## Compact all-in-one weather sensor for measurement of temperature, relative humidity, radiation and air pressure.

- **Parameters measured**
  Temperature, relative humidity, radiation and air pressure

- **Measurement technology**
  NTC/T, Capacitive/RH, Tiltable Pyranometer Lufft/Radiation, MEMS capacitive/Pressure

- **Product highlights**
  Compact all-in-one weather sensor, low power, aspirated radiation shield, maintenance-free operation, open communication protocol

- **Interfaces**
  RS485 with supported protocols UMB-Binary, UMB-ASCII, Modbus-RTU, Modbus-ASCII, XDR and SDI-12

- **Article number**
  8374.U12

From the WS product family of professional intelligent measurement transducers with digital interface for environmental applications. Integrated design with ventilated radiation protection for measuring: Air temperature, relative humidity, radiation and air pressure. One external temperature or rain sensor is connectable.

IMPORTANT: WS304-UMB Smart Weather Sensor is discontinued

| General | |
|---|---|
| Dimensions | Ø approx. 150 mm, Height approx. 377 mm |
| Weight | Approx. 1.5 kg |
| Interface | RS485, 2 - wire, half - duplex |
| Power supply | 4...32 VDC |
| Power supply | 5...11 VDC (electronics with limited precision of measurements) |
| Power supply | 24 VDC +/- 10% (heater) |
| Power consumption | 40 VA (heater) |
| Operating temperature | -50...60 °C (with heater) |
| Operating rel. humidity | 0...100 % RH |
| Cable length | 10 m |
| Protection level housing | IP66 |
| Mast mounting suitable for | Mast diameter 60 - 76 mm |

| Radiation | |
|---|---|
| Unit | $W/m^2$ |
| Accuracy | 5 % |
| Response time (95%) | < 1 s |
| Non-stability(change/year) | ±1 % |
| Non-linearity (0 to 1000 $W/m^2$) | ±1 % |
| Directional error (at 80° with 1000 $W/m^2$) | ±20 $W/m^2$ |
| Temperature dependence of sensitivity | ±5 % (-10 to +40 °C) |
| Tilt error (at 1000 $W/m^2$) | ±1 % |
| Spectral range | 300...1100 nm |
| Measuring range | 1400 $W/m^2$ |

| Temperature | |
|---|---|
| Principle | NTC |
| Measuring range | -50 ... 60 °C |
| Unit | °C |
| Accuracy | ±0.2 °C (-20...50 °C), otherwise ±0.5 °C (>-30 °C) |

| Relative humidity | |
|---|---|
| Principle | Capacitive |
| Measuring range | 0 ... 100 % RH |
| Unit | % RH |
| Accuracy | ±2 % RH |

| Air pressure | |
|---|---|
| Principle | MEMS capacitive |
| Measuring range | 300 ... 1200 hPa |
| Unit | hPa |
| Accuracy | ±0.5 hPa (0...40 °C) |