WEATHER STATION COMPACT **WSC11**

Thies CLIMA

The economical model for acquisition of meteorological measuring data in the:

- Building Automation (BMS)
- Control Applications
- Greenhouse Control
- Smart City

T H E   W O R L D   O F   W E A T H E R   D A T A

The weather station compact WSC11 was designed for the varied requirements of the building control and automation technology.
The instrument combines precision of the measuring value acquisition with a very compact design.
A smooth integration into new as well as in existing systems is guaranteed.

Successfully mastering the challenge of integrating numerous meteorological parameters compactly into a small shape. The wind measurement is performed without moving parts. The thermal anemometer measures wind speed and wind direction without mechanical wear. Costly maintenance is not required.

The integrated GPS receives automatically date, time, station height, and the geographic position. A manual setting of time is not required.
The WSC11 determines this azimuth and the elevation of the sun position from the parameters. The pressure at sea level is calculated by means of the altitude level and the measured air pressure.
All parameters are provided via the serial output.

THERMACERN

THERMACERN inside:
This is the brand name of a new Thies CLIMA technology for the analysis of solid & liquid precipitation.
The WSC11's ceramic THERMACERN sensor detects status (yes/no) and can determine the intensity of precipitation, even low intensities are reliable detected.
The built-in heater liquifies snow and sleet and ensures that the surface dries quickly.

Global Radiation
Silicium PIN photo diode. The horizontal sensor acquires the course of the sun radiation.

North marking

Digital interface
RS485 connection

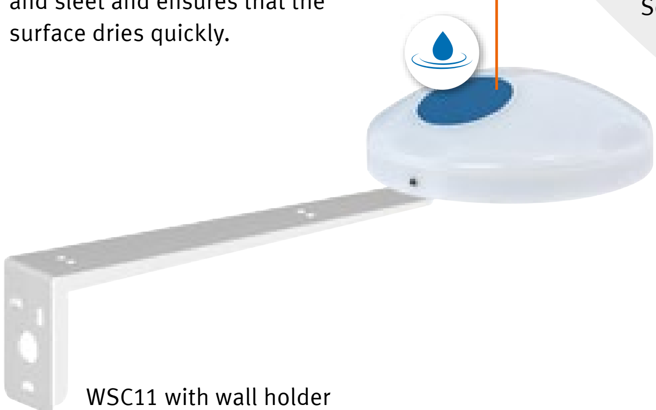
Mounting intake
port for mast tube or wall holder

Air pressure
Piezoresistive MEMS sensor inside. Calculation acc. to the international height formula, based on the sea level (QNH).

Air humidity
A capacitive sensor measures the relative air humidity.

Precipitation
Sensor in the housing cover with integrated heating, indicates the precipitation status and intensitiy with THERMCERN technology.

Air temperature
A Pt1000 element acquires the air temperature outside the housing.



WSC11 with wall holder

Data output is serial via MODBUS RTU, or in THIES ASCII data format. The WSC11 is mounted on a mast or, by means of a wall holder, directly at the building.

At a glance

- 11 sensors in one instrument
- easy integration into existing control systems
- with digital interface
- precise and reliable
- wear-free
- simple and fast to install
- THERMACERN inside

Brightness
Silicium photo sensors in the medium elevation angle for all four cardinal directions.

Twilight
Mean value from the four direction-dependent brightness sensors.

Time/date and geostationary data
GPS receiver with integrated RTC. The buffered RTC saves its data w/o power supply up to 3 days.

Sun position elevation and azimuth
The sun position is calculated automatically from the received data.

LED status light
visible through the housing (can be disabled)

Wind velocity
Wind direction
Thermal anemometer, measuring resistances inside acquire the inflowing wind.

WEATHER STATION COMPACT WSC11

TECHNICAL DATA

Order no.: 4.9056.10.00x / 4.9056.11.00x

Wind velocity	
Type	Thermal anemometer
Measuring range	0 ... 40 m/s
Resolution	0.1 m/s
Accuracy	Up to 10 m/s: ±1 m/s From 10 m/s: ±5 %
Wind direction	
Type	Thermal anemometer
Measuring range	1 ... 360 °
Resolution	1 °
Accuracy at Laminar airflow	±10 °
Brightness	
Type	Silicon sensor (North, East, South, West)
Measuring range	0 ... 150 kLux
Resolution	0.1 kLux
Accuracy	±3 % (±4.5 kLux)
Spectral range	475 ... 650 nm
Twilight	
Type	Silicon sensor
Measuring range	0 ... 999 Lux
Resolution	1 Lux
Accuracy	±10 Lux
Global radiation	
Type	Silicon sensor
Measuring range	0 ... 1300 W/m²
Resolution	1 W/m²
Accuracy	±10 % (±130 W/m²)
Spectral range	350 ... 1100 nm
Air temperature	
Type	PT1000
Measuring range	-30 ... +60 °C
Resolution	0.1 °C
Accuracy	±1 °C @ wind › 2 m/s and temperature -5 ... +25 °C

Rel. air humidity	
Type	Capacitive
Measuring range	0 ... 100 %
Resolution	0.1 %
Accuracy	±10 % @ wind › 2m/s and temperature 20 °C
Precipitation	
Type	ceramic sensor THERMACERN
Status	Pricipitation; Frost*); Ice*); Snow*)
Intensity*)	4 Levels 0.01 ... 0.8 mm/min
Air pressure	
Type	Piezo-resistive
Measuring range	300 ... 1100 hPa
Resolution	0.01 hPa
Accuracy	±0.5 hPa @ 20 °C
Long-term stability	±0.1 hPa/year
GPS receiver	
Received data	Latitude, longitude, altitude, time, date
Digital interface	
Type	RS485
Operating mode	Half duplex mode
Data format	8N1, ASCII, MODBUS RTU
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Protocol, variants	
4.9056.10.000 *) 4.9056.11.000	ASCII (THIES-Format)
4.9056.10.001 *) 4.9056.11.001	Binary (MODBUS RTU)

General	
Operating voltage	18 ... 30 V DC; 18 ... 28 V AC
Power consumption	120 mA @ 24 V DC max. 1.5 A AC, max. 0.5 A DC
Temperature range	-30 ... +60 °C
Humidity range	Non-condensing
Time	GPS receiver with battery buffered real time clock for approx. 3 days
Housing	
Material	PC
Mounting intake for mast	25 mm tube diameter
Dimensions	ø 130 mm x 67.5 mm
Weight	0.22 kg
Protection	IP65 only with correct operating position
Connection	7pole plug

Accessoriess (optional)

Order no.	Description
509564	Wall holder 250 mm long
9.1702.40.002	Level Converter RS-422/ RS-485
9.1700.98.001	PC visualization software MeteoOnline
510023	5 m Connection cable
510024	10 m Connection cable
510197	20 m Connection cable
9.1700.81.000	Device utility tool for configuring the WSC11

Please contact us for your system requirements. We advise you gladly.

Thies CLIMA

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Learn more