



Weather Station WSC Agrar

HIGHLY COMPACT DESIGN

Local weather data with full-spec of precipitation meet the needs of farming.

Essentials

- Ultra-compact design – one of the smallest on the market
- Comprehensive weather data & full-spectrum of precipitation insights
- Integrable & OEM ready & Off-grid
- 80 years of meteorological expertise

Local weather data

The WSC Agrar weather station is one of the most compact designs on the market. It provides reliable local weather data in a user-friendly, low-maintenance package. With precise measurements of temperature, humidity, precipitation, wind, pressure and radiation it enables targeted management of comprehensive farm management.

Modular and cost-effective solution for digital farming

It can be flexibly integrated into existing systems and digital platforms and transmits weather and soil data directly to the cloud. A self-sufficient power supply via a PV module and battery charger enables reliable operation even in remote locations. From a compact sensor to a fully self-sufficient low-power field station, the system is flexibly scalable and easy to set up.

General Data

WSC Agrar Sensor: Polycarbonate, white-transparent, 105 mm x Ø 102.4 mm, 0.212 kg, 4-pin cable clamp connector, GPS receiver

Easy Integration Set:

Battery charger (SDI12), ¾" mast adapter (Ø 50 mm to Ø 27 mm, polycarbonate, white, 0.013 kg)

Complete System (IP 54) Article No.:

WSC Agrar sensor 4.9045.00.100:
6–9 V (for charging module),
4.9045.10.xxx 6–24 V (for solar power and external DC power supply)
Battery Charging Unit: (4.9045.90.100, ¾" mast adapter included)
Mast Tube: (510804), PV Module /Mount: (510806) Tripod: (511153)
Screw-in ground sleeve: (214852)
SDI12 distribution box: 4.9045.90.204 (powered by battery charger), 4.9045.90.205 (external power supply)

THE WORLD OF WEATHER DATA



WSC Agrar Sensor

Technical data



Precipitation: Full-Spectrum of Precipitation Insights

Precipitation type detection: Precipitation Y/N, hail, rain, snow, sleet, crystals
Measuring range: 0.001 ... 999 mm/h; resolution: 0.01 mm; droplet size: 0.25 ... 5.0mm, wetting mass 0 ...100%, accuracy for rain: for 95% of all precipitation events (the deviation is less than 10% compared to the Thies CLIMA LPM reference).

Determination of the exact time of precipitation start & end, determination of precipitation type & intensity and quantity, detection of even the smallest amounts (not measurable with tipping buckets).



On request: advanced THERMACERN® features such as frost warning for frost protection irrigation, dew detection, etc.

Wind Speed & Wind Direction

- Wind speed measuring range: 0 ... 35 m/s
Resolution: 0.1 m/s, accuracy: ± 1 m/s at $v_{\text{Wind}} < 10$ m/s; $\pm 5\%$ at $v_{\text{Wind}} \geq 10$ m/s
- Wind direction measuring range: 0...360°, resolution: 1°, accuracy: $\pm 20^\circ$

Humidity & Option for Soil Moisture

- Measuring range: 0 ... 100% RH
- Resolution: 0.1% RH, accuracy: $\pm 10\%$ RH (at 20 °C and wind speed > 2 m/s)
- Up to 6 soil moisture sensors can be connected via SDI-12.

Global Radiation

- Measuring range: 0 ... 1300 W/m²
- Resolution: 1 W/m², accuracy: $\pm 10\%$ FS
- Twilight 0...1 kLux

Ambient Temperature

- Measuring range: -30 ... +50 °C
- Resolution: 0.1 °C
- Accuracy: ± 1 °C (-5 ...+25 °C at wind speed > 2 m/s)

Barometric Pressure

- Measuring range: 300 ... 1100 hPa
- Resolution: 0.01 hPa
- Accuracy: ± 0.5 hPa (at 20 °C)

Communication/Network

- E-SIM card, wireless communication,
- GPS receiver
- RS485, Thies ASCII, Modbus RTU
- SDI12 (via battery charging unit) other sensors connectable
- LTE-M, GPRS, NB-IoT
- Flexible archive and transfer intervals
- MQTT-based communication with cloud
- RESTful API for data access



Dealer/end user for prototyping, field trials:
Complete system

Connection option for 6 additional sensors (e.g., soil moisture sensor)

Product Structure

The sensor forms the basis of all configurations and is designed for energy-efficient operation. Open interfaces and standardized protocols enable easy integration into existing systems, platforms, and OEM solutions.

OEM business:
WSC Agrar Sensor



OEM business: WSC Agrar Sensor
with battery charging unit and adapter



Everything thought through - From OEM component to fully autonomous system - WSC Agrar adapts to the requirements of each application. Let's talk about OEM integration - tailored to your solution.

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More details WSC Agrar >



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