg
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Product number 4.9200.20.000
Precipitation

Measuring range	0.001 ... 10 mm/min
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Accuracy	typ. 95%
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Temperature

Measuring range	-40 ... +80 °C
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Accuracy	±0,3 K (@ 25 °C)
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Rel. Humidity

Measuring range	0 ... 100 % rel. h.
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Accuracy	± 1.8 % rel. h. (10 ... 90 % rel. H.)
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Brightness

Measuring range	0 ... 150 kLux
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Accuracy	3 % of rel. measuring value
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Twilight

Measuring range	0 ... 250 Lux
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Accuracy	3 % of rel. measuring value
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Radiation

Measuring range	0 ... 2000 W/m ²
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Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position
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Air pressure

Measuring range	260 ... 1260 hPa
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Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa
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Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
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General


Dimension	Ø 150 x 220 mm
Weight	0.9 kg

Product number 4.9200.20.001

Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Temperature

Measuring range	-40 ... +80 °C
Accuracy	±0,3 K (@ 25 °C)

Rel. Humidity

Measuring range	0 ... 100 % rel. h.
Accuracy	± 1.8 % rel. h. (10 ... 90 % rel. H.)

Brightness

Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

Twilight

Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. Measuring value

Radiation

Measuring range	0 ... 2000 W/m ²
Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position

Air pressure

Measuring range	260 ... 1260 hPa
Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa

Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
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General

Dimension	Ø 150 x 220 mm
Weight	0.9 kg

Product number 4.9202.20.000

Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Brightness

Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

Twilight



Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value

Radiation

Measuring range	0 ... 2000 W/m ²
Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position

Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, etc.
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General

Dimension	Ø 150 x 175 mm
Weight	0.7 kg

Product number 4.9202.20.001

Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Brightness

Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

Twilight

Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. Measuring value

Radiation

Measuring range	0 ... 2000 W/m ²
Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position

Data output digital

Protocol	MODBUS RTU (preselected)
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Data output analog

Output parameters	wind speed, wind direction, brightness, precipitation, etc.
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General

Dimension	Ø 150 x 175 mm
Weight	0.7 kg

Product number 4.9200.20.075

Wind speed

Measuring range	0.01 ... 75 m/s
Accuracy	±0,3 m/s rms (< 5 m/s) ±3 % rms (5 m/s ... 60 m/s)

Precipitation

Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

Temperature

Measuring range	-40 ... +80 °C
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Accuracy	±0,3 K (@ 25 °C) ±0.2 K -45 ... +60°C with individual calibration
Rel. Humidity	
Measuring range	0 ... 100 % rel. h.
Accuracy	± 1.8 % rel. h. (10 ... 90 % rel. H.)
Brightness	
Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value
Twilight	
Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value
Radiation	
Measuring range	0 ... 2000 W/m ²
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Air pressure	
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Data output analog	
Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
General	
Dimension	Ø 150 x 220 mm
Weight	0.9 kg
Product number 4.9200.00.000	
Precipitation	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%
Temperature	
Measuring range	-40 ... +80 °C
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Twilight	
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Radiation	
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Accuracy	± 30 W/m ² compared to a Class B pyranometer, calculated from brightness and sun position
Air pressure	
Measuring range	260 ... 1260 hPa
Accuracy	±0.25 hPa @ - 20 ... +80 °C @ 800 ... 1100 hPa ±0.50 hPa @ - 20 ... +80 °C @ 600 ... 800 hPa ±1.00 hPa @ - 50 ... -20 °C @ 600 ... 1100 hPa
Data output analog	
Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
General	
Dimension	Ø 150 x 220 mm
Weight	0.9 kg

Accessories

Product	Product name	Brief description				
	Cable for Clima Sensor US 509311	<p>Cable assembled, 16-core connecting cable for Clima Sensor US</p> <ul style="list-style-type: none"> length 10 m <p>General</p> <table border="1"> <tr> <td>Cable</td> <td>FRNC 16 x 0,25 mm²</td> </tr> <tr> <td>Length</td> <td>10 m</td> </tr> </table>	Cable	FRNC 16 x 0,25 mm ²	Length	10 m
Cable	FRNC 16 x 0,25 mm ²					
Length	10 m					
	Cable for Clima Sensor US 509427	<p>Cable assembled, 8-core connecting cable for Clima Sensor US.</p> <ul style="list-style-type: none"> length 10 m <p>General</p> <table border="1"> <tr> <td>Cable length</td> <td>10 m</td> </tr> <tr> <td>Cable</td> <td>LiYCY 8 x 0,25 mm²</td> </tr> </table>	Cable length	10 m	Cable	LiYCY 8 x 0,25 mm ²
Cable length	10 m					
Cable	LiYCY 8 x 0,25 mm ²					



	<p>Thies Device Utility 9.1700.81.000</p>	<p>The PC program “Thies Device Utility” serves for the initial operation and configuration of Thies sensors with serial interface.</p> <p>The program can find all sensors connected to the PC, and facilitates an initial operation via terminal function. Thanks to a user-friendly surface design the communication with the sensors is very easy.</p> <hr/> <p>General</p> <table border="1"> <tr> <td>Function</td> <td>searching for Thies-sensors settings for the communication monitor-presentation of instantaneous measuring values and settings</td> </tr> </table> <hr/> <p>Compatibility</p> <table border="1"> <tr> <td>Connectable instruments</td> <td>Weather Station Compact WSC11 4.9056.00.000 Clima Sensor US 4.920x.00.000 US-Anemometer 2D 4.38xx.xx.xxx US-Anemometer 3D 4.3830.xx.xxx US-Anemometer 2D compact 4.3875.xx.xxx etc.</td> </tr> <tr> <td>System requirements</td> <td>PC with Windows 7 or higher</td> </tr> </table>	Function	searching for Thies-sensors settings for the communication monitor-presentation of instantaneous measuring values and settings	Connectable instruments	Weather Station Compact WSC11 4.9056.00.000 Clima Sensor US 4.920x.00.000 US-Anemometer 2D 4.38xx.xx.xxx US-Anemometer 3D 4.3830.xx.xxx US-Anemometer 2D compact 4.3875.xx.xxx etc.	System requirements	PC with Windows 7 or higher										
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System requirements	PC with Windows 7 or higher																	
	<p>Power supply Unit 9.3389.20.000</p>	<p>Serves for the power supply of the ClimaSensor US as well as for the connection and distribution of cable resp. cable wires.</p> <p>primary:</p> <ul style="list-style-type: none"> • 230 V AC <p>secondary:</p> <ul style="list-style-type: none"> • 24 V AC / 30 W <hr/> <p>Operating voltage</p> <table border="1"> <tr> <td>Primary</td> <td>230 V AC / 115 V AC</td> </tr> <tr> <td>Secondary</td> <td>24 V AC / 30 W</td> </tr> </table> <hr/> <p>Electrical connection</p> <table border="1"> <tr> <td>Series terminals</td> <td>16</td> </tr> <tr> <td>Cable gland</td> <td>3 x M16x1.5 1 x M20x1.5</td> </tr> </table> <hr/> <p>General</p> <table border="1"> <tr> <td>Housing</td> <td>plastic</td> </tr> <tr> <td>Protection</td> <td>IP 66</td> </tr> <tr> <td>Dimension</td> <td>ca. 125 x 112.5 x 104 mm</td> </tr> <tr> <td>Weight</td> <td>approx. 1.5 kg</td> </tr> </table>	Primary	230 V AC / 115 V AC	Secondary	24 V AC / 30 W	Series terminals	16	Cable gland	3 x M16x1.5 1 x M20x1.5	Housing	plastic	Protection	IP 66	Dimension	ca. 125 x 112.5 x 104 mm	Weight	approx. 1.5 kg
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