All-in-one weather sensor with measurement of temperature, relative humidity, air pressure, wind velocity / direction, precipitation amount / intensity / type, UV index, sun direction, brightness and twilight and global radiation

- **Parameters measured**
  air temperature, relative humidity, air pressure, wind direction / velocity, precipitation amount / intensity / type, UV index, sun direction, brightness, twilight and radiation

- **Measurement technology**
  Capacitive, Doppler radar, silicon pyranometer, thermal

- **Product highlights**
  Compact, multiparameter, economic, with dome heating, maintenance-free, open communication protocol, good price performance ratio

- **Interfaces**
  RS485, 2-wire, half-duplex; supporting Modbus, UMB, UMB ASCII 2.0 protocol; WLAN for configuration

- **Article number**
  8368.WS10P - available only in Europe

The All-in-One Weather Sensor WS10 covers 10 parameters simultaneously. It‘s particularly suitable for building automation and solar rooftops. The data transfer takes place via Wi-Fi or RS485.

IMPORTANT: WS10 is discontinued

Air temperature	
Measurement range	-40 ... +60 °C / -40 ... 140 °F
Accuracy	±1,0 °C (-5 ... +25 °C) otherwise ±2,0 °C; when wind >2 m/s and with inactive dome heater

Rel. Humidity (Capacitive)	
Measurement range	0 ... 100% rH
Accuracy	±5 % (@ 20 °C and <80 % rH)

Air pressure (Capacitive)	
Measurement range	500 ... 1100 hPa
Accuracy	±0.5 hPa (room temp. 25 °C / 77 °F)

Wind Direction (Thermal)	
Measurement range	360 °
Accuracy	±10 ° (wind >2 m/s)

Wind velocity (Thermal)	
Measurement range	0 ... 40 m/s (0 ... 90 mph)
Accuracy	±1 m/s or 5 % (0 ... 30 m/s) , the greater value applies

Precipitation (Radar)	
Precipitation amount	0 ... 200 mm (24h)
Accuracy	±2 mm or 20%, the greater value applies
Precipitation intensity	0 ... 30 mm/h
Accuracy	±0,1 mm or 20% (10 min, lab conditions)
Precipitation type	rain, hail, snow (snow is measured with aid of temperature)

Global radiation (Silicon pyranometer 1)	
Measurement range	0 ... 1300 W/ m^2
Accuracy	10 % or ±120 W/m^2, the greater value applies
Sun direction (Calculated)	azimuth 360 °, elevation 90 °

Sun brightness (Silicon pyranometer 2)	
Measurement range	0 ... 120 klx
Accuracy	to be defined

Twilight (Silicon pyranometer 2)	
Measurement range	0 ... 500 lx
Accuracy	to be defined

UV- Index (Silicon pyranometer	
Measurement range	0 ... 13
Accuracy	to be defined

GPS	
Accuracy	±5 m (50 % CEP)

Compass	
Measurement range	360 °
Accuracy	±10 % (free field)

Communication	
Interfaces	RS485, 2-wire, half-duplex; WLAN (2.4 GHz; 802.11b/g/n
Protocols	Modbus, UMB, UMB ASCII 2.0

Housing	
Dimensions	13 x 145 x 227 mm
Weight	0.5 kg
Protection class	IPX6

Electrical specification	
Input voltage range	9 ... 36 VDC (24 V preferred)
Power consumption (min.)	120 mA (24V)
Power consumption (wind >7m/s)	360 mA (24V)
Power consumption (dome heating)	24 VA @ 24 VDC
Max. input power	32.5 VA @ 24 VDC

Environmental conditions	
Maximum operating altitude	2000 m
Operating temperature range	-40 ... +60 °C / -40 ... +140 °F
Permissible rel. humidity	0 ... 100 %