WEATHER STATION COMPACT WSC 11

The economical model for acquisition of meteorological measuring data in the

- Building technology
- Building automation
- Greenhouse control

THE WORLD OF WEATHER DATA

WEATHER STATION COMPACT WSC 11

The weather station compact WSC 11 was designed for the varied requirements of the building control technology. The instrument combines precision of the measuring value acquisition with a very compact construction. A smooth integration into new as well as in existing installations is guaranteed.

The acquisition of a total of 11 meteorological parameters on a minimum space characterizes this device. The wind measurement occurs without moving parts. The thermal anemometer measures wind velocity and wind direction without mechanical wear. A costly maintenance is not necessary.

A ceramic sensor detects even small amounts of precipitation. The integrated heating liquefies snow and soft hail, and provides for a quick surface drying.

The integrated GPS and/or RDS/DAB+ module receives automatically date, time, station height, and the geographic position. A manual setting of time is not necessary. The WSC 11 determines the azimuth and the elevation of the sun position from the parameters. The reduced air pressure is calculated by means of the altitude above sea level, and the measured air pressure. All parameters are output with the data telegram.

The data output occurs serially via MODBUS RTU, or in THIES compatible data format. The WSC 11 is mounted on a mast or, by means of a wall holder, directly at the building.

At a glance
- **integrable into existing control systems**
- **with digital interface**
- **precise and reliable**
- **wear-free**
- **easy installation**

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

North marking

Digital interface
RS485 connection (half duplex mode)

Receiving port for mast tube or wall holder

Air pressure
Piezo-resistive 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.

LED control light
visible through the housing

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

WSC 11 with wall holder

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

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

Precipitation
Sensor in the housing cover with integrated heating, indicates the precipitation status.

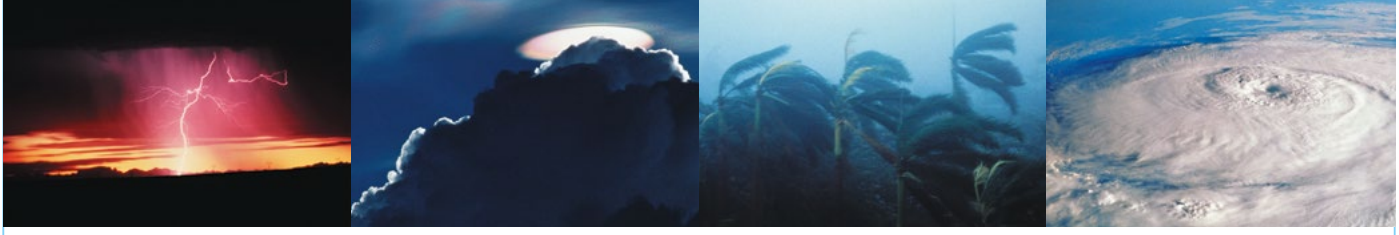
Time/date and geostationary data
GPS and or RDS/DAB+ receiver with integrated RTC.
The backup condenser saves its data w/o power supply up to 3 days.

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

LED control light
visible through the housing

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

Please request detailed information for your projects.



Technical Data

Wind velocity

Type	Thermal anemometer
Measuring range	0 ... 40 m/s
Resolution	0.1 m/s
Accuracy at	Up to 10 m/s: ±1 m/s
Laminar airflow	From 10 m/s: ±5 %
	RMS mean over 360 °

Wind direction

Type	Thermal anemometer
Measuring range	1 ... 360 °
Resolution	1 °
Accuracy at	±10 °
Laminar airflow	

Brightness

Type	Silicium 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	Silicium sensor
Measuring range	0 ... 999 Lux
Resolution	1 Lux
Accuracy	±10 Lux

Global radiation

Type	Silicium sensor
Measuring range	0 ... 1300 W/m²
Resolution	1 W/m²
Accuracy	±10 % (±130 W/m²)
Spectral range	350 ... 1100 nm

Precipitation

Type	Ceramic, capacitance
	measurement
Measuring range	0/1 (precipitation no/yes)
Heating capacity	
Sensor dry	0.1 W (anti-condensation)
Sensor wet	1.1 W (active drying)
Drying phase	3.5 minutes

Temperature

Type	PT1000
Measuring range	-30 ... +60 °C
Resolution	0.1 °C
Accuracy	±1 °C @ WV › 2 m/s and
	temperature -5 ... +25 °C

Rel. air humidity

Measuring range	0 ... 100 %
Resolution	0.1 %
Accuracy	±10 % @ 10 ... 90 %

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
	date/time, station height
Positional accuracy	3 m (50 % CEP)

Digital interface

Type	RS485
Operating mode	Half duplex mode
Data format	8N1
Baud rate	1200, 2400, 4800, 9600,
	19200, 38400, 57600, 115200

Protocol

4.9056.10.000	ASCII (Thies-Format)
4.9056.10.001	Binary (MODBUS RTU)

General

Operating voltage	18 ... 30 V DC; 18 ... 28 V AC
Power consumption	‹ 300 mA @ 24 V DC
Temperature range	-30 ... +60 °C
Time	GPS and/or RDS/DAB+ receiver with battery buffered real time clock for approx. 3 days

Housing

Material	PC
Reception opening 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

Order-No.

WSC 11 with GPS and/or RDS/DAB+ receiver	4.9056.x0.00x

Accessories (optional):

Wall holder 250 mm long	509564
Universal data converter	7.1415.00.200
PC visualization software MeteoOnline	9.1700.98.001
5 m Connection cable	509584
10 m Connection cable	509585

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010302/07/17