

# TEMPERATURE

## 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.
<b>Operating voltage</b>	
Electronic	6 ... 40V DC or 10 ... 28 V AC / 1.2 W
Heating	24 V AC/DC, typ 25W
<b>General</b>	
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 <sup>2</sup>
Accuracy	± 30 W/m <sup>2</sup> 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 )
----------	----------------------------

**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 4.9201.00.000**

**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. )
----------	---

**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, rel. humidity, air temperature, air pressure , etc.
-------------------	---

**General**

Dimension	Ø 150 x 220 mm
-----------	----------------

Weight	0.9 kg
--------	--------

**Product number 4.9201.00.001**

**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. )
----------	---

**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 )
----------	----------------------------

**Data output analog**

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



**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 <sup>2</sup>
Accuracy	± 30 W/m <sup>2</sup> compared to a Class B pyranometer, calculated from brightness and sun position

**Data output analog**

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

**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 <sup>2</sup>
Accuracy	±30 W/m <sup>2</sup> im Vergleich zu einem Class B Pyranometer, berechnet aus Helligkeiten und Sonnenstand

**Data output digital**

Protocol	MODBUS RTU ( preselected )
----------	----------------------------

**Data output analog**

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

**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.
-------------------	----------------------------------

**General**

Dimension	Ø 150 x 175 mm
-----------	----------------

Weight	0.7 kg
--------	--------

**Product number 4.9203.00.001**
**Data output digital**

Protocol	MODBUS RTU ( preselected )
----------	----------------------------

**Data output analog**

Output parameters	wind speed, wind direction, etc.
-------------------	----------------------------------

**General**

Dimension	Ø 150 x 175 mm
-----------	----------------

Weight	0.7 kg
--------	--------

**Product number 4.9200.20.000**
**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 <sup>2</sup>
-----------------	-----------------------------

Accuracy	± 30 W/m <sup>2</sup> 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

**Product number 4.9200.20.001**

<b>Precipitation</b>	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

<b>Temperature</b>	
Measuring range	-40 ... +80 °C
Accuracy	±0,3 K ( @ 25 °C)

<b>Rel. Humidity</b>	
Measuring range	0 ... 100 % rel. h.
Accuracy	± 1.8 % rel. h. ( 10 ... 90 % rel. H. )

<b>Brightness</b>	
Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

<b>Twilight</b>	
Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. Measuring value

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

<b>Air pressure</b>	
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

<b>Data output digital</b>	
Protocol	MODBUS RTU ( preselected )

<b>Data output analog</b>	
Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.

<b>General</b>	
Dimension	Ø 150 x 220 mm
Weight	0.9 kg

**Product number 4.9202.20.000**

<b>Precipitation</b>	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%

<b>Brightness</b>	
Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value

<b>Twilight</b>	
-----------------	--



Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. measuring value
<b>Radiation</b>	
Measuring range	0 ... 2000 W/m <sup>2</sup>
Accuracy	± 30 W/m <sup>2</sup> compared to a Class B pyranometer, calculated from brightness and sun position
<b>Data output analog</b>	
Output parameters	wind speed, wind direction, brightness, precipitation, etc.
<b>General</b>	
Dimension	Ø 150 x 175 mm
Weight	0.7 kg
<b>Product number 4.9202.20.001</b>	
<b>Precipitation</b>	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%
<b>Brightness</b>	
Measuring range	0 ... 150 kLux
Accuracy	3 % of rel. measuring value
<b>Twilight</b>	
Measuring range	0 ... 250 Lux
Accuracy	3 % of rel. Measuring value
<b>Radiation</b>	
Measuring range	0 ... 2000 W/m <sup>2</sup>
Accuracy	± 30 W/m <sup>2</sup> compared to a Class B pyranometer, calculated from brightness and sun position
<b>Data output digital</b>	
Protocol	MODBUS RTU ( preselected )
<b>Data output analog</b>	
Output parameters	wind speed, wind direction, brightness, precipitation, etc.
<b>General</b>	
Dimension	Ø 150 x 175 mm
Weight	0.7 kg
<b>Product number 4.9200.20.075</b>	
<b>Wind speed</b>	
Measuring range	0.01 ... 75 m/s
Accuracy	±0,3 m/s rms (< 5 m/s) ±3 % rms ( 5 m/s ... 60 m/s )
<b>Precipitation</b>	
Measuring range	0.001 ... 10 mm/min
Accuracy	typ. 95%
<b>Temperature</b>	
Measuring range	-40 ... +80 °C



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





Accuracy	± 30 W/m <sup>2</sup> compared to a Class B pyranometer, calculated from brightness and sun position
<b>Air pressure</b>	
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
<b>Data output analog</b>	
Output parameters	wind speed, wind direction, brightness, precipitation, rel. humidity, air temperature, air pressure , etc.
<b>General</b>	
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"> <li>length 10 m</li> </ul> <p><b>General</b></p> <table border="1"> <tr> <td>Cable</td> <td>FRNC 16 x 0,25 mm<sup>2</sup></td> </tr> <tr> <td>Length</td> <td>10 m</td> </tr> </table>	Cable	FRNC 16 x 0,25 mm <sup>2</sup>	Length	10 m
Cable	FRNC 16 x 0,25 mm <sup>2</sup>					
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"> <li>length 10 m</li> </ul> <p><b>General</b></p> <table border="1"> <tr> <td>Cable length</td> <td>10 m</td> </tr> <tr> <td>Cable</td> <td>LiYCY 8 x 0,25 mm<sup>2</sup></td> </tr> </table>	Cable length	10 m	Cable	LiYCY 8 x 0,25 mm <sup>2</sup>
Cable length	10 m					
Cable	LiYCY 8 x 0,25 mm <sup>2</sup>					



Thies Device Utility  
9.1700.81.000

The PC program "Thies Device Utility" serves for the initial operation and configuration of Thies sensors with serial interface.

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.

General	
Function	searching for Thies-sensors settings for the communication monitor-presentation of instantaneous measuring values and settings
Compatibility	
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



Power supply Unit  
9.3389.20.000

Serves for the power supply of the ClimaSensor US as well as for the connection and distribution of cable resp. cable wires.

primary:

- 230 V AC

secondary:

- 24 V AC / 30 W

Operating voltage	
Primary	230 V AC / 115 V AC
Secondary	24 V AC / 30 W
Electrical connection	
Series terminals	16
Cable gland	3 x M16x1.5 1 x M20x1.5
General	
Housing	plastic
Protection	IP 66
Dimension	ca. 125 x 112.5 x 104 mm
Weight	approx. 1.5 kg

