PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

THP[pro] Modbus TEMPERATURE-HUMIDITY-PRESSURE SENSOR

Modbus RTU DATA PROTOCOL

Al METAL MATERIAL

IP 65 PROTECTION RATING

M12 PLUG CONNECTOR

High accuracy and energy-saving electronics

The sensor THP[pro] Modbus is a combined measuring instrument for measuring relative humidity, air temperature and air pressure. The sensor is characterised by high accuracy and energy-saving electronics. The Modbus RTU interface simplifies sensor installation and integration into networks.

- Combined measuring instrument for high-quality use
- Capacitive humidity measuring element
- Low maintenance
- Signal output: RS 485 • Modbus
- For use in all climatic zones
- Suitable sensor shelter type 8141.6 (recommended option)

APPLICATIONS

- hydrology
- building technology
- power plants
- industry

Professional Line	THP[pro] Modbus
Id-No.	00.08095.200030
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Meas. range barometric pressure	500...1100 hPa
Accuracy air temperature	± 0.1 K (0...60 °C) ± 0.2 K (-40...0 °C) ± 0.2 K (60...70 °C)
Accuracy rel. humidity	typically at 25 °C: ± 1 % (20...70 %) r. h. ± 1.5 % (0...20 %) r. h. ± 1.5 % (70...90 %) r. h. ± 3 % (90...100 %) r. h.
Accuracy barometric pressure	typically 0.38 hPa (700... 1100 hPa) (15...55 °C)
Resolution air temperature	0.1 °C

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PRODUCT-VIEW

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Professional Line	THP[pro] Modbus
Resolution rel. humidity	0.1 % r. h.
Resolution barometric pressure	0.1 hPa
Reaction time	rel. humidity (at v = 1.5 m/s): 30 s
Protocols	Modbus RTU
Interface	Serial RS 485
Supply voltage	4,8...33 VDC
Power consumption	4 mA at 24 VDC • 6 mA at 12 V DC • 11 mA at 4.8 VDC
Dimensions	H 140 mm x Ø 20 mm
Housing	Aluminium especially-coated • M12 plug connector (4-pole)
Protection class	IP 65 (housing)
Weight	approx. 80 g
Standards	DIN EN 60945 DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	00.08141.600000 sensor shelter with natural ventilation 00.08141.600004 sensor shelter with artificial ventilation 32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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THP[pro] TEMPERATURE-HUMIDITY-PRESSURE SENSOR · AVAILABLE FROM DECEMBER 2024!

PREMIUM

METAL MATERIAL

AIR PRESSURE

RELATIVE HUMIDITY

AIR TEMPERATURE

PROFESSIONAL

Industry-leading multisensor technology for the highest WMO standards

The quality of meteorological data is significantly influenced by the accuracy and reliability of the sensors used. The THP[pro] sensor meets the highest standards of the World Meteorological Organization (WMO) and has been developed for various applications where precise meteorological data is required.

- Three parameters in one sensor for maximum versatility
- Precision as per WMO standard: Reliable measurements, globally recognized
- Low energy requirement - perfect for low-power applications
- Fail-safe and redundant pressure measuring with three independent ICs
- Easy configuration with USB-C interface right on the sensor
- Increased operational reliability of the sensor due to integrated LED status light

APPLICATIONS

- Global weather monitoring according to WMO standards
- Health and safety regulations
- Ship weather stations
- Helicopter decks

Professional Line	THP[pro]
Id-No.	00.08095.300030
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r.h.
Meas. range barometric pressure	500...1100 hPa
Accuracy air temperature	± 0.1 K (0...60 °C); ± 0.2 K (-40...0 °C); ± 0.2 K (60...70 °C)
Accuracy rel. humidity	typically at 25 °C: ± 1 % (20...70 %) r. h. ± 1.5 % (0...20 %) r. h. ± 1.5 % (70...90 %) r. h. ± 3 % (90...100 %) r. h.
Accuracy barometric pressure	typically 0.15 hPa (700... 1100 hPa)
Resolution air temperature	0.1 °C

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	THP[pro]
Resolution rel. humidity	0.1 % r.h.
Resolution barometric pressure	0.1 hPa
Protocols	Modbus RTU (preconfigured); SDI-12; NMEA
Interface	Serial RS-485; SDI-12
Supply voltage	4.8...33 V DC
Power consumption	Low power mode: 1 mA at 12 VDC; 4 mA at 24 VDC
Dimensions	H 141 mm x Ø 20 mm
Housing	Aluminum
Protection class	IP 65 (housing)
Weight	approx. 80 g
Standards	DIN EN 60945 DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.14567.060010 Cable 15 m, 4 pole 00.08141.600000 Sensor shelter with natural ventilation

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

THP[pro]NAV TEMPERATURE-HUMIDITY-PRESSURE SENSOR

IP 65 PROTECTION RATING

M12 PLUG CONNECTOR

NAVAL

NMEA DATA PROTOCOL

SEAWATER RESISTENT

Al METAL MATERIAL

Accurate data in challenging maritime conditions

The THP[pro]NAV sensor (Temperature, Humidity, Pressure) has been specifically designed for maritime applications and delivers outstanding performance under extreme conditions. It meets the requirements of shipping, offshore industry, and marine research, ensuring precise measurements of temperature, humidity, and atmospheric pressure. With high accuracy and energy-efficient electronics, the sensor features a capacitive measuring element that is reliably protected from air pollutants by a sintered filter.

- Precise measurements: Capacitive sensor element for reliable determination of relative humidity
- Versatile application: Suitable for all climate zones, from tropical to arctic
- Low maintenance: Minimizes downtime and reduces operating costs
- Additional protection: Sensor shelter 8141.62 protects against environmental influences and optimizes performance

APPLICATIONS

- Shipping
- Offshore industry
- Maritime research
- Environmental monitoring

Professional Line	THP[pro]NAV
Id-No.	00.08095.201000
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r.h.
Meas. range barometric pressure	500...1100 hPa
Accuracy air temperature	± 0.1 K (0...60 °C) ± 0.2 K (-40...0 °C) ± 0.2 K (60...70 °C)
Accuracy rel. humidity	typically at 25 °C: ± 1 % (20...70 %) r. h. ± 1.5 % (0...20 %) r. h. ± 1.5 % (70...90 %) r. h. ± 3 % (90...100 %) r. h.
Accuracy barometric pressure	typically 0.38 hPa (700... 1100 hPa) (15...55 °C)

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	THP[pro]NAV
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 % r.h.
Resolution barometric pressure	0.1 hPa
Protocols	NMEA 0183 (default); WIMHU; WIMMB; WIMTA
Interface	RS485 in RS422/Talker Mode (Half Duplex, unidirectional); Baud rate 4800; 1 Hz; 8 N 1; (SDI-12 on request)
Supply voltage	4.8...33 VDC
Power consumption	4 mA at 24 VDC; 6 mA at 12 VDC; 11 mA at 4.8 VDC
Dimensions	H 140 mm x Ø 20 mm
Housing	Aluminium especially-coated; M12 connector plug (4 pole)
Protection class	IP 65 (housing)
Weight	approx. 80 g
Standards	DIN EN 60945 DIN EN 61000-4-2, 3, 4, 6, 11 MIL-STD-810G EN 60529: 1991 + A1:2000 + A2:2013 Cold test Ad DIN EN 60068-2-1 (01/2008 Condensation test CH acc. ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test acc. DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
Accessories (order separately)	00.08141.620000 Sensor shelter NAV with natural ventilation 00.08141.630000 Sensor shelter Yacht with natural ventilation 32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

8091 HUMIDITY-TEMPERATURE SENSOR

IP 65 PROTECTION RATING

COMBINED HUMIDITY TEMPERATURE

ANALOG OUTPUT

Small, light, compact

Special resistance to airborne pollutants as a result of the use of a high-quality measuring element! This ensures - in combination with the high-quality electronics - excellent measuring accuracy and long-term stability. As a consequence, the sensor (8091) is particularly appropriate for measurements outdoors, in various areas of application.

- Small, light, compact
- Simple mounting, very robust, low-maintenance
- Low power consumption
- Good dynamic behaviour
- Reliable membrane filter as protection against atmospheric pollutants
- High long-term stability

APPLICATIONS

- Building services engineering
- Industry

Professional Line	8091
Id-No.	00.08091.000042 00.08091.000012
Meas. range air temperature	-30...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Accuracy air temperature	± 0.3°C (4...20 mA); plus ± 0.007 K/K (< 10°C, > 40°C)
Accuracy rel. humidity	± 2 % r. h. (5...95 % r. h. at 10...40°C); plus < 0.1 %/ K (<10°C, >40°C)
Response time	< 1 min

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PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	8091
Long-term stability	typical under normal conditions 1% r. h./ year
Output	00.08091.000042: 4...20 mA 00.08091.000012: 0...10 VDC
Supply voltage	00.08091.000042: 12...30 VDC 00.08091.000012: 15...30 VDC
Power consumption	max. 45 mA
Measuring elements	capacitive • Pt100 • IEC 751 class B
Dimensions	H 180 mm • Ø 20 mm
Housing	aluminium • lacquered • grey-white
Protection class	IP 65 • membrane filter as sensor protection IP 30
Weight	0.34 kg
Standards	CE/ EMV: DIN 50082-2 • EN 550011 cl. B
Accessories (order separately)	00.08141.600000 Sensor shelter with natural ventilation 00.08141.600004 Sensor shelter with artificial ventilation 67.01002.056041 Cable: 4 x AWG 20 C UL sw for 00.08091.000042 67.01002.056081 Cabel: 8 x AWG 20 C UL sw for 00.08091.000012

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

8092 HUMIDITY-TEMPERATURE SENSOR

High long term stability

A particular feature of this compact sensor is the sophisticated electronics and the guaranteed outstanding measuring accuracy. The high-quality capacitive measuring element is reliably protected against air pollutants by a membrane filter. The combined sensor is designed for high-quality use in meteorology and industry. The user can independently calibrate the sensor using the calibration and adjustment software.

- Capacitive humidity measuring element
- Special resistance to air pollutants
- High long term stability
- Signal output humidity: 0...1 V (linear 0...100 %)
- Temperature measuring element: Pt100 1/3 DIN
- Signal output temperature: 4-wire-circuit Pt100

APPLICATIONS

- Building technology
- Traffic systems
- Automatic weather stations

Professional Line	8092
Id-No.	00.08092.330402
Meas. range air temperature	-40...+85 °C
Meas. range rel. humidity	0...100 % r. h.
Accuracy air temperature	± 0.3 °C at -40...+85 °C
Accuracy rel. humidity	± 1.5 % r. h. at 10...90 % r. h. at 23 °C < 10 % r. h. > 90 % r. h. ± 2 % r. h. temperature influence TK (unequal 23 °C): < 0.02 % r. h. /K
Response time	Humidity: < 10 s (without filter); at 1.5 m/s wind: < 1.5 min (with filter)
Long-term stability	typical under normal conditions < 1 % r. h./ year

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	8092
Output	Humidity: 0...1 VDC = 0...100 % r. h.; min. load resistance ≥ 2.0 kΩ; Temperature: Pt100 (4-wire circuit)
Range of application	Humidity: 0...100 % r. h.; temperature: -40...+85 °C
Supply voltage	5...30 VDC
Power consumption	3 mA
Measuring elements	Humdity: capacitive; Temperature: Pt100 1/3 DIN B (DIN EN 60571); IEC 751 class B (± 0.1 °C)
Dimensions	H 122 mm; Ø 20 mm
Housing	Aluminium; lacquered; grey membrane filter for outdoor use Ø 20 x 25 mm; M18 x 1
Protection class	Housing: IP 65; Sensor filter area: IP 30; Measuring head: IP 54; Plug: IP 67
Weight	approx. 0.3 kg
EMC standards / Electrical safety	EN 61326-2-3
Accessories (order separately)	00.08141.600000 Sensor shelter with natural ventilation 00.08141.600004 Sensor shelter with artificial ventilation 32.08092.061050 Cable 5 m with cable socket

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

8093 HUMIDITY-TEMPERATURE SENSOR

IP 65 PROTECTION RATING

COMBINED HUMIDITY TEMPERATURE

ANALOG OUTPUT

Low power consumption

Aloft or at the roadside, is where this humidity-temperature sensor (8093.1) is most commonly used. The instrument is characterised by the high-quality measuring elements, robust housing, reliable membrane filter and low-current electronics. Thus the sensor (8093.1) is especially suitable for meteorological outdoor measurements in very diverse application fields.

- Small, light, compact
- Easy installation, robust, nearly maintenance free
- Low power consumption
- Good dynamical behaviour
- Reliable membrane filter as protection against pollutants
- High long-term stability and nearly linear characteristic line

APPLICATIONS

- Building technology
- Traffic systems
- Automatic weather stations
- Buoys
- Agricultural weather stations
- Energy supply and disposal systems
- Environmental measure ment technology

Professional Line	8093
Id-No.	00.08093.100000
Meas. range air temperature	-30...+70 °C
Meas. range rel. humidity	0...100 % r. F.
Accuracy air temperature	± 0.2 °C at -27...+70 °C; Plus: ± 0.007 °C at < +10 °C and > +40 °C
Accuracy rel. humidity	± 2 % r. h. at 5...95 % r. h. • +10...+40°C; Plus: < 0.1 % r. h./ °C at < +10°C and > +40°C
Response time	Humidity: < 20 s (without wind and without filter, otherwise at 1.5 m/s: 1.5 min)
Long-term stability	typical under normal conditions < 1% r. h./ year
Output	0...1 VDC = 0...100% r. h. • min. load resistance ≥ 2.5 kΩ • Pt100 (4-wire circuit)
Supply voltage	10...30 VDC
Power consumption	< 1 mA
Measuring elements	capacitive • Pt100 1/3 DIN • IEC 751 class B
Dimensions	H 122 mm • Ø 20 mm
Housing	aluminium • lacquered • grey-white
Protection class	IP 65 • membrane filter as sensor protection IP 30
Weight	approx. 0.3 kg
Standards	CE/ EMC: DIN 50082-2 • EN 55011 Cl. B
Included in delivery	5 m cable

PRODUCT-VIEW

LAMBRECHT meteo

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8096 HUMIDITY-TEMPERATURE SENSOR

0 _ 10 V ANALOG OUTPUT

IP 65 PROTECTION RATING

Pt TEMPERATURE

V4A METAL MATERIAL

Precision measuring instrument

for measuring relative humidity and air temperature. The compact sensor is characterised by power-saving electronics and a high measuring accuracy. A sinter filter reliably protects the high-quality capacitive measuring element from air pollutants.

- Measuring element temperature: Pt100 1/3 DIN
- Capacitive humidity measuring element
- High measuring accuracy
- Special resistance to air pollutants
- High long-term stability

APPLICATIONS

- Meteorology and industry
- Automatic weather stations in all climatic zones

Professional Line	8096
Id-No.	00.08096.230402 Standard model 00.08096.330402 Shock and vibration-tested precision instrument according to BV0230/ 0430 and BV0440/ 0240
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Accuracy air temperature	± 0.1 °C, 1/3 DIN IEC 751 Class B
Accuracy rel. humidity	± 2 % r. h. at: 5...95 % r. h. • +10...+40 °C (at > 0.5 m/s) • plus: < 0.1 % r. h./ °C at: < +10 °C • > +40 °C
Response time	Humidity: < 20 s (without wind and without filter, otherwise at 1.5 m/s: 1.5 min)
Output	Humidity: 0...1 V DC = 0...100 % r.h. • Min. load resistance ≥ 2 k Ohm Temperature: Pt100 (4-wire circuit)
Range of application	0...100 % r. h. • -40...+70 °C
Supply voltage	6...30 V DC
Power consumption	< 1 mA
Measuring elements	humidity: capacitive • temperature: Pt100 1/3 DIN (DIN EN 60571) • IEC 751 Class B (± 0.1 °C)
Housing	stainless steel • IP 65 • protection class of filter IP 40 • sinter filter for outdoor use
Weight	approx. 0.3 kg
Standards	EMV: DIN EN 60945 - Kap. 9, 10
Cable	3.3 m · fixed cable
Accessories (order separately)	00.08141.600000 Sensor shelter with natural ventilation 00.08141.600004 Sensor shelter with artificial ventilation

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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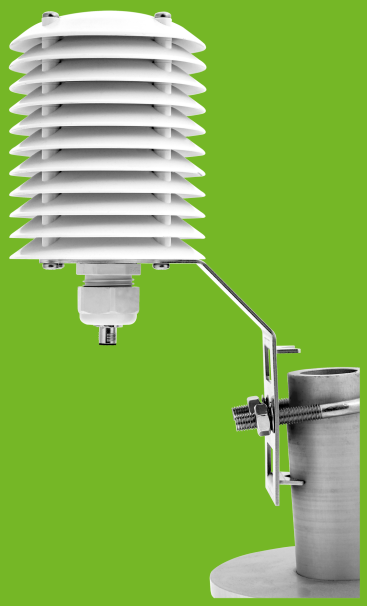
Sensor shelter WITH NATURAL VENTILATION



For universal use

For all weathers and for protection against radiation the sensor shelter with natural ventilation is designed for universal use with relative humidity and air temperature measuring instruments.

- Natural ventilation of the sensors
- No recirculation of the heated air into the ventilation circuit
- Light and radiation transmittance almost eliminated
- UV and weather resistant material
- Extremely robust with improved lamella system
- Universally applicable for different sensors
- Easy installation including mounting material for different masts

APPLICATIONS

- Agricultural meteorology
- Industrial applications
- Hydrology
- Artificial snowmaking
- Traffic meteorology
- Building services

Professional Line	Sensor shelter
Id-No.	00.08141.600000
Design	Mast mounting: Ø 25...50 mm
Dimensions	Ø 120 mm, Height: 300 mm (incl. mounting)
Amount of lamellas	11
Weight	0.95 kg
Included in delivery	Screwing for sensor diameter 14...21 mm
Options (order separately)	32.08141.001010: Adapter for sensor diameter 5 mm 67.26010.540100: Screwing for sensor diameter 18...25 mm

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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8121 AIR PRESSURE SENSOR

METAL MATERIAL

IP 66 PROTECTION RATING

INDUSTRIAL

Absolute pressure

is measured inside the cost effective, practical and robust standard housing. The technical design enables the on site changeover of the measuring range, as well as the choice of the output signal. This universally applicable sensor is the right solution for price conscious customers. It distinguishes itself through its low maintenance and easy operation.

- Cost effective
- OEM variant with three modes of operation
- For use with data loggers in power saving mode (e.g. solar operation)
- One device with two pressure measuring ranges and three standard outputs; adjustable via jumpers

APPLICATIONS

- Building services
- Industrial applications
- Weather stations

Professional Line	8121
Id-No.	00.08121.110002: 500...1100 hPa 00.08121.100002: 600...1100 hPa
Measuring range	500...1100 hPa • 600...1100 hPa • switchable to 800...1100 hPa
Accuracy	± 1 hPa within the range -10...+60 °C • < ± 2 hPa within the range -20...-10 °C
Resolution	0.1 hPa
Output	0...20 mA • 4...20 mA • 0...2 V - selectable / adjustable
Range of application	altitude 0...4000 m • temperatures -20...+70 °C • humidity 0...99 % r. h.
Supply voltage	12...30 VDC (current output) • 5...30 VDC (voltage output)
Power consumption	< 30 mA at 0(4)...20 mA output • < 4 mA at 0...2 VDC output • at 1000 Ω load resistor
Measuring elements	piezoresistive pressure measuring cell
Design	wall mounting
Dimensions	130 x 80 x 60 mm
Housing	resistor polycarbonate • RAL 7035 (light-grey) • 1 cable entrance • 1 pressure equalisation
Protection class	IP 66
Weight	0.3 kg with cable
Cable	2 m connecting cable • 4-pole

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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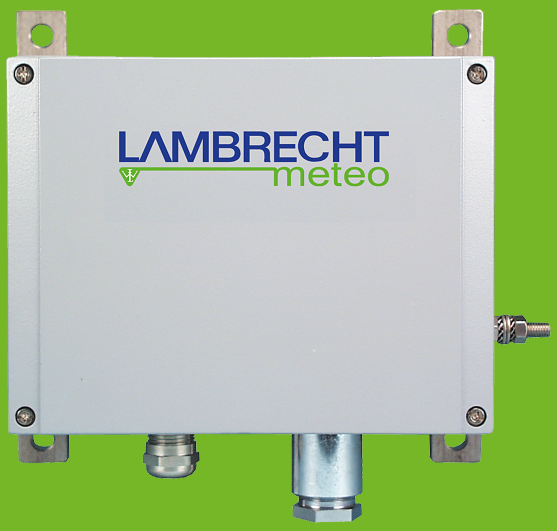
8126 X81 PRECISION AIR PRESSURE SENSOR

ROBUST

RS485 DIGITAL OUTPUT

PROFESSIONAL

METAL MATERIAL



Explicitly highly precise

that's how this LAMBRECHT meteo sensor for absolute pressure works. It is applicable word-wide in a large altitude range. The measuring system with its seawater resistant, multi-layer paint coated housing is extremely robust.

- High reliability
- Serial output signal
- Supplied with factory test certificate
- High quality microprocessor technology

APPLICATIONS

- Shipping
- Aviation
- Airports
- Laboratory applications

Professional Line	8126 X81
Id-No.	00.08126.481002 · sensor module without protective housing: 63.06010.061000
Measuring range	750...1150 hPa
Accuracy	± 0.1 hPa in calibrated range from 750...1150 hPa
Long-term stability	± 100 ppm/ year
Interface	RS 485 (no bus function)
Range of application	-45...+85 °C during operation
Supply voltage	11...28 VDC
Current consumption	typically 16.5 mA · max. 32 mA
Measuring elements	silicon resonator
Dimensions	205 x 180 x 81 mm
Housing	RAL 7001 (grey)
Weight	approx. 2.0 kg
Standards	BS EN 61000-6-1:2007 • BS EN 61000-6-2:2005 • BS EN 61000-6-3:2007 • BS EN 61000-6-4:2007 • BS EN 61326-1:2006

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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8128 AIR PRESSURE SENSOR

ROBUST

METAL MATERIAL

ANALOG OUTPUT

Efficient and cost-effective

The favorable ratio between performance and costs is remarkable. As part of automatic weather stations, in altitudes of up to 3200 m, the sensor precisely reacts to any change in air pressure. The robust housing facilitates trouble-free outdoor application.

- Cost-effective
- Power saving
- Analog output signal
- Factory test certificate included
- High quality microprocessor technology

APPLICATIONS

- Cruise ships
- Weather stations
- Helipads
- Professional meteorology, e.g. at airports
- Industrial applications
- Development

Professional Line	8128
Id-No.	00.08128.085072: 600...1100 hPa 00.08128.095072: 800...1100 hPa
Accuracy	± 0.3 hPa within the range 800...1100 hPa • 20 °C ± 0.5 hPa within the range 600...1100 hPa • 20 °C
Resolution	0.01 hPa
Long-term stability	0.1 hPa/ year
Output	0...5 VDC
Range of application	altitude 0...3200 m • temperatures -40...+60 °C
Supply voltage	9.5...28 VDC
Power consumption	3 mA
Measuring elements	pressure sensitive silicon diaphragm • capacitive
Dimensions	196 x 160 x 97 mm
Housing	aluminium protection guard • RAL 9010 (clean-white) • IP 43
Weight	sensor module 0.135 kg • 1.6 kg with protective housing

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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MODULE TEMPERATURE SENSOR

Especially for photovoltaic systems

The sensor (829) has been specially developed for measuring the module temperature of photovoltaic (PV) systems.

A Pt100 measuring resistor is used as measuring element, which is protected in a body made of seawater-resistant aluminium. An optimal heat conduction between body and measuring element is achieved by a special casting compound.

The temperature can be measured in a 4-wire circuit via the permanently connected cable. This and the shielded cable make the measurement less sensitive to external interference.

APPLICATIONS

· Photovoltaic (PV) systems

Professional Line	MODULE TEMPERATURE SENSOR
Id-No.	00.08290.000030
Measuring range	-40...+105 °C
Accuracy	(0.3 + 0,005 · |T|)
Self-heating at 0 °C	< 0,5 K/mW
Measurement current (DC) at 25 °C	1,0 mA
Range of application	-40...+105 °C
Maximal permissible peak current at 25 °C	3,0 mA
Insulation resistance	> 10 MΩ
Measuring elements	Pt100 F 0.3 resp. DIN EN 60751
Dimensions	Cable length: 3000 mm · Body thickness: 10 mm · Body Ø: 39.5 mm
Protection class	IP 67
Weight	0,4 kg
Cable	Length 3 m, shielded, with bending radius = 41 mm · (approval UL/cUL UL-Style 20233)
Accessories (order separately)	PT100 Modbus Converter

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Pt-Modbus Converter

From analog signal to industry standard

The Pt100- and the Pt1000-Modbus converter acquire the measuring signal of a Pt100 resp. Pt1000 temperature sensor and make the measured value available for interrogation via Modbus RTU (RS485). Due to the simple address assignment from 1...99 by code switches, up to 99 temperature sensors can be quickly integrated into a bus. Like the other Lambrecht Modbus RTU sensors, the Pt-Modbus converter also have autoconfiguration registers (mapping). Thus they can be automatically recognized by the data logger met[LOG] and created for the measurement with just one push of a button.

APPLICATIONS

- Industry
- Process technology
- Building services engineering
- SCADA system
- Solar power plants

Professional Line	Pt-Modbus Converter
Id-No.	00.08790.000000 (Pt100 Modbus Converter) · 00.08790.010000 (Pt1000 Modbus Converter)
Measuring range	-40 ... +80 °C
Signal input	1,5 kV
Sensor supply Pt100	1 mA
RS485 bus	no galvanic isolation
Address switch	2 address switches for 10 + 1 · max. bus users: 99
Measuring rate	1 measurement/s
Environmental conditions	-40...+80 °C
Power supply	50 Hz (1 min.)
Supply voltage	18...30 VDC
Max. power consumption at 24 VDC	300 mW
Max. line resistance	10 Ohm/line
Design	DIN rail 35 mm, EN 50022
Software protocol	Modbus-RTU
Data format	19200, 8, E, 1
Dimensions	6,2 x 92 x 101 mm
Protection class	IP 20
Weight	approx. 30 g

PRODUCT-VIEW	EN 61326, EN 55011, CISPR11 Kl. B, EN 61010-1
Connection technology	4-wire, screw terminals, conductor cross section max. 2.5 mm²
Connectable to	Connectable Lambrecht meteo temperature sensors (Pt100): 00.08290.000030: Module temperature sensor 00.08280.010507: Air, soil and water thermometer Pt100, 1/3 DIN 00.08281.008005: Air temperature sensor Pt100, 1/3 DIN 00.08241.000000: Grass temperature sensor with protection device

LAMBRECHT meteo

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As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Air Temperature Sensor (8281)

Reliable with Pt100

The temperature sensor (8281) registers ambient temperature by a temperature dependent resistor (thin fi lm platinum resistance). The sensor shelter (8141.6) protects the sensor against unmeant weather infl uences like precipitation and solar radiation.

APPLICATIONS

- Meteorology
- Environmental measurement
- Building services engineering
- Climate monitoring
- Industry

Professional Line	Air Temperature Sensor (8281)
Id-No.	00.08281.008005
Meas. range air temperature	-30...+70 °C
Accuracy air temperature	± 0.1 °C at 0 °C
Output	Pt100 resistor • 100 Ohm at 0 °C
Range of application	-60...+90 °C
Measuring elements	Pt100, 1/3 DIN, DIN 43 760 resp. IEC 751
Dimensions	Length 120 mm • Ø 5 mm
Cable	approx. 7.5 m • 4 x AWG 20 C UL sw
Accessories (order separately)	00.08141.600000: Sensor shelter (8141.6) 32.08141.001010: Adapter

As of: 25.11.2024

PRODUCT-VIEW

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AN aem BRAND

Air, Soil, Water Thermometer (828)

Temperature in any aggregate state

The soil sensor (828) is waterproof and is used to measure air, water and soil temperatures precisely. A Pt100 measuring resistor is used as the measuring element, which is protected by a shaft made of VA steel. Its special sealing compound ensures optimum heat conduction between the shaft and the measuring element (tempered glass capsule).

- World-wide popular standard measuring elements
- Robust and corrosion resistant through stainless steel housing

APPLICATIONS

- Environmental measurement technology
- Building services engineering
- Climate monitoring
- Industry

Professional Line	Air, Soil, Water Thermometer (828)
Id-No.	00.08280.010507
Meas. range air temperature	-40...+70 °C
Accuarcy temperature	0.1 °C at 0 °C according to DIN IEC 751
Measuring elements	Pt100 1/3 DIN 43 760 resp. DIN IEC 751
Dimensions	Length 105 mm • Ø 8 mm
Protection class	IP 67
Weight	0.4 kg
Cable	7.5 m
Accessories (order separately)	32.08280.010060: Armoured conduit for ground installation (rodent protection) • 6 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

DigiTemp SOIL & WATER TEMPERATURE SENSOR

Digital in every water area

The FTS DigiTemp is a rugged SDI-12 sensor for measuring the temperature of soil, water or other liquids with scientific-grade accuracy and long-term reliability. It makes adding automatic temperature monitoring to existing stations incredibly easy and cost-effective.

DigiTemp is a fully digital sensor, and is compatible with any SDI-12 compliant datalogger, like the Ser[LOG].

- No complex wiring to set up · just plug it in and forget it.
- Because it is a linear sensor, no need to program coefficients.
- Flexible strain relief cable is durable, watertight, and UV-resistant. Supports cable length up to 152 m (500□) with no impact on performance.
- Strong molded end loop for attaching weights or other mechanism for helping to fish through conduit.

APPLICATIONS

- Soil temperature
- Streams
- Surface water
- Stilling wells
- Dams
- Aquaculture tanks

Professional Line	DigiTemp
Id-No.	DIGITEMP
Meas. range temperature	-40...60 °C
Accuarcy temperature	±0.2 °C (-5...45 °C)
Resolution	0.01 °C
Response time	95 % accuracy in < 2 min. • 99 % in < 3 min.
Interface	SDI-12
Current consumption	5 mA • 0.6 mA quiescent
Dimensions	Ø 16.5 mm • Length 95 mm
Weight	25 g (sensor without cable) · 0.9 kg (sensor with 18.3 m cable)
Cable	Length 18.3 m • customizable up to 152 m • maximum depth 30.5 m • UV-resistant

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

REED WIND SPEED SENSOR

Particularly energy-saving

and economical is the wind speed sensor REED. The slim, flow-optimised outer geometry ensures reliable and precise measurements. For highest stability under load and safe long-term use we rely on robust materials such as seawater-resistant aluminium for the housing. The compact sensor with its simple mounting principles additionally provides a high degree of flexibility.

- Wear-free measured value acquisition for longevity
- Rugged housing for all weather conditions
- Break-proof cup rotor for increased reliability
- Dual precision ball bearings ensure high accuracy

APPLICATIONS

- Mobile Elevating Work Platform (MEWP)
- Cranes
- Building services engineering
- Blinds control
- Sports facilities

Professional Line	REED
Id-No.	00.14595.201070 Wind speed sensor REED, heated
Measuring range	0.7...50 m/s
Accuracy	2 % FS
Resolution	0.26 m/s
Starting value	0.7 m/s
Output	frequency · 0...192 Hz = 0...50 m/s

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	REED
Range of application	temperatures -40...+70 °C • wind speed up to 60 m/s • rel. humidity 0...100 % r. h. (non-condensing)
Strongest wind impact velocity	60 m/s
Supply voltage	6 W heating · nominal 24 VDC (The heating in the sensor head also allows operation in winter, but cannot prevent the sensor from freezing under all climatic conditions.)
Measuring elements	3-armed cup rotor • breakproof plastic
Measuring principle	reed switch · non-contact
Dimensions	width of cup rotor = 95 mm
Housing	seawater resistant aluminium • anodized • IP 65 • for bores with Ø 30 mm at max. 10 mm material thickness
Weight	approx. 0.35 kg
Standards	VDI 3786, sheet 2 • WMO No. 8
Accessories (order separately)	32.05005.001500 15 m sensor connection cable with plug connector M12, 5-wire 32.14627.010000 Traverse for wind sensors 32.14567.006000 Adapter for mast mounting
Connectable to	Ser[LOG] · met[LOG]

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

ECONOMY WIND SPEED SENSOR

Seawater resistant full metal housing for long-term use

The ECONOMY wind sensors, tried and tested thousands of times, stand for high functionality and reliability. A very good price-performance ratio results from the dimensionally stable measuring elements, the robust full metal housing as well as very good starting values and linearity. The sensors are small and lightweight, are quickly mounted and easily provide measured values using two analog outputs.

- Good responsiveness
- High accuracy over a wide temperature range
- Anodized, seawater resistant surface
- Dimensionally stable measuring elements for long-term use
- Easy mounting due to cable plug connection and one-screw fixation

APPLICATIONS

- Wind turbines
- Agriculture
- Wind warning systems
- Industry

Professional Line	ECONOMY
Id-No.	00.14575.400000
Measuring range	0.7...50 m/s
Accuracy	2 % FS
Resolution	0.1 m/s
Starting value	< 0.7 m/s
Output	0...20 mA = 0...35 m/s (maximum load 500 Ohm at 15 V) (factory setting) 4...20 mA = 0...35 m/s (maximum load 500 Ohm at 15 V) (factory setting)
Range of application	temperature: -30...+70 °C heated; 0...70 °C unheated survival wind speed: 75 m/s
Supply voltage	10...30 VDC Heating voltage: 24 VDC, 600 mA (for controlled heating)
Measuring elements	three-armed cup rotor, break-proof
Dimensions	see dimensional drawing in the manual; for mounting on tube Ø 49...51 mm
Housing	seawater resistant aluminum; anodized; IP 53
Weight	approx. 0.4 kg
Accessories (order separately)	Id No. 32.14565.060000: Ready-made cable with 12-pin plug; length 12 m Id No. 32.14565.060020: Ready-made cable with 12-pin plug; length 15 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

ECONOMY WIND DIRECTION SENSOR

Proven, long-term stable measuring elements

The ECONOMY wind sensors, tried and tested thousands of times, stand for high functionality and reliability. A very good price-performance ratio results from the dimensionally stable measuring elements, the robust full metal housing as well as very good starting values and linearity. The sensors are small and lightweight, are quickly mounted and easily provide measured values using two analog outputs.

- Good responsiveness
- High accuracy over a wide temperature range
- Anodized, seawater resistant surface
- Dimensionally stable measuring elements for long-term use
- Easy mounting due to cable plug connection and one-screw fixation

APPLICATIONS

- Wind turbines
- Agriculture
- Wind warning systems
- Industry

Professional Line	ECONOMY
Id-No.	00.14565.400000
Measuring range	0...360°
Accuracy	3.6°
Resolution	1°
Starting value	< 0.7 m/s
Output	0...20 mA (maximum load 500 Ohm at 15 V) 4...20 mA (maximum load 500 Ohm at 15 V)
Range of application	temperature: -30...+70 °C heated; 0...70 °C unheated survival wind speed: 75 m/s
Supply voltage	10...30 VDC Heating voltage: 24 VDC, 600 mA (for controlled heating)
Measuring elements	blade vane, aluminum, dimensionally stable
Dimensions	see dimensional drawing in the manual; for mounting on tube Ø 49...51 mm
Housing	seawater resistant aluminum; anodized; IP 53
Weight	approx. 0.4 kg
Accessories (order separately)	Id No. 32.14565.060000: Ready-made cable with 12-pin plug; length 12 m Id No. 32.14565.060020: Ready-made cable with 12-pin plug; length 15 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

INDUSTRY WIND SPEED SENSOR

Proven in a wide range of applications

Of a special nature and a very economical purchase is this wind speed sensor. Furthermore, the sensor impresses with high accuracy, the simplest mounting methods and ultimately robust, seawater resistant materials. The optimal heating of the sensor head and the minimum power demand of the system are made possible by thermal decoupling of the housing shaft.

- Precision, tradition and future reliability
- Large operative measuring and temperature range
- Simplest mast mounting
- Very good starting values through magnetic, contactless measuring principle
- Optimal heating concept

APPLICATIONS

- Industry
- Wind turbines
- Building services
- Wind warning systems

Professional Line	INDUSTRY
Id-No.	00.14577.110040 Wind speed 4...20 mA output
Measuring range	0.7...50 m/s
Accuracy	< ± 2 % FS
Resolution	< 0.02 m/s
Starting value	< 0.7 m/s
Output	4...20 mA = 0...50 m/s 0...20 mA and 0-10 V on request max. load 600 Ω
Range of application	temperature -30...+70 °C heated; wind speed 0...60 m/s
Supply voltage	24 (20...28) VDC; max. 800 mA, electronically controlled heating; 18 W
Measuring elements	plastic; 3 armed cup rotor; fail safe
Measuring principle	Hall Sensor Array
Dimensions	wind speed: cup rotor Ø 95 mm - H 230 mm
Housing	aluminium anodised; IP 55; Ø 32 mm; bore Ø 30 mm for mounting at traverse
Weight	approx. 0.25 kg
Accessories (order separately)	32.14567.060000 Sensor cable 12 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

INDUSTRY WIND DIRECTION SENSOR

A very economical purchase

Of a special nature and a very economical purchase is this wind direction sensor. Furthermore, the sensor impresses with high accuracy, the simplest mounting methods and ultimately robust, seawater resistant materials. The optimal heating of the sensor head and the minimum power demand of the system are made possible by thermal decoupling of the housing shaft.

- Precision, tradition and future reliability
- Large operative measuring and temperature range
- Simplest mast mounting
- Very good starting values through magnetic, contactless measuring principle
- Optimal heating concept

APPLICATIONS

- Industrial applications
- Wind turbines
- Building services
- Wind warning systems
- Environmental measurement technology

Professional Line	INDUSTRY
Id-No.	00.14567.110040 Wind direction 4...20 mA output
Measuring range	0...360°
Accuracy	± 2°
Resolution	2°
Starting value	< 0.7 m/s
Output	4...20 mA 0...20 mA and 0...10 V on request max. load 600 Ω
Range of application	temperatures -30...+70 °C heated; wind speed 0...60 m/s
Supply voltage	24 (20...28) VDC; max. 800 mA; electr. controlled heating; 18 W
Measuring elements	plastic • wind vane - dimensionally stable
Measuring principle	Hall Sensor Array
Dimensions	wind vane L 232 mm - H 327 mm
Housing	aluminium anodised; IP 55; Ø 32 mm; bore Ø 30 mm for mounting at traverse
Weight	approx. 0.35 kg
Accessories (order separately)	32.14567.060000 Sensor cable 12 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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INDUSTRY Modbus WIND SPEED SENSOR

Very economical

This wind pair is of a special nature and very economical in acquisition. Furthermore, these sensors impress with high accuracy, simplest mounting methods and ultimately robust, seawater-proof materials. The Modbus RTU interface simplifies sensor installation and integration into networks.

- Precision, tradition and future reliability
- Large operative measuring and temperature range
- Simplest mast mounting
- Very good starting values through magnetic, contactless measuring principle

APPLICATIONS

- Professional meteorology
- Building automation
- Photovoltaic systems
- Industry

Professional Line	INDUSTRY Modbus
Id-No.	00.14577.110030
Measuring range	0.7...50 m/s
Accuracy	0.5 m/s at 0.7...5 m/s and 2 % FS at 5.02...50 m/s
Resolution	< 0.02 m/s
Starting value	< 0.7 m/s
Output	Modbus RTU · RS 485
Range of application	temperatures -30...+70 °C heated • wind speed 0...60 m/s
Supply voltage	24 (20...28) VDC • max. 800 mA
Measuring elements	plastic • 3 armed cup rotor - fail safe
Measuring principle	Hall Sensor Array
Dimensions	cup rotor Ø 95 mm - H 230 mm
Housing	aluminium • anodised • IP 55 • Ø 32 mm • bore Ø 30 mm for mounting at traverse
Weight	approx. 0.25 kg
Included in delivery	4-pole M12 plug connector
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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INDUSTRY Modbus WIND DIRECTION SENSOR

Robust, seawater-proof materials

The INDUSTRY Modbus wind sensor pair is very economical to purchase. Furthermore, these sensors impress with high accuracy, simplest mounting methods and ultimately robust, seawater-proof materials. The Modbus RTU interface simplifies sensor installation and integration into networks.

- Precision, tradition and future reliability
- Large operative measuring and temperature range
- Simplest mast mounting
- Very good starting values through magnetic, contactless measuring principle

APPLICATIONS

- Professional meteorology
- Building automation
- Photovoltaic systems
- Industry

Professional Line	INDUSTRY Modbus
Id-No.	00.14567.110030
Measuring range	0...360°
Accuracy	2°
Resolution	2°
Starting value	< 0.7 m/s
Output	Modbus RTU · RS 485
Range of application	temperatures -30...+70 °C heated; wind speed 0...60 m/s
Supply voltage	24 (20...28) VDC; max. 800 mA
Measuring elements	plastic • wind vane - dimensionally stable
Measuring principle	Hall Sensor Array
Dimensions	wind vane L 232 mm - H 327 mm
Housing	aluminium • anodised • IP 55 • Ø 32 mm • bore Ø 30 mm for mounting at traverse
Weight	approx. 0.35 kg
Included in delivery	4-pole M12 plug connector
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

ORA WIND SPEED SENSOR

IP 65 PROTECTION RATING

Al METAL MATERIAL

0 – 2.5 V ANALOG OUTPUT

LP LOW POWER

Highly precise, robust

and professional are these new wind sensors of the ORA-family. The low power consumption of < 2 mA makes this sensor ideally suitable for solar powered applications. The sensor is completely made of metal and if necessary the cup rotor is easy to change in the field.

- Low power consumption < 2 mA
- All-metal housing made of seawater resistant aluminium
- On site changeable cup rotor made of seawater resistant aluminium
- Protection class IP 65 in upright position

APPLICATIONS

- Wind turbines
- Professional weather stations
- Agriculture
- Solar powered applications

Professional Line	ORA
Id-No.	00.14594.220100
Measuring range	0.4...75 m/s; ± 0.3 m/s ≤ 10 m/s; ± 1 % FS ...50 m/s
Accuracy	< ± 0,5 m/s
Resolution	< ± 0,1 m/s
Starting value	0.4 m/s
Output	0...2.5 V = 0...75 m/s
Strongest wind impact velocity	80 m/s
Supply voltage	4...15 VDC
Current consumption	< 2 mA (low power)
Measuring principle	Magnetical positioning encoder system (MPES)
Dimensions	cup rotor Ø 108 mm - H 192 mm
Housing	seawater resistant aluminium; IP 65; for bores with Ø 30 mm at max. 10 mm material thickness; incl. plug connector
Weight	approx. 0.90 kg
Standards	VDI 3786, sheet 2; WMO No. 8
Accessories (order separately)	ID 32.14627.010000 Traverse; sensor distance: 75 cm ID 32.14567.006000 Mast adapter; diameter: 50 mm ID 32.14567.060000 Sensor cable with plug connection, length: 12 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

ORA WIND DIRECTION SENSOR

Highly precise, robust

and professional are these new wind sensors of the ORA-family. The low power consumption of < 2 mA makes this sensor ideally suitable for solar powered applications. The sensor is completely made of metal and if necessary the cup rotor is easy to change in the field.

- Low power consumption < 2 mA
- All-metal housing made of seawater resistant aluminium
- On site changeable cup rotor made of seawater resistant aluminium
- Protection class IP 65 in upright position

APPLICATIONS

- Wind turbines
- Professional weather stations
- Agriculture
- Solar powered applications

Professional Line	ORA
Id-No.	00.14594.120000
Measuring range	0...360°
Accuracy	< ± 2°
Resolution	1°
Starting value	0.4 m/s
Output	0...2.5 V = 0...360°
Strongest wind impact velocity	80 m/s
Supply voltage	4...15 VDC
Current consumption	< 2 mA (low power)
Measuring principle	Magnetical positioning encoder system (MPES)
Dimensions	wind vane L 230 mm - H 256mm
Housing	seawater resistant aluminium; IP 65; for bores with Ø 30 mm at max. 10 mm material thickness; incl. plug connector
Weight	approx. 0.95 kg
Standards	VDI 3786, sheet 2; WMO No. 8
Accessories (order separately)	ID 32.14627.010000 Traverse; sensor distance: 75 cm ID 32.14567.006000 Mast adapter; diameter: 50 mm ID 32.14567.060000 Sensor cable with plug connection, length: 12 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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PRO-Modbus WIND SPEED SENSORS

Extremely robust and with Modbus RTU

The Modbus RTU Interface simplifies the integration of the sensors into networks and allows the construction of long communication distances. PRO-Modbus sensors are predestined for use in areas subject to lightning. Their improved protection against electrostatic discharge in combination with the interference-proof communication ensures a high integrity of your data. PRO-Modbus sensors with their integrated, regulated heating system provide you with reliable work as a tireless endurance runner in all-year use and in most climatic zones.

- Improved protection against electrostatic discharge
- Especially robust due to reinforced axis
- High measuring range of 75 m/s
- Low starting values of < 0.5 m/s
- Very high resolution of measuring values

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	PRO-Modbus
Id-No.	00.14524.101030
Measuring range	0.5...75 m/s
Accuracy	0.3 m/s ≤ 10 m/s • 0.5 m/s...60 m/s
Resolution	< 0.1 m/s
Starting value	< 0.5 m/s
Output	Modbus RTU
Range of application	temperatures -40...+70 °C heated • wind speed max. gusts 100 m/s • humidity 0...100 % r.h.
Supply voltage	24 VDC (6...32 VDC)
Current consumption	max. 800 mA at 24 VDC and max. heating • 13 mA at 24 VDC and inactive heating (The heating can be deactivated via software tool. This allows the current consumption to be reduced to 8.5 mA at 24 VDC.)
Measuring elements	aluminium • special surface • 3 armed cup rotor
Measuring principle	Hall Sensor Array, non-contact
Heating data	18 W heating • electronically controlled • The heating within the sensor head prevents blocking of the moving parts under most climatological conditions.
Housing	seawater resistant aluminium • IP 65 in upright position • M12 cable-plug connection • stainless steel nut and lock washer
Weight	0.35 kg
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

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PRODUCT-VIEW

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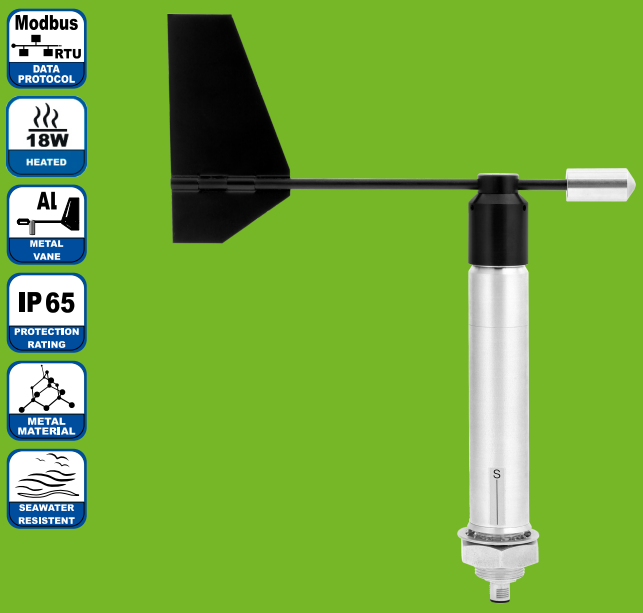
PRO-Modbus WIND DIRECTION SENSOR



Rugged for year-round use

The Modbus RTU Interface simplifies the integration of the sensors into networks and allows the construction of long communication distances. PRO-Modbus sensors are predestined for use in areas subject to lightning. Their improved protection against electrostatic discharge in combination with the interference-proof communication ensures a high integrity of your data. PRO-Modbus sensors with their integrated, regulated heating system provide you with reliable work as a tireless endurance runner in all-year use and in most climatic zones.

- Improved protection against electrostatic discharge
- Especially robust due to reinforced axis
- Low starting values of < 0.5 m/s
- Very high resolution of measuring values

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	PRO-Modbus
Id-No.	00.14523.131030
Measuring range	0...360°
Accuracy	2°
Resolution	<1°
Starting value	< 0.5 m/s
Output	Modbus RTU
Range of application	temperatures -40...+70 °C heated • wind speed max. gusts 100 m/s • humidity 0...100 % r.h.
Supply voltage	24 VDC (6...32 VDC)
Current consumption	max. 800 mA at 24 VDC and max. heating • 13 mA at 24 VDC and inactive heating (The heating can be deactivated via software tool. This allows the current consumption to be reduced to 8.5 mA at 24 VDC.)
Measuring elements	aluminium • special surface • wind vane
Measuring principle	Hall Sensor Array, non-contact
Heating data	18 W heating • electronically controlled • The heating within the sensor head prevents blocking of the moving parts under most climatological conditions.
Housing	seawater resistant aluminium • IP 65 in upright position • M12 cable-plug connection • stainless steel nut and lock washer
Weight	0.4 kg
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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PRO-WEA WIND SPEED SENSOR

SEAWATER RESISTENT

WIND ENERGY

METAL MATERIAL

IP 65 PROTECTION RATING

Al METAL CUP ROTOR

18W HEATED

The universal genius

The wind sensor with improved protection against electrostatic discharge! Thus these high-tech sensors are predestined for operation in lightning-prone regions. The design is aerodynamically optimised and both the housing and the measuring elements are made of seawater resistant aluminium. Further advantages include the integrated, controlled heating and the optionally available cable with high UV-resistance. PRO-WEA wind sensors are robust and best suited for year-round applications in most climatic zones.

· Improved protection against electrostatic discharge
· Especially robust due to reinforced axis
· High measuring range of 60 m/s

APPLICATIONS

· Wind power plants
· Crane systems
· Open-pit mining

Professional Line	PRO-WEA
Id-No.	00.14524.101040
Measuring range	0.5...60 m/s
Accuracy	± 0.3 m/s ≤ 10 m/s • ± 0.5 m/s...60 m/s
Resolution	< 0.1 m/s
Starting value	< 0.5 m/s
Output	4...20 mA = 0...60 m/s
Update rate	4 Hz (For the 4...20 mA output, the maximum load of 600 Ohm must not be exceeded.)
Range of application	temperatures -40...+70 °C heated; wind speed max. gusts 100 m/s; humidity 0...100 % r.h.
Supply voltage	24 VDC (20...28 VDC); 18 W heating; max. 800 mA. The heating within the sensor head prevents blocking of the moving parts under most climatological conditions
Measuring elements	aluminium; special surface; 3-armed cup rotor
Measuring principle	Hall Sensor Array, non-contact
Housing	seawater resistant aluminium; IP 65 in upright position; M12 cable-plug connection; stainless steel nut and lock washer
Weight	0.35 kg
Accessories (order separately)	ID 32.14567.060000 Sensor cable with plug connection; length: 12 m ID 32.14627.010000 Traverse; sensor distance: 75 cm ID 32.14567.008000 Mast adapter; diameter: 50 mm ID 32.14565.019000 Lightning rod

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

PRO-WEA WIND DIRECTION SENSOR

Protection against electrostatic discharge

The wind sensor with improved protection against electrostatic discharge! Thus these high-tech sensors are predestined for operation in lightning-prone regions. The design is aerodynamically optimised and both the housing and the measuring elements are made of seawater resistant aluminium. Further advantages include the integrated, controlled heating and the optionally available cable with high UV-resistance. PRO-WEA wind sensors are robust and best suited for year-round applications in most climatic zones.

- Improved protection against electrostatic discharge
- Especially robust due to reinforced axis
- Possible application with max. gusts of 100 m/s

APPLICATIONS

- Wind power plants
- Crane systems
- Open-pit mining

Professional Line	PRO-WEA
Id-No.	00.14523.131040
Measuring range	0...360°
Accuracy	± 2°
Resolution	<1°
Starting value	< 0.5 m/s
Output	4...20 mA = 0...360°
Update rate	4 Hz (For the 4...20 mA output, the maximum load of 600 Ohm must not be exceeded.)
Range of application	temperatures -40...+70 °C heated; wind speed max. gusts 100 m/s; humidity 0...100 % r.h.
Supply voltage	24 VDC (20...28 VDC); 18 W heating; max. 800 mA. The heating within the sensor head prevents blocking of the moving parts under most climatological conditions
Measuring elements	aluminium; special surface; wind vane
Measuring principle	Hall Sensor Array, non-contact
Housing	seawater resistant aluminium; IP 65 in upright position; M12 cable-plug connection; stainless steel nut and lock washer
Weight	0.4 kg
Accessories (order separately)	ID 32.14567.060000 Sensor cable with plug connection; length: 12 m ID 32.14627.010000 Sensor cable with plug connection; length: 12 m ID 32.14567.008000 Mast adapter; diameter: 50 mm ID 32.14565.019000 Lightning rod

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

PROFESSIONAL WIND SPEED SENSOR

High resistance to seawater

The titan of the wind sensors meets the challenge of highest reliability over a very large measuring range. Two versions are available with regard to power supply and signal output. The design is not only aerodynamically optimised, but also effectuates extremely good deep-seaworthiness and seawater resistance, through the special surface treatment and a water trap in the sensor head.

- Meets the requirements for meteorological measurements according to WMO
- Large measuring range up to 75 m/s
- Very low starting value of < 0.3 m/s through the magnetic, contactless measuring principle
- Extreme high seawater resistance through the high quality surface
- Optimal heating concept at the 4...20 mA version

APPLICATIONS

- Wind turbines
- Wind warning systems
- Power plants
- Airports
- Maritime

Professional Line	PROFESSIONAL
Id-No.	00.14522.110040
Measuring range	0.3...75 m/s
Accuracy	± 0.3 m/s ≤ 10 m/s; ± 1 % FS...50 m/s
Resolution	< 0.1 m/s
Starting value	< 0.3 m/s

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	PROFESSIONAL
Output	4...20 mA = 0...75 m/s
Update rate	4 Hz
Range of application	temperatures -40...+70 °C, heated; max. gusts of 100 m/s
Supply voltage	with electr. controlled shaft heating, 18W; 24 VDC (20...28 VDC); max. 800 mA
Measuring elements	three-armed cup rotor, fail safe; Aluminium specially coated
Measuring principle	Magnetical Positioning Encoder System (MPES)
Dimensions	cup rotor R81 - H 235 mm
Housing	alumium special surface, black; seawater resistant; IP 65 in upright position Ø 32 mm; bore Ø 30 mm for mounting at a mast or traverse
Weight	0.35 kg
Accessories (order separately)	ID 32.14567.060000 Sensor cable with plug connection, length: 12 m ID 32.14627.010000 Traverse; sensor distance: 75 cm ID 32.14567.006000 Mast adapter; diameter: 50 mm ID 32.14565.019000 Lightning rod

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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PROFESSIONAL WIND DIRECTION SENSOR

Precision and reliability

The titan of the wind sensors meets the challenge of highest reliability over a very large measuring range. Two versions are available with regard to power supply and signal output. The design is not only aerodynamically optimised, but also effectuates extremely good deep-seaworthiness and seawater resistance, through the special surface treatment and a water trap in the sensor head.

- Meets the requirements for meteorological measurements according to WMO
- Large measuring range up to 75 m/s
- Very low start-up value of < 0.3 m/s due to non-contact measuring principle
- Extremely high salt water resistance due to high-quality coating
- Optimal heating concept for use in all climate zones

APPLICATIONS

- Wind turbines
- Wind warning systems
- Airports
- Maritime

Professional Line	PROFESSIONAL
Id-No.	00.14521.110040
Measuring range	0...360°
Accuracy	± 1°
Resolution	< 1°
Starting value	< 0.3 m/s

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	PROFESSIONAL
Output	4...20 mA = 0...360°
Update rate	4 Hz
Range of application	temperatures -40...+70 °C (heated); max. gusts of 100 m/s
Supply voltage	with electr. controlled shaft heating, 18W; 24 VDC (20...28 VDC); max. 800 mA
Measuring elements	blade wind vane, dimensionally stable; Aluminium specially coated
Measuring principle	Magnetical Positioning Encoder System (MPES)
Dimensions	wind vane L 174 mm - H 310 mm
Housing	aluminium special surface, black, seawater resistant; IP 65 in upright position Ø 32 mm; bore Ø 30 mm for mounting at a mast or traverse
Weight	0.4 kg
Accessories (order separately)	ID 32.14567.060000 Sensor cable with plug connection, length: 12 m ID 32.14627.010000 Traverse; sensor distance: 75 cm ID 32.14567.006000 Mast adapter; diameter: 50 mm ID 32.14565.019000 Lightning rod

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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PROFESSIONAL-IX 3.0 WIND SPEED SENSOR

WIND ENERGY

SEAWATER RESISTENT

IP 65 PROTECTION RATING

Al METAL CUP ROTOR

COLD CLIMATE

125W HEATED

For use in extreme cold

of the sensors PROFESSIONAL-IX 3.0 with 125-watt heating unit! Consequently, these high-quality wind sensors are particularly appropriate for use in extremely low temperatures. The double bearings as well as special alloys enable the large measuring and temperature operating ranges. The contactless measuring principle ensures wear-free, precise and thus certain data acquisition. The simple mounting methods provide a high degree of flexibility.

- Wide measuring and temperature operating ranges for year-round use
- Very good starting values due to contactless measuring principle
- Optimal heating concept for cold climate
- Extremely high robustness and longevity

APPLICATIONS

- Cold Climate Standard
- Polar stations
- Wind turbines
- Cableways
- Winter sports facilities
- Wind warning systems

Professional Line	PROFESSIONAL-IX 3.0
Id-No.	00.14602.300000: 0...20 mA 00.14602.300004: 4...20 mA 00.14602.300007: frequency • 0...500 Hz = 0...50 m/s
Measuring range	0.4...50 m/s
Accuracy	± 2 % FS at 0.4...50 m/s
Resolution	< 0.1 m/s
Starting value	0.4 m/s
Output	0(4)...20 mA
Range of application	temperatures -40...+70 °C heated • wind speed 0...60 m/s • humidity 0...100 % r. h.
Supply voltage	sensor 24 (20...28) VDC • heating 24 VDC • 125 W
Measuring elements	special coated • 3 armed cup rotor - aluminium
Measuring principle	contact-free • Hall Sensor Array
Dimensions	wind speed: cup rotor Ø 218 mm - H 241 mm
Housing	seawater resistant aluminium • specially coated • IP 65 in upright position
Weight	approx. 0.8 kg
Accessories (order separately)	Id-No. 32.14601.060000 15 m cable, onesided with connector Id-No. 32.14567.006000 Mast adapter Ø 50 mm Id-No. 32.14567.010000 Traverse

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

PROFESSIONAL-IX 3.0 WIND DIRECTION SENSOR

Safe operation in ice and snow

of the sensors PROFESSIONAL-IX 3.0 with 125-watt heating unit! Consequently, these high-quality wind sensors are particularly appropriate for use in extremely low temperatures. The double bearings as well as special alloys enable the large measuring and temperature operating ranges. The contactless measuring principle ensures wear-free, precise and thus certain data acquisition. The simple mounting methods provide a high degree of flexibility.

- Wide measuring and temperature operating ranges for year-round use
- Very good starting values due to contactless measuring principle
- Optimal heating concept for cold climate
- Extremely high robustness and longevity

APPLICATIONS

- Cold Climate Standard
- Polar stations
- Wind turbines
- Cableways
- Winter sports facilities
- Wind warning systems

Professional Line	PROFESSIONAL-IX 3.0
Id-No.	00.14601.300000: 0...20 mA 00.14601.300004: 4...20 mA
Measuring range	0...360°
Accuracy	± 1°
Resolution	< 1°
Starting value	0.4 m/s
Output	0(4)...20 mA
Range of application	temperatures -40...+70 °C heated • wind speed 0...60 m/s • humidity 0...100 % r. h.
Supply voltage	sensor 24 (20...28) VDC • heating 24 VDC • 125 W
Measuring elements	special coated • blade wind vane - dynamically stable aluminium
Measuring principle	contact-free • Hall Sensor Array
Dimensions	wind vane L 195 mm - H 295 mm
Housing	seawater resistant aluminium • specially coated • IP 65 in upright position
Weight	approx. 0.8 kg
Accessories (order separately)	Id-No. 32.14601.060000 15 m cable, onesided with connector Id-No. 32.14567.006000 Mast adapter Ø 50 mm Id-No. 32.14567.010000 Traverse

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

METEOROLOGY WIND SPEED SENSOR

Replaceable measuring element for fast service

Having proven themselves thousands of times on wind turbines, METEOROLOGY sensors stand for highest quality, functionality, and reliability. The sensors are small and light, yet almost unbreakable due to their robust aluminum housing and the unbreakable measuring element. The wind speed sensors are quickly mounted and particularly service-friendly due to a field-replaceable cup rotor.

- Low, optimized starting value and high accuracy
- Suitable for winter use and with a wide temperature application range
- Anodized, seawater resistant surface
- Unbreakable measuring element for long-term use
- Easy mounting due to cable plug connection and one-screw fixation

APPLICATIONS

- Wind turbines
- Wind warning systems
- Drilling rigs
- Industry

Professional Line	METEOROLOGY
Id-No.	00.14576.400000
Measuring range	0.3...50 m/s
Accuracy	2 % FS
Resolution	0.1 m/s
Starting value	0.3 m/s
Output	0...20 mA (maximum load 500 Ohm at 15 V) 4...20 mA (maximum load 500 Ohm at 15 V)
Range of application	temperature: -30...+70 °C heated; 0...70 °C unheated survival wind speed: 100 m/s
Supply voltage	10...30 VDC Heating voltage: 24 VDC, 600 mA (for controlled heating)
Measuring elements	three-armed cup rotor, break-proof
Dimensions	see dimensional drawing in the manual; for mounting on tube Ø 49...51 mm
Housing	seawater resistant aluminum; anodized; IP 53
Weight	approx. 0.4 kg
Accessories (order separately)	ID 32.14565.060000: Ready-made cable with 12-pin plug; length 12 m ID 32.14565.060020: Ready-made cable with 12-pin plug; length 15 m ID 32.14576.005010: Wind vane for wind speed sensor

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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METEOROLOGY WIND DIRECTION SENSOR

Service-friendly with replaceable wind vane

Having proven themselves thousands of times on wind turbines, METEOROLOGY sensors stand for highest quality, functionality, and reliability. The sensors are small and light, yet almost unbreakable due to their robust aluminum housing and the dimensionally stable aluminum wind vane. The wind direction sensors are quickly mounted and particularly service-friendly due to a field-replaceable wind vane.

- Low, optimized starting value and high accuracy
- Suitable for winter use and with a wide temperature application range
- Anodized, seawater resistant surface
- Dimensionally stable measuring element for long-term use
- Easy mounting due to cable plug connection and one-screw fixation

APPLICATIONS

- Wind turbines
- Wind warning systems
- Drilling rigs
- Industry

Professional Line	METEOROLOGY
Id-No.	00.14566.400000
Measuring range	0...360°
Accuracy	1°
Resolution	1°
Starting value	0.3 m/s
Output	0...20 mA (maximum load 500 Ohm at 15 V) 4...20 mA (maximum load 500 Ohm at 15 V)
Range of application	temperature: -30...+70 °C heated; 0...70 °C unheated survival wind speed: 100 m/s
Supply voltage	10...30 VDC Heating voltage: 24 VDC, 600 mA (for controlled heating)
Measuring elements	blade vane, aluminum, dimensionally stable
Dimensions	see dimensional drawing in the manual; for mounting on tube Ø 49...51 mm
Housing	seawater resistant aluminum; anodized; IP 53
Weight	approx. 0.4 kg
Accessories (order separately)	ID 32.14565.060000: Ready-made cable with 12-pin plug; length 12 m ID 32.14565.060020: Ready-made cable with 12-pin plug; length 15 m ID 32.14565.001010: Wind vane for wind direction sensor

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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24513 COMBINED NAVAL WIND SENSOR

Modern electronics

paired with robust mechanics. Mechanical abrasion is reduced to a minimum. The measured wind values are serially supplied at every second as a NMEA protocol. Under extreme weather conditions at sea, as well as on land, this top sensor is the first choice!

- Seawater resistant housing
- IP 65
- Low starting values
- high measuring accuracy and linearity across the whole measuring range
- NMEA 0183
- High quality and durable construction

APPLICATIONS

- Professional marine meteorology
- Coastal surveillance
- Off shore wind power plants
- Drilling platforms
- Buoys
- Aggressive environmental conditions

Professional Line	24513
Id-No.	00.24513.205010
Meas. range wind direction	0...360°
Meas. range wind speed	0.4...60 m/s
Accuracy wind direction	± 2.5°
Accuracy wind speed	± 2 % FS
Resolution wind direction	< 1°
Resolution wind speed	0.1 m/s

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	24513
Starting value	wind direction: 0.8 m/s related to a deflection of the wind vane of 90° • wind speed: ≤ 0.4 m/s
Protocols	NMEA 0183 • WIMWV
Interface	serial RS 485/ Talker baud rate 4800 • 1 Hz (at measuring cycle 4 Hz) • 8 N 1
Range of application	temperatures -35...+70 °C heated • wind speed 0...60 m/s
Supply voltage	24 VDC/ 50 mA • heating 24 VDC/ 1.5 A/ max. 35 VA • electr. controlled
Measuring elements	wind direction: wedge-shaped wind vane • wind speed: 3-armed cup rotor
Dimensions	cup rotor Ø 280 mm • H 520 mm • for mounting pipe Ø 50 mm
Housing	seawater resistant aluminium
Weight	2.7 kg
Options (order separately)	Data logger met[LOG] • Visualisation and evaluation software MeteoWare-CS3 • Display unit METEO-LCD/NAV
Accessories (order separately)	32.16420.066100 Sensor cable, 10 m • 12-pole bayonet plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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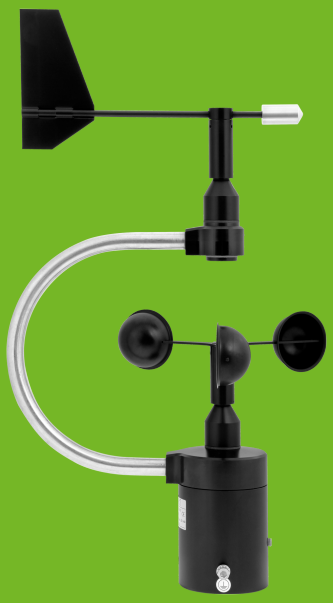
ARCO-SERIAL WIND SENSOR



The robust combined sensor

The sensors of the ARCO family are very robust, compact and extremely reliable. Due to their shock and vibration proof construction the sensors ARCO-SERIAL are particulary qualified for use under severe environmental conditions. The housing and the measuring elements are made of seawater resistant aluminium alloys. The housing, the cup rotor and the wind vane are anodised.

- Qualitatively ambitious and cost-effective solution
- Reliable wind measurement, including under extreme weather conditions
- Seawater resistant materials and surface finishes for long-life application, including under harsh conditions
- Quick and easy pipe mounting, connection with just one cable

Also with Modbus or customised protocols realisable!

APPLICATIONS

- Robust industry applications

Professional Line	ARCO-SERIAL
Id-No.	00.14581.010010
Meas. range wind direction	0...360°
Meas. range wind speed	0.3 ... 75 m/s
Accuracy wind direction	± 1°
Accuracy wind speed	± 2 % FS at 0.3 ... 50 m/s
Resolution wind direction	1°
Resolution wind speed	< 0.1 m/s
Output	serial RS 422, NMEA 0183 - Talker
Range of application	temperature -30 ... +70 °C • wind speed 0...80 m/s • 0...100 % r. h.
Supply voltage	Sensor: (10...28 V DC), 24 V DC, 20 mA (at V DC) • Heating: (20...28 V DC), 24 V DC, 800 mA
Housing	made of anodized seawater resistent aluminium, stainless steel
Accessories (order separately)	32.14581.060000: Sensor cable, 10 m, 5 pole

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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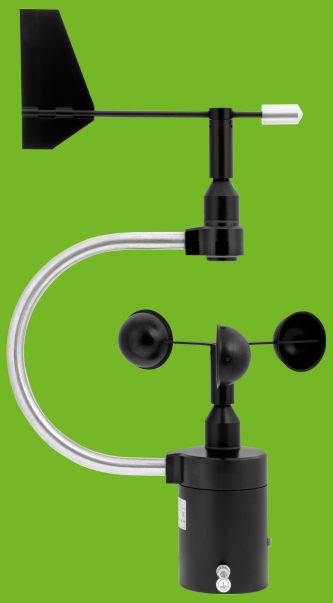
ARCO-Modbus WIND SENSOR



Compact and extremely reliable

The sensors of the ARCO family are very robust, compact and extremely reliable. Due to their shock and vibration proof construction the ARCO-Modbus sensors are particularly qualified for use under severe environmental conditions. The housing and the measuring elements are made of seawater resistant aluminium alloys. The housing, the cup rotor and the wind vane are anodised. The Modbus RTU interface simplifies sensor installation and integration into networks.

- Qualitatively ambitious and cost-effective solution
- Reliable wind measurement, including under extreme weather conditions
- Seawater resistant materials and surface finishes for long-life application, including under harsh conditions
- Quick and easy pipe mounting, connection with just one cable

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	ARCO-Modbus
Id-No.	00.14581.030430
Meas. range wind direction	0...360°
Meas. range wind speed	0.3...75 m/s
Accuracy wind direction	± 1°
Accuracy wind speed	0.5 m/s at 0.3...5 m/s • 2 % FS at 5.1...50 m/s
Resolution wind direction	1°
Resolution wind speed	< 0.1 m/s
Output	RS 485 · Modbus RTU
Range of application	temperature -30 ... +70 °C • wind speed 0...80 m/s • 0...100 % r. h.
Supply voltage	(10...28 V DC) , 24 V DC • 20 mA (at 24 V DC)
Housing	made of anodized seawater resistent aluminium, stainless steel
Included in delivery	4-pole M12 plug connector
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

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PRODUCT-VIEW

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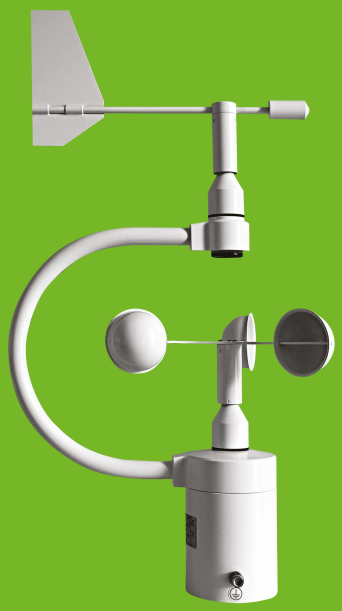
ARCO-NAV WIND SENSOR



Combined sensor for offshore applications

The classical combined sensor for offshore applications. The robust design made from seawaterresistent materials and additional special coating guarantees high reliability and error-free long time use. The measured wind values will be given as NMEA-protocol serially every minute. Both under extreme weather conditions and on the high seas and applications close to the sea this sensor is the first choice.

- Approved combined sensor design for universal use
- Special coating for error-free long time use
- Best material quality and precision for low start-up values and wide measuring range
- Wear-free data collection for high accuracy and resolution of the measuring values
- Serial interface with NMEA 0183 protocol

APPLICATIONS

- Professional maritime meteorology
- Ship meteorology
- Coastal surveillance
- Crane systems
- Buoys
- Offshore wind turbines
- Robust industrial applications

Professional Line	ARCO-NAV
Id-No.	00.14581.110010
Meas. range wind direction	0...360°
Meas. range wind speed	0.3 ... 75 m/s
Accuracy wind direction	± 1°
Accuracy wind speed	± 2 % FS at 0.3 ... 50 m/s
Resolution wind direction	1°
Resolution wind speed	< 0.1 m/s
Output	serial RS 422, NMEA 0183 - Talker
Range of application	temperature -30 ... +70 °C • wind speed 0...80 m/s • 0...100 % r. h.
Supply voltage	Sensor: (10...28 V DC), 24 V DC, 50 mA (at V DC) • Heating: (20 ...28 V DC), 24 V DC, 800 mA
Housing	made of anodized seawater resistent aluminium, stainless steel • white coated
Accessories (order separately)	32.14581.060000: Sensor cable, 10 m, 5 pole

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

15189 PRECIPITATION SENSOR ACCORDING TO JOSS-TOGNINI

Developed through experience

and equipped with the features and benefits of its proven predecessors, this all-metal Tipping Bucket Precipitation Sensor 15189 is the "best in class". Its functionality is precisely designed to meet the needs of classical meteorology and hydrology as well as semi-professional industrial meteorology. The Precipitation Sensor 15189, in its different variants, is an extremely economical investment.

- Best price-performance ratio in its class!
- Single device or part of an automatic weather station
- Very reliable and robust measuring system
- High quality materials
- Easy installation
- Connectable to Lambrecht's data logger met[LOG] and Ser[LOG]

APPLICATIONS

- Classical meteorology and hydrology
- Agriculture meteorology
- Measuring networks of water suppliers
- Lysimeter systems
- Sewage plants

Professional Line	15189
Id-No.	00.15189.002000 Sensor with 2 cm^3 bucket, unheated 00.15189.004000 Sensor with 4 cm^3 bucket, unheated 00.15189.402000 Sensor with 2 cm^3 bucket, heated 00.15189.404000 Sensor with 4 cm^3 bucket, heated
Measuring range	2 cm^3: 0...8 mm/min • 4 cm^3: 0...16 mm/min
Accuracy	Unheated: ± 2 % with intensity correction Heated: 4 °C ± 2 °C control temperature in the range of -20...+4 °C
Resolution	Version with 2 cm^3 tipping bucked: (~2 g) volume of tipping bucket - 0.1 mm Version with 4 cm^3 tipping bucket: (~4 g) volume of tipping bucket - 0.2 mm
Pulse output	Reed contact • polarity protected • bounce-free signal
Switching capacity	Max. 30 VDC / 0.5 A

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	15189
Collection surface	200 cm^2/ WMO standard
Range of application	Unheated: 0...+70 °C (frost resistant down to -20 °C) Heated: -20...+70 °C (no icing, no snowdrift)
Supply voltage	Unheated: 4...30 VDC Heated: 24 VDC / 150 W
Current consumption	Max. 100 µA • typical 50 µA
Measuring elements	Tipping bucket system • precision stainless steel bucket acc. to Joss-Tognini
Design	Mounting pipe Ø 60 mm
Dimensions	H 292 mm • Ø 190 mm
Housing	Aluminium • anodised
Weight	Approx. 3 kg
Standards	WMO-No. 8 • VDI 3786 page 7 • EN 50081/82 • VDE 0100
Accessories (order separately)	32.15188.060090 Sensor cable 15189 unheated, 2 pole, 7 m 00.15091.600XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.023020 Bird defense ring 32.15189.008000 Insect filter for 15189 unheated 32.15188.061020 Sensor cable 15189 heated, 4 pole, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e]one Modbus WEIGHING PRECIPITATION SENSOR

Ready for your Modbus RTU system

Latest weighing technology combined with a self-emptying collecting system allows the rain[e]one Modbus a high resolution and high precision at a very small construction volume. Already the first drop will be measured!

The weighing precipitation sensor is preconfigured for easy integration into your Modbus RTU system. This simplifies the installation work enormously.

- Amazing resolution and accuracy
- Compact and robust construction with a very low weight
- All-metal housing, weatherproof and durable
- Installation and maintenance are very simple

APPLICATIONS

- Industrial applications
- SCADA systems
- Large-scale photovoltaic systems
- Power grids

Professional Line	rain[e]one Modbus
Id-No.	00.15184.000101 rain[e]one Modbus, unheated · 00.15184.400101 rain[e]one, heated
Measuring range	without limitation (0.005...∞ mm)
Amount of accuracy	0.1 mm or 2 %
Amount of Resolution	0.001 mm (pulse output: 0.01 mm)
Intensity range	0...10 mm/min resp. 0...600 mm/h
Accuracy intensity	± 0.1 mm/min • resp. ± 6 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	Modbus RTU

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	rain[e]one Modbus
Collection surface	200 cm^2
Environmental conditions	0...+70 °C (unheated) • -40...+70 °C (no icing, no snowdri
Supply voltage	9.8 ... 32 V DC 24 VDC / 2 heating circuits: 80 W (funnel) and 60 W (outlet / tipping bucket)
Power consumption	max. 45 mA at 24 V power supply and analogue output typ. 7.5 mA at 24 V power supply and deactivated analog output typ. 12.5 mA at 12 V
Target temperature (heating)	+2 °C funnel surface temperature
Measuring principle	weighing with automatic self emptying
Heating data	Target temperature: +2 °C funnel surface temperature • 80 W (funnel) • 60 W (outlet/ tipping bucket)
Dimensions	292 mm x 190 mm (H x D)
Protection class	IP67
Weight	approx. 2.5 kg
Standards	WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11 • NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.023020 bird defense ring 32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug 32.15184.061000 Power supply cable for sensor heating, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e] WEIGHING PRECIPITATION SENSOR

The first of a new kind

rain[e] is a new type of weighing precipitation sensor: Highest resolution combined with the most compact design.

The unique self-emptying collection system enables the measurement of every single drop with the high resolution of 0.001 mm/m ^{2}. Full functionality all year around without antifreeze fluid makes the rain[e] very environmentally friendly.

rain[e] is easy to lift, transport, install and maintain. The small packing volume and the low weight ensure minimum logistical effort.

The rain[e] series is compatible with OTT and Campbell Scientific data loggers and ideal for setup and expansion of rainfall measurement networks.

- Amazing resolution and accuracy
- Checking of sensors with tipping bucket and other weighing systems
- Compact and robust construction with a very low weight
- All-metal housing, weatherproof and durable
- Best connectivity by several interfaces
- Easy to install and maintain

Also with Modbus or customised protocols realisable!

APPLICATIONS

- Classical meteorology and hydrology
- Weather services
- Measuring networks of water suppliers
- Lysimeter systems
- Sewage plants
- Airports
- Traffic meteorology

Professional Line	rain[e]
Id-No.	00.15184.000000 rain[e], unheated • 00.15184.400000 rain[e], heated
Measuring range	without limitation (0.005... ∞ mm)
Amount of accuracy	± 0,1 mm or 1 % at < 6 mm/min • ± 2 % at ≥ 6 mm/min
Amount of Resolution	0.001 mm

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	rain[e]
Intensity range	0...20 mm/min resp. 0...1200 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	• SDI-12 • RS-485 (SDI-12 protocol, ASCII protocol, TALKER protocol) • Modbus RTU • 2 Pulse-Outputs for linearised, bounce-free output signal • Status-Output (configurable, e.g. rain yes/no or heating on/off) • Analogue output 0/4...20 mA (0...2.5/5 V)
Collection surface	200 cm^2
Environmental conditions	0...+70 °C (unheated) • -40...70 °C (heated, no icing, no snow blowing)
Supply voltage	unheated: 9.8...32 VDC heated: 24 VDC / 2 heating circuits: 80 W (funnel) and 60 W (outlet / tipping bucket)
Power consumption	max. 45 mA at 24 V power supply and analogue output typ. 7.5 mA at 24 V power supply and deactivated analog output typ. 12.5 mA at 12 V
Target temperature (heating)	+2 °C funnel surface temperature
Measuring principle	weighing with automatic self emptying
Design	mounting mast Ø 60 mm
Dimensions	292 mm x 190 mm (H x D)
Protection class	IP67
Weight	approx. 2.5 kg
Standards	WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11 • NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.023020 bird defense ring 32.15184.060000 sensor cable, 10 m, 8 pole, M12 plug 32.15184.061000 Power supply cable for sensor heating, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e]314 WEIGHING PRECIPITATION SENSOR

Weighing rain gauge with automatic drain

Like all rain[e]-series rain gauges, the rain[e]314 uses a sensitive measuring principle and fulfills all requirements of WMO Guideline No. 8. Real-time measured values for quantity and intensity of all liquid precipitation in the range of 0...720 mm/h will be output accurately and reliably. The rain[e]314 has a compact, robust design, with state-of-the-art weighing technology inside. Fully automatic continuous emptying prevents overflow and incorrect measurements and enables maintenance-free long-term use even under extreme weather conditions.

- Real-time output of precipitation intensity, amount and total amount parameters
- Measurement of each drop with the amazing resolution of 0.001 mm/m^2
- Compact design with enlarged 314 cm^2 collecting area
- Best connectivity by diverse interfaces for simple system integration
- Version with highly efficient heating for low power consumption
- Easy calibration using a reference weight

APPLICATIONS

- Precipitation measurement networks
- Flood warning systems
- Measuring networks of water management
- Classical meteorology and hydrology
- Traffic meteorology

Professional Line	rain[e]314
Id-No.	00.15184.003000 rain[e]314, unheated · 00.15184.403000 rain[e]314, heated
Measuring range	without limitation (0.0032... ∞ mm)
Amount of accuracy	0.1 mm or 1 % at < 3.82 mm/min and 2 % at ≥ 3.82 mm/min
Amount of Resolution	0.001 mm (pulse output: 0.01 mm)
Intensity range	0...12 mm/min resp. 0...720 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	• SDI-12 • RS-485 (SDI-12 protocol, ASCII protocol, TALKER protocol) • 2 Pulse-Outputs for linearised, bounce-free output signal • Status-Output (configurable, e.g. rain yes/no or heating on/off) • Analogue output 0/4...20 mA (0...2.5/5 V)

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	rain[e]314
Collection surface	314 cm^2
Environmental conditions	0...+70 °C (unheated), -40...70 °C (heated, no icing, no snowdrift)
Supply voltage	unheated: 9.8 ... 32 VDC heated: 24VDC / 2 heating circuits 210 W (funnel) and 60 W (outlet / tipping bucket)
Power consumption	max. 45 mA at 24 V power supply and analogue output • typ. 7.5 mA at 24 V power supply and deactivated analog output • typ. 12.5 mA at 12 V
Target temperature (heating)	+2 °C funnel surface temperature
Measuring principle	weighing with automatic self emptying
Design	mounting mast Ø 60 mm
Dimensions	311 mm x 256 mm (H x D)
Protection class	IP67
Weight	approx. 4 kg
Standards	WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11 • NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.022040 bird defense ring for rain[e]314 32.15184.060000 sensor cable, 10 m, 8 pole, M12 plug 32.15184.061000 Power supply cable for sensor heating, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e]400 WEIGHING PRECIPITATION SENSOR

With larger collection surface

Latest weighing technology combined with a self-emptying precision tipping bucket allows the rain[e]400 a high resolution and high precision at a very small construction volume.
Already the first drop will be measured! The rain[e] is ideal to setup new measurement network as well as addition to an existing rainfall measurement network.

- Amazing resolution and accuracy
- Checking of sensors with tipping bucket and other weighing systems
- Compact and robust construction with a very low weight
- All-metal housing, weatherproof and durable
- Best connectivity by several interfaces
- Installation and maintenance are very simple

APPLICATIONS

- Classical meteorology and hydrology
- Weather services
- Measuring networks of water management
- Lysimeter plants
- Wastewater treatment plants
- Airports
- Traffic meteorology

Professional Line	rain[e]400
Id-No.	00.15184.004000 rain[e]400, unheated · 00.15184.404000 rain[e]400, heated
Measuring range	without limitation (0.0025... ∞ mm)
Amount of accuracy	± 0.1 mm or ± 1 % at < 3 mm/min and ± 2 % at ≥ 3 mm/min
Amount of Resolution	0.001 mm (pulse output: 0.01 mm)
Intensity range	0...10 mm/min resp. 0...600 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	• SDI-12 • RS-485 (SDI-12 protocol, ASCII protocol, TALKER protocol) • 2 Pulse-Outputs for linearised, bounce-free output signal • Status-Output (configurable, e.g. rain yes/no or heating on/off) • Analogue output 0/4...20 mA (0...2.5/5 V)

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	rain[e]400
Collection surface	400 cm^2
Environmental conditions	0...+70 °C (unheated), -40...70 °C (heated, no icing, no snowdrift)
Supply voltage	unheated: 9.8 ... 32 VDC heated: 24VDC / 2 heating circuits 150 W (funnel) and 60 W (outlet / tipping bucket)
Power consumption	max. 45 mA at 24 V power supply and analogue output • typ. 7.5 mA at 24 V power supply and deactivated analog output • typ. 12.5 mA at 12 V
Target temperature (heating)	+2 °C funnel surface temperature
Measuring principle	weighing with automatic self emptying
Design	mounting mast Ø 60 mm
Dimensions	311 mm x 256 mm (H x D)
Protection class	IP67
Weight	approx. 4 kg
Standards	WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11 • NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.022040 bird defense ring for rain[e]400 32.15184.060000 sensor cable, 10 m, 8 pole, M12 plug 32.15184.061000 Power supply cable for sensor heating, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e]H3 WEIGHING PRECIPITATION SENSOR

Protected against freezing

Due to the innovative weighing technology combined with a self-emptying collection vessel the rain[e] sets new standards in professional precipitation measurement. Its outstanding resolution and accuracy are approved all over the world. The rain[e]H3 with electronically regulated ring heating is designed especially for extreme cold climates. Integrated outside temperature sensor, real time clock, electronic monitoring when opening the housing and remote servicing are features of continuous development. With optional port server and web interface the rain[e]H3 is well equipped for all communicative demands in future.

- Electronically controlled ring-, funnel- and drain-line heatings
- Outstanding resolution and accuracy
- All-metal housing, weatherproof and long-living
- Easy installation and maintenance

APPLICATIONS

- Meteorology and hydrology
- Measuring networks
- Weather services

Professional Line	rain[e]H3
Id-No.	00.15184.540020
Measuring range	without limitation (0.005... ∞ mm)
Amount of accuracy	± 0,1 mm or ± 1 % at < 6 mm/min and ± 2% at ≥ 6 mm/min
Amount of Resolution	0.001 mm
Intensity range	0...20 mm/min resp. 0...1200 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	• SDI-12 • RS-485 (SDI-12 protocol, ASCII protocol, TALKER protocol) • 2 Pulse-Outputs for linearised, bounce-free output signal • Status-Output (configurable, e.g. rain yes/no or heating on/off) • Analogue output 0/4...20 mA (0...2.5/5 V)
Collection surface	200 cm^2

Continued on page 2

PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	rain[e]H3
Environmental conditions	-40...+70 °C (no icing or snowdrift)
Supply voltage	9.8...32 V DC
Current consumption	typ. 7.5 mA at 24 V power supply, without Ethernet with RS485 · typ. 12.5 mA at 12 V • max. 150 mA at 12 V power supply with Ethernet
Target temperature (heating)	+2 °C funnel-surface temperature • ± 1 °C
Measuring principle	weighing with automatic self emptying
Design	mounting mast Ø 60 mm
Heating data	electronically controlled ring- (70 W), funnel- (70 W) and drain-line (60 W) heating
Dimensions	377 mm x 190 mm (H x diam.)
Protection class	Weighing cell: IP67; housing: IP64
Weight	approx. 4 kg
Standards	WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11 • NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.022020 bird defense ring for rain[e]H3 32.15184.060000 sensor cable, 10 m, 8 pole, M12 plug 32.15184.061000 Power supply cable for sensor heating, 1 m

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

rain[e]LP WEIGHING PRECIPITATION SENSOR

Minimum energy consumption

rain[e] is a new type of weighing precipitation sensor: Highest resolution combined with the most compact design. The Low Power (LP) version of the sensor is the ideal choice for solar or battery powered applications. The unique self-emptying collection system enables the measurement of every single drop with the high resolution of 0.001 mm/m ^{2}. Full functionality all year around without antifreeze fluid makes the rain[e] very environmentally friendly.

rain[e]LP is easy to lift, transport, install and maintain. The small packing volume and the low weight ensure minimum logistical effort. The rain[e] series is compatible with OTT and Campbell Scientific data loggers and ideal for setup and expansion of rainfall measurement networks.

- Amazing resolution and precision
- Verification of precipitation sensors with tipping bucket and other weighing systems
- Compact and rugged design with very light weight
- All-metal housing, weatherproof and durable
- Easy installation and maintenance

APPLICATIONS

- Agricultural meteorology
- Traffic meteorology
- Measuring networks of water utilities
- Wastewater treatment plants

Professional Line	rain[e]LP
Id-No.	00.15184.010000
Measuring range	without limitation (0.005... ∞ mm)
Amount of accuracy	± 0.1 mm or 1 % at < 6 mm/min; ± 2 % at ≥ 6 mm/min
Amount of Resolution	0.001 mm (pulse output: 0.01 mm)
Intensity range	0...20 mm/min resp. 0...1200 mm/h
Intensity of resolution	0.001 mm/min resp. 0.001 mm/h
Output	SDI-12; 1 Pulse-Output for linearised, bounce-free output signal

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PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	rain[e]LP
Collection surface	200 cm^2
Environmental conditions	0...+70 °C
Supply voltage	9.8...32 V DC
Power consumption	typ. 6.9 mA at 12 V power supply
Measuring principle	weighing with automatic self emptying
Design	mounting mast Ø 60 mm
Dimensions	292 mm x 190 mm (h x d)
Protection class	IP67 (load cell)
Weight	approx. 2.5 kg
Standards	WMO-No. 8; VDI 3786 Bl. 7; EN 61000-2, -4; EN 61000-4-2, -3, -4, -5, -6, -11; NAMUR NE-21
Accessories (order separately)	00.15091.500XXX Windshield according to Tretyakov for measuring height 1 m, 1.5 m and 2 m 32.15180.023020 Bird defense ring 32.14581.060000 Sensor cable, 10 m, 5 pole

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

IceLoad Sensor

MEASURES ICE LOADS UP TO 20 KG

PREMIUM

COLD CLIMATE

ROBUST

SEAWATER RESISTENT

WIND ENERGY

Reliably detect icing, proactively address risks and failures

Ice load is the weight of ice build-up on objects such as buildings, overhead power lines, wind turbines, and vegetation. In freezing rain and hoarfrost, ice load can reach problematic and damaging levels, especially when rising winds elevate the wind load as well. Ice load monitoring provides early warning of impending icing and enhances energy supply security. The IceLoad Sensor leverages the gravimetric measurement principle, just like our worldwide known rain[e] weighing precipitation sensor. Its ice load measurement probe can calculate a maximum load of up to 20 kg.

- ISO 12494 standardized, meeting the European standard for accurate measurement of ice load
- Maximum accuracy and a wide measurement range in a compact, low-weight unit
- Full year-round functionality in an environmentally friendly package free from antifreeze

APPLICATIONS

- Transmission towers
- Air line cable cars
- High-voltage power lines
- Overhead lines in rail traffic
- Public buildings and infrastructure
- Wind turbines in cold climate areas

Professional Line	IceLoad Sensor
Id-No.	00.15300.000030
Measuring range	0...20 kg
Accuracy	2 % at 1 kg ice load, corresponds to 20 g @ 1 kg
Resolution	1 g
Output	Modbus RTU, RS-485
Environmental conditions	-40...+70 °C (heated)
Power supply	24 VDC, 3.34 A (80 W)
Measuring principle	Gravimetric (DMS)
Dimensions	714 x 180 mm (H x D)
Housing	Seawater resistant aluminum
Weight	3.3 kg
Standards	ISO 12494
Accessories (order separately)	ID 32.05108.301500 Connection cable (purple); length = 15 m ID 32.15300.001000 Mast bracket

As of: 25.11.2024

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PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16106 PYRANOMETER

Excellent function and precision

Become delighted by this new pyranometer. Due to selected silicon transducers an excellent function and precision will be realised. Box level is already integrated, so adjustment is very easy to be done by knurled screws.

- Measuring range 0...1400 W/m^2
- Output signal 0...50 mV (passive)
- Protection class IP 67
- Ready to use with an integrated box level
- Easy and fast levelling/mounting due to fixation with integrated knurled scew

APPLICATIONS

- Routine measurements
- Agricultural measuring stations
- Environmental measuring stations
- Photovoltaic (monitoring and site determination)

Professional Line	16106
Id-No.	00.16106.000000 · Version 00.16106.000080 (0...10 V)
Measuring range	Irradiance 0...1400 W/m^2
Accuracy	< 4 % at 1000 W/m^2 at 22 °C (against Secondary Standard Pyranometer)
Response time	< 1 sec.
Spectral response	350...1100 nm
Output	Analog (passive out) 0...50 mV = 0...1400 W/m^2
Range of application	temperatures -40...+60 °C
Supply voltage	Version 00.16106.000080: 12...24 VDC · short circuit, inverse polarity and over-voltage protected up to U
Current consumption	Version 00.16106.000080: typical 7 mA
Dimensions	Ø 80 mm · H 46 mm
Housing	Aluminium/ABS
Protection class	IP67
Weight	approx. 150 g
Cable	2 m · PUR-cable, UV- and heat resistant up to 90 °C, UL approved
Options (order separately)	00.08763.055002 (8763 S) Two-channel transducer for radiometer

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16103-Modbus PYRANOMETER

ISO 9060 "Second Class"

Meets the requirements of ISO 9060 "Second Class". The 16103-Modbus pyranometer is ideal for solar radiation measurements in meteorological networks and PV monitoring systems. It measures solar radiation received by a plane surface, in W/m^2, from a 180° field of view angle. The 16103-Modbus employs a thermopile sensor with black coated surface, one dome and an anodised aluminium body with visible bubble level.

- ISO 9060 "Second Class"
- With Modbus over RS485 and analogue 0-1 V output
- Easy mounting and levelling
- Ideal for PV power plant monitoring

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	16103-Modbus
Id-No.	00.16103.501060
Measuring range	0...2000 W/m^2 • global radiation within a range of 285...3000 nm
Directional answer	< ± 25 W/m^2
Resolution	0.2 W/m^2
Response time	< 18 s (95 %)
Non-linearity	< ± 1 % (100...1000 W/m^2)
Output	Modbus RTU (RS485) • analogue output 0-1 V
Range of application	-40...+80 °C
Supply voltage	24 V (5...30 VDC)
Power consumption	75 mW
Measuring elements	thermopile with high-quality thermo-electric cells
Measuring principle	thermal
Dimensions	approx. Ø 56 mm (without plug) · H 80 mm (without adapter)
Protection class	IP 67
Weight	approx. 0.3 kg
Standards	ISO 9060 „Second Class“ • Certificate of Sensitivity (included) • ISO 9847
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug 32.14627.006000 Ball Level for mounting on traverse system 14627 32.16103.500010 Ball Level Set for tube and panel mounting

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16131.5 PYRANOMETER

"First Class" Pyranometer

16131.5 digital pyranometer series is a range of high-accuracy digital solar radiation sensors.

It is "First Class" according to the WMO guide and ISO 9060:1990 standard and "Spectrally Flat Class B" in the 2018 revision.

Version 00.16131.501030, equipped with an on-board heater, is compliant in its standard configuration with the requirements for "Class B" PV monitoring systems of the IEC 61724-1:2017 standard.

The 16131.5 measures the solar radiation received by a plane surface, in W/m^2, from a 180° field of view angle. Various outputs are available, both digital and analogue, for ease of integration.

- Best measurement accuracy in "First Class"
- Improved response time
- With 00.16131.501030's on-board heater: compliant with IEC 61724-1 Class B in its standard configuration

APPLICATIONS

- PV System Performance Monitoring
- Professional solar measurements
- Simulated solar tests (laboratory)
- Meteorological Networks

Professional Line	16131.5
Id-No.	00.16131.501040: Digital sensor with analogue 4-20 mA output 00.16131.501000: Analogue sensor passive millivolt (mV) output
Measuring range	0...3000 W/m^2 · global radiation within a range of 285...3000 nm
Directional answer	< ± 20 W/m^2
Resolution	0.01 W/m^2
Spectral sensitivity	< ± 3 % (0.35...1.5 µm)
Response time	< 10 s (95 %)
Inclination error	< ± 2 %
Non-linearity	< ± 1 % (100...1000 w/m^2)
Range of application	temperatures -40...+80 °C
Power supply	24 VDC (8...30 VDC)
Power consumption	< 48 mW (at 12 VDC)
Measuring elements	thermopile
Measuring principle	thermal difference measurement
Dimensions	max. Ø 92 mm · approx. H 95 mm
Protection class	IP67
Weight	approx. 0.64 kg
Standards	ISO 9060 „First Class"
Accessories (order separately)	32.14581.060000 Cable 10 m, M12 plug connector. 5-pin 32.05005.001500 Cable 15 m, M12 plug connector. 5-pin

As of: 25.11.2024

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PRODUCT-VIEW

LAMBRECHT meteo

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16131.5-Modbus PYRANOMETER

"First Class" Pyranometer

16131.5 digital pyranometer series is a range of high-accuracy digital solar radiation sensors.

It is "First Class" according to the WMO guide and ISO 9060:1990 standard and "Spectrally Flat Class B" in the 2018 revision.

Version 00.16131.501030, equipped with an on-board heater, is compliant in its standard confi guration with the requirements for "Class B" PV monitoring systems of the IEC 61724-1:2017 standard.

The 16131.5 measures the solar radiation received by a plane surface, in W/m^2, from a 180° field of view angle. Various outputs are available, both digital and analogue, for ease of integration.

- best measurement accuracy in "First Class"
- improved response time
- with 00.16131.501030's on-board heater: compliant with IEC 61724-1 Class B in its standard configuration

APPLICATIONS

- professional meteorological applications
- building automation
- photovoltaic systems
- industrial meteorology

Professional Line	16131.5-Modbus
Id-No.	00.16131.501030
Measuring range	0...3000 W/m^2 · global radiation within a range of 285...3000 nm
Directional answer	< ± 20 W/m^2
Resolution	0.01 W/m^2
Spectral sensitivity	< ± 3 % (0.35...1.5 µm)
Response time	< 10 s (95 %)
Inclination error	< ± 2 %
Non-linearity	< ± 1 % (100...1000 w/m^2)
Output	Modbus RTU
Range of application	-40...+80 °C
Power supply	24 VDC (8...30 VDC)
Power consumption	< 48 mW (at 12 VDC)
Measuring elements	thermopile
Measuring principle	thermal difference measurement
Dimensions	max. Ø 92 mm · approx. H 95 mm
Protection class	IP67
Weight	approx. 0.64 kg
Standards	ISO 9060 „First Class"
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

sun[e] Modbus PYRANOMETER

Digital “Secondary Standard” Pyranometer

The sun[e] Modbus o ers the highest accuracy and highest data availability: using new ventilation and heating technology, the sun[e] Modbus outperforms all pyranometers equipped with traditional ventilation systems. sun[e] Modbus is the ideal instrument for use in PV system performance monitoring and meteorological networks. It measures the solar radiation received by a plane surface, in W/m^2, from a 180° field of view angle.

- Heated for best data availability
- New technology outperforms traditional pyranometer ventilation
- Compliant in its standard configuration with the requirements for Class A PV monitoring systems of the IEC 61724-1:2017

APPLICATIONS

- Meteorology
- Building automation
- Photovoltaic systems
- Industry

Professional Line	sun[e] Modbus
Id-No.	00.16130.501030
Measuring range	-400...4000 W/m^2 • global radiation within a range of 285...3000 nm
Directional answer	< ± 10 W/m^2
Resolution	0.05 W/m^2
Spectral sensitivity	< ± 3 % (0.35...1.5 µm) • tilt deviation < ± 2 %
Response time	3 s (95 %)
Non-linearity	< ± 0.2 % (100...1000 w/m^2)
Output	Modbus RTU
Range of application	temperatures -40...+80 °C
Supply voltage	24 VDC (8...30 VDC)
Power consumption	approx. 2.3 W
Measuring elements	thermopile
Measuring principle	thermal difference measurement
Dimensions	max. Ø 92 mm · approx. H 95 mm
Protection class	IP67
Weight	approx. 0.64 kg
Standards	ISO 9060 “Secondary Standard”
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16321 LIGHTNESS SENSOR

Aluminum die-cast housing

Brightness in (de)lux(e) is measured by this sensor. It determines the momentary degree of illumination intensity. The highly sensitive photodiode reacts quickly to the prevailing circumstances, to half-light as well as to spot light. The device (16321) is especially adequate for use outside and has a very robust housing and connecting ports.

- Weather resistant aluminum die-cast housing IP 65
- Integrated transmitter
- Easy mounting and adjustment by three-point plate and built-in box level
- Standard unit: Lux = lx - 100 Lux equal 1 W/m^2 or 9.29 foot candle
- Analog signal output
- Factory test certificate included (DIN EN 10204)

APPLICATIONS

- Weather stations
- Green houses
- Monitoring systems
- Building automation

Professional Line	16321
Id-No.	00.16321.010302 (0...20 mA) · 00.16321.010342 (4...20 mA) · 00.16321.010012 (0...10 V)
Measuring range	0...100 klx
Response time	< 5 ms
Inclination error	< ± 5 %
Non-linearity	± 3 %
Output	00.16321.010302 (0...20 mA) · 00.16321.010342 (4...20 mA) · 00.16321.010012 (0...10 V)
Range of application	-30...+60 °C
Supply voltage	24 VDC (± 10 %)
Power consumption	max. 45 mA
Measuring elements	special silicium photo diodes
Dimensions	65 x 59 x 68 mm
Protection class	IP 65
Weight	approx. 0.4 kg
Included in delivery	3.5 m cable
Accessories (order separately)	32.16321.001000 Three-point mounting plate with built-in level · approx. 0.2 kg 33.14627.012000 Wall bracket made of stainless steel · approx. 0.6 kg

As of: 25.11.2024

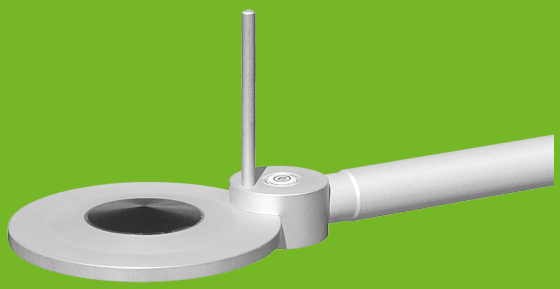
PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16123 NETTO-RADIOMETER

ANALOG OUTPUT



Small, light, robust

Design and progress are united in this revolutionary and futuristic-looking radiometer to create an ingenious and highly reliable measuring system. Maintenance-free, conic and tefloncoated sensor elements make the constructive abandonment of housing and glass dome possible. The vertical metal rod prevents soiling by landing birds.

- Small, light, robust
- Highly precise evaluation of radiation balance within a wide wave length range
- Thermopile measuring principle
- High quality materials guarantee long-term stability and resistance to weathering
- Analog signal output
- Factory test certificate included (DIN 10204),

APPLICATIONS

- Agricultural meteorology
- Building physics (comfort analysis)
- Road condition monitoring

Professional Line	16123
Id-No.	00.16123.100000
Measuring range	-2000...+2000 W/m^2 • radiation balance within a range of 0.2...100 µm
Sensitivity	10 µV/ W/m^2 (nominal) • temperature dependance: -0.1 %/ °C (typically)
Response time	< 60 s (95 %)
Directional error	< 3 % at 0...60° angle of incidence at 1000 W/m^2 • sensor asymmetry < 15 %
Non-linearity	< 1 %
Range of application	temperatures -30...+70 °C
Measuring elements	thermopiles • conic, teflon coated absorber (without glass dome)
Dimensions	Ø 80 mm • supporting arm L 800 mm • Ø 20 mm • cable length 15 m
Weight	approx. 0.5 kg
Included in delivery	certificate for sensitivity

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

16203 SUNSHINE DURATION SENSOR

Robustness and longevity

Positive events in the form of sunshine trigger the three identical sensor elements' quick response. The elements themselves are absolutely immovable and thus guarantee maintenance-free operation, extreme robustness and longevity. Aligned to the nearest pole - the sensor is easy to install at all latitudes. In ice and snow, the system's two-phase heating is controlled externally or by an internal thermostat. The amount of sunny hours per day is of particular importance both for the growth of plants and for human well-being.

- Stable glass cylinder for sensor protection
- Waterproof cable plug connection for safe application
- Innovative humidity indicator for easy handling

APPLICATIONS

- Agricultural meteorology
- Weather services for climate tables and tourist information
- Health care
- Climate categorization of health resorts

Professional Line	16203
Id-No.	00.16203.010004 00.16203.110004 with integrated thermostat for heating control
Measuring range	sunshine yes or no • spectral range 400...1100 nm
Response time	< 1 m/s
Output	0 ± 0.1 VDC: no sunshine • direct irradiance < 120 W/m^2 1 ± 0,1 VDC: sunhine yes • direct irradiance > 120 W/m^2
Range of application	-40...+70 °C
Power consumption	supply voltage of 12 VDC without heating: < 0.1 W at heating level 1 for defrosting of dew: 1 W ± 0.1 W (nominal) at heating level 2 for melting of snow: 10 W ± 1 W (nominal)
Measuring elements	3 photodiodes
Measuring principle	photoelectric
Heating data	00.16203.110004: heating level 2 on at < 6 ± 3 °C • heating level 2 off at > 14 ± 3 °C
Dimensions	approx. L 294 mm - Ø max. 72.5 mm
Housing	glass cylinder
Protection class	IP 67
Weight	approx. 0.9 kg
Standards	CE 89/336/EEC • 73/23/EEC
Included in delivery	cable with 15 m length and 8 pole plug • 2 drying cartridges • specific test report

As of: 25.11.2024

LAMBRECHT meteo

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u[sonic] ULTRASONIC WIND SENSOR

Seawater resistant and perfectly heated

The combined ultrasonic sensor u[sonic] for wind direction and wind speed. The seawater resistant sensor is perfectly heated and ideal for use under cold climate conditions. The equipment is connected by an 8 pole screw connector. The measured values can be requested over a variety of interfaces.

- Meets the requirements for meteorological measurements according to WMO
- No moving measuring elements, no wear
- Two parameters measurable
- intelligent heating depending on wind speed and wind direction
- Easy to install, very service friendly

APPLICATIONS

- Professional meteorological application
- Wind turbines on- and offshore
- Ship weather station
- Building automation
- Traffic and industrial meteorology
- Wind warning

Professional Line	u[sonic]
Id-No.	00.16470.100000
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...75 m/s
Accuracy wind direction	< 2° (> 1 m/s) RMSE
Accuracy wind speed	± 0.2 m/s RMSE (v < 10 m/s) ; ± 2 % RMSE (10 m/s < v < 65 m/s)
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Trigger threshold	0.1 m/s (adjustable for wind direction)
Output	RS 485 NMEA0183 ; 4...20 mA (default setting) Configurable (analog): 0...20 mA; 0...5 V; 0...10 V RS 422 (optional; **please specify when ordering: Id-No.: 97.16470.000422 Configuration RS 422 output**)

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic]
Protocols	NMEA 0183 Modbus RTU (optional; **please specify when ordering: Id-No.: 97.16470.000001 Configuration Modbus**) SDI-12 (optional; **please specify when ordering: Id-No.: 97.16470.000002 Configuration SDI-12**) other protocols on request
Measuring rate	0.1...10 Hz; (internal measurement 50 Hz)
Operating conditions	-40...+70 °C (with heating -50...+70 °C); 0...100 % r. h.
Strongest wind impact velocity	100 m/s
Supply voltage	6...60 VDC; 24 V AC/DC
Current consumption	sensor: typically 45 mA at 24 VDC and deactivated analog output heater factory configurable: 60 W; 120 W; 240 W (standard)
Measuring principle	ultrasound
Heating data	configurable (factory-setting) 60 W; 120 W; 240 W (standard)
Dimensions	Ø 199 mm; height 149 mm
Housing	seawater resistant aluminium
Protection class	IP 66; IP 67
Weight	approx. 2 kg
Standards	VDE 0100; Low voltage guide line: 72/23 EWG EMC/ EMI: DIN EN 60945 and DIN EN 61000-4-2, -3, -4, -5, -6, -11 Protection class: DIN EN 60529 MIL-STD-810G DIN EN 50121-4:2016 Salt fog: EN 60945 Cold test Ad acc. to DIN EN 60068-2-1 (01/2008) Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
Accessories (order separately)	32.16470.060000 Sensor cable, 15 m; 8-pole M16

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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u[sonic] Modbus ULTRASONIC WIND SENSOR

Simplified installation with Modbus

Combined ultrasonic sensor u[sonic] Modbus for wind direction and wind speed. The Modbus RTU interface simplifies sensor installation and integration into networks. This seawater resistent ultrasonic sensor is perfectly heated and ideal for use under cold climate conditions. The connection of the u[sonic] Modbus is compatible with all meteorology sensors of the Modbus series.

- No moving measuring elements, no wear
- Two parameters measurable in one device
- Intelligent heating, depending on wind speed and direction
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	u[sonic] Modbus
Id-No.	00.16470.100130
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...75 m/s
Accuracy wind direction	< 2° (> 1 m/s) RMSE
Accuracy wind speed	0,2 m/s RMSE (v < 10 m/s) ; 2 % RMSE (10 m/s < v < 65 m/s)
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Trigger threshold	0.1 m/s (adjustable for wind direction)
Protocols	Modbus RTU

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic] Modbus
Interface	RS 485
Measuring rate	0.1...10 Hz • (internal measurement 50 Hz)
Operating conditions	40...+70 °C (with heating -50...+70 °C) • 0...100 % r. h.
Supply voltage	24 VDC
Current consumption	sensor: typ. 50 mA at 24 VDC and deactivated analog output • heating: max. 2.5 A at 24 V AC/DC
Measuring principle	Ultrasound
Heating data	60 W (factory configurable)
Dimensions	Ø 199 mm • height 149 mm
Housing	seawater resistant aluminium
Protection class	IP 66
Weight	approx. 2 kg
Standards	VDE 0100 • Low voltage guide line: 72/23 EWG EMC/ EMI: DIN EN 60945 and DIN EN 61000-4-2, -3, -4, -5, -6, -11 Protection class: DIN EN 60529 MIL-STD-810G DIN EN 50121-4:2016 Salt fog: EN 60945 Cold test Ad acc. to DIN EN 60068-2-1 (01/2008) Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
Connection technology	4-pole M12 plug connector
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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u[sonic]WS6 WEATHER SENSOR

For six weather parameters

The u[sonic]WS is the newest, most compact and system-capable addition to the LAMBRECHT meteo weather sensor series. The sensor has no moving measuring elements and is therefore low-maintenance. The intelligent heating system works in relation to the wind speed and direction and keeps the sensor ice-free even under extreme weather conditions. The u[sonic]WS6 easily meets the special challenges of alpine and maritime applications.

- No moving measuring elements, no wear
- Six weather parameters: wind direction and speed, air temperature, rel. humidity, barometric pressure, dew point
- Intelligent heating depending on wind speed and wind direction
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological application
- Wind turbines on- and off-shore
- Ship weather station
- Building automation and environmental engineering
- Traffic and industrial meteorology
- Wind warning and event engineering
- Photovoltaic large-scale plants
- Alpine applications

Professional Line	u[sonic]WS6
Id-No.	00.16480.000000
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...65 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 %
Meas. range barometric pressure	300...1100 mbar
Accuracy wind direction	< 2° (> 1 m/s) RMSE
Accuracy wind speed	± 0.2 m/s RMSE (v < 10 m/s); ± 2 % RMSE (10 m/s < v < 65 m/s)

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic]WS6
Accuracy air temperature	± 0.1K (0...60 °C); ± 0.2K (-40...0 °C)
Accuracy rel. humidity	typ. ± 1.5 % (0...80 %) r. h.; ± 2 % (80...100 %) r. h.
Accuracy barometric pressure	± 0.5 mbar
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 %
Resolution barometric pressure	0.1 mbar
Trigger threshold	0.1 m/s
Output	RS 485; RS 422 (optional; **please specify when ordering: Id-No.: 97.16470.000422 Configuration RS 422 output**)
Protocols	NMEA 0183 Modbus RTU (optional; **please specify when ordering: Id-No.: 97.16470.000001 Configuration Modbus**) SDI-12 (optional; **please specify when ordering: Id-No.: 97.16470.000002 Configuration SDI-12**) other protocols on request
Interface	RS485 / 422; SDI-12 (optional)
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70 °C); 0...100 % r. h.
Supply voltage	without heating: 6...60 VDC; with heating: 24 V AC/DC ± 20 %
Current consumption	sensor: typically 50 mA at 24 VDC; with heating: max. 10 A at 24 V AC/DC
Heating data	factory configurable: 60 W / 120 W / 240 W (standard)
Dimensions	Ø 199 mm; height 238 mm
Housing	seawater resistant aluminium
Protection class	IP 66; IP 67
Weight	approx. 3.1 kg
Standards	Low voltage guide line: 72/23 EWG Protection class: DIN EN 60529 MIL-STD-810G DIN EN 50121-4:2016 Salt fog: EN 60945 Cold test Ad acc. to DIN EN 60068-2-1 (01/2008) Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
EMC standards / Electrical safety	DIN EN 60945; DIN EN 61000-4-2, 3, 4, 6, 11
Options (order separately)	00.16480.000200 u[sonic]WS6 with bayonet plug 32.16420.066100 Cable 10 m; 12-pole bayonet plug, ready-for-use
Accessories (order separately)	32.16470.060000 sensor cable, 15 m, 8-pol. M16-plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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u[sonic]WS6 Modbus WEATHER SENSOR

Multi parameter sensor with Modbus

The u[sonic]WS is the newest, most compact and system-capable addition to the LAMBRECHT meteo weather sensor series. The sensor has no moving measuring elements and is therefore low-maintenance. The intelligent heating system works in relation to the wind speed and direction and keeps the sensor ice-free even under extreme weather conditions.
The u[sonic]WS6 easily meets the special challenges of alpine and maritime applications. A wide variety of interfaces and protocols are available. There are no limits for the u[sonic]WS6 when it comes to its applications.

- No moving measuring elements, no wear
- Six weather parameters: wind direction and speed, air temperature, rel. humidity, barometric pressure, dew point
- Intelligent heating depending on wind speed and wind direction
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological applications
- On- and offshore wind turbines
- Maritime weather stations
- Building and environmental technology
- Traffic and industrial meteorology
- Wind warning and event technology
- Large-scale photovoltaic systems
- Alpine applications

Professional Line	u[sonic]WS6 Modbus
Id-No.	00.16480.000130
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...65 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 %
Meas. range barometric pressure	300...1100 mbar
Accuracy wind direction	< 2° (> 1 m/s) RMSE
Accuracy wind speed	± 0,2 m/s RMSE (v < 10 m/s) • ± 2 % RMSE (10 m/s < v < 65 m/s)
Accuracy air temperature	± 0.1K (0...60 °C) • ± 0.2K (-40...0 °C)

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LAMBRECHT meteo

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Professional Line	u[sonic]WS6 Modbus
Accuracy rel. humidity	typ. ± 1.5 % (0...80 %) r.h. • ± 2 % (80...100 %) r.h.
Accuracy barometric pressure	± 0.5 mbar
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 %
Resolution barometric pressure	0.1 mbar
Trigger threshold	0.1 m/s
Protocols	Modbus RTU
Interface	RS485
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70 °C) • 0...100 % r. h.
Supply voltage	without heating: 6...60 VDC • with heating: 24 V AC/DC ± 20 %
Current consumption	sensor: typ. 50 mA at 24 VDC • with heating: max. 10 A at 24 V AC/DC
Heating data	60 W
Dimensions	Ø 199 mm • height 238 mm
Housing	seawater resistant aluminium
Protection class	IP 66 • IP 67
Weight	approx. 3.1 kg
Standards	Low voltage guide line: 72/23 EWG Protection class: DIN EN 60529 MIL-STD-810G DIN EN 50121-4:2016 Salt fog: EN 60945 Cold test Ad acc. to DIN EN 60068-2-1 (01/2008) Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
EMC standards / Electrical safety	DIN EN 60945 • DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4-pol. M12-plug

As of: 25.11.2024

LAMBRECHT meteo
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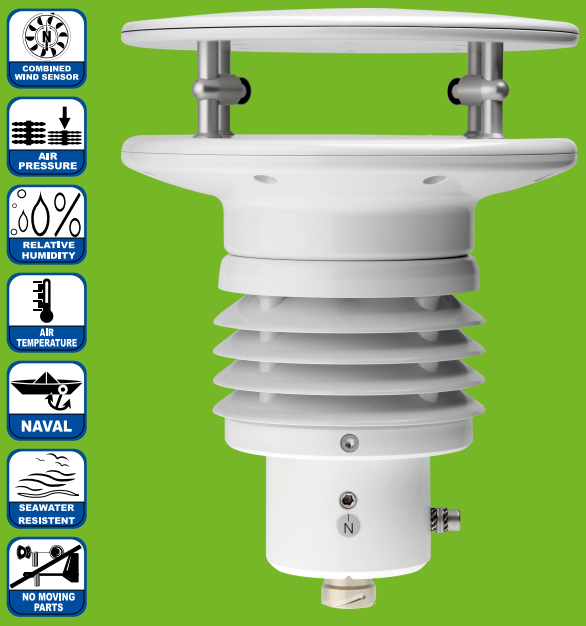
u[sonic]WS6-NAV WEATHER SENSOR



The maritime, all-in-one sensor for six weather parameters

u[sonic]WS6-NAV is a compact weather sensor with no moving parts. The wind parameters are measured with ultrasonic technology. Its robust, seawater-resistant aluminum housing ensures use under harsh conditions on ships and on wind turbines. The integrated heating keeps the weather sensor ice-free even in extreme conditions down to -50 °C. The sensor has an NMEA 0183 output according to marine standard.

Safety is a top priority on the high seas. The u[sonic]WS6-NAV has been tested by official institutions and is certified according to the EN 60945 standard for marine equipment. Minimum maintenance is needed for the sensor, routine calibrations are not required. The lamellar protective housing can be easily disassembled to clean or replace the sinter cap of the humidity-temperature sensor inside.

- Six measurement parameters: Wind direction, wind speed, air temperature, air humidity, barometric pressure, dew point temperature (calculated value)
- Simple installation with only one cable connection
- Wear-free operation because no moving measuring elements
- Easy to service due to removable lamella protection shelter

APPLICATIONS

- On board all types of vessels
- Onshore and offshore wind turbines
- Coastal monitoring
- Industrial and port facilities

Professional Line	u[sonic]WS6-NAV
Id-No.	00.16480.100200 bayonet-plug 00.16480.100000 M16-plug
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...65 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Meas. range barometric pressure	300...1100 mbar
Accuracy wind direction	< 2° (> 1 m/s) RMSE
Accuracy wind speed	0.2 m/s RMSE (v < 10 m/s) ; ± 2 % RMSE (10 m/s < v < 65 m/s)
Accuracy air temperature	0.1 K (0...60 °C); 0.2 K (-40...0 °C)
Accuracy rel. humidity	typically 1.5 % (0...80 %) r.h.; 2 % (> 80 %) r. h.

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic]WS6-NAV
Accuracy barometric pressure	0.5 mbar (at 20 °C)
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 % r. h.
Resolution barometric pressure	0.1 mbar
Trigger threshold	0.1 m/s
Protocols	NMEA 0183 (other protocols on request)
Interface	RS-485 (in RS-422 compatibility mode)
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70 °C); 0...100 % r. h.
Supply voltage	without heating: 6...60 VDC; with heating: 24 V AC/DC ± 20 %
Current consumption	sensor: typically 50 mA at 24 VDC; with heating: max. 10 A at 24 V AC/DC
Heating data	factory configurable: 60 W (standard with bayonet); 120 W; 240 W (standard with M16)
Dimensions	see dimensional drawing in the user manual
Housing	seawater resistant aluminum (painted RAL 9003)
Protection class	IP 66; IP 67
Weight	approx. 3.1 kg
Standards	Low voltage guide line: 72/23 EWG Protection class: DIN EN 60529 MIL-STD-810G DIN EN 50121-4:2016 Salt fog: EN 60945 IEC 61724-1 Cold test Ad acc. to DIN EN 60068-2-1 (01/2008) Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4 Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4
EMC standards / Electrical safety	DIN EN 60945; DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.16420.066100 Sensor cable 10 m, with 12-pole bayonet plug 32.16470.060000 Sensor cable 15 m, with 8-pole M16-plug

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PRODUCT-VIEW

LAMBRECHT meteo

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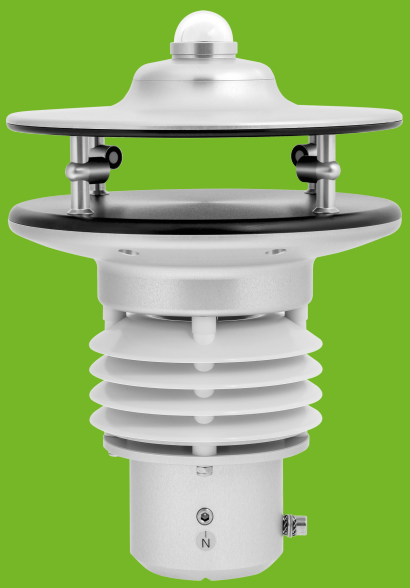
u[sonic]WS7 WEATHER SENSOR



Seven meteorological parameters in one device

The u[sonic]WS is the newest, most compact and system-capable addition to the LAMBRECHT meteo weather sensor series. Wind direction and speed are measured by ultrasound sensors, beyond the wind parameters the air temperature, humidity and pressure values are also determined; the dew point is calculated. The lamella shelter of the humidity and temperature sensor protects the sensor from the deteriorating effects of the climate and ensures improved and more accurate measurements. A wide variety of interfaces and protocols are available. There are no limits for the u[sonic]WS7 when it comes to its applications.

- No moving measuring elements, no wear
- Seven weather parameters: wind direction and speed, air temperature, rel. humidity, barometric pressure, global radiation, dew point
- Intelligent heating depending on wind speed and wind direction
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological applications
- On- and offshore wind turbines
- Building and environmental technology
- Traffic and industrial meteorology
- Wind warning and event technology
- Large-scale photovoltaic plants
- Alpine applications

Professional Line	u[sonic]WS7
Id-No.	00.16480.001000
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...65 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 %
Meas. range barometric pressure	300...1100 mbar
Meas. range global radiation	0...2000 W/m^2 • global radiation within range of 285...3000 nm
Accuracy wind direction	< 2° (> 1 m/s) RMSE

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic]WS7
Accuracy wind speed	± 0.2 m/s RMSE (v 10 m/s) • ± 2 % RMSE (10 v 65 m/s)
Accuracy air temperature	± 0.1K (0...60 °C) • ± 0.2K (-40...0 °C) > 2 m/s
Accuracy rel. humidity	typ. ± 1.5 % (0...80 %) • ± 2 % (> 80 %)
Accuracy barometric pressure	± 0.5 mbar
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 %
Resolution barometric pressure	0.1 mbar
Resolution global radiation	0.2 W/m^2
Non-linearity	± 1 % (100...1000 W/m^2)
Trigger threshold	0.1 m/s
Output	RS 485 · RS 422 (optional · **please specify when ordering: Id-No.: 97.16470.000422 Configuration RS 422 output)**
Protocols	NMEA 0183 Modbus RTU (optional · **please specify when ordering: Id-No.: 97.16470.000001 Configuration Modbus)** SDI-12 (optional · **please specify when ordering: Id-No.: 97.16470.000002 Configuration SDI-12)** other protocols on request
Interface	RS485 / 422 • SDI-12 (optional)
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70) • 0...100 % r. h.
Strongest wind impact velocity	100 m/s
Supply voltage	without heating: 6...60 VDC • with heating : 24 V AC/DC ± 20 %
Current consumption	sensor: typ. 50 mA at 24 VDC • with heating : max. 10 A at 24 V AC/DC
Meas. element global radiation	thermopile with high-quality thermo-electric cells
Meas. principle global radiation	thermoelectric
Heating data	factory configurable: 60 W;120W; 200W (default)
Dimensions	Ø 199 mm • height 284 mm
Housing	seawater resistant aluminium
Protection class	IP 66 • IP 67
Weight	approx. 3.4 kg
Standards	Salt fog: EN 60945 • Low voltage guide line: 72/23 EWG
EMC standards / Electrical safety	DIN EN 60945 • DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.16470.060000 sensor cable, 15 m, 8-pol. M16-plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

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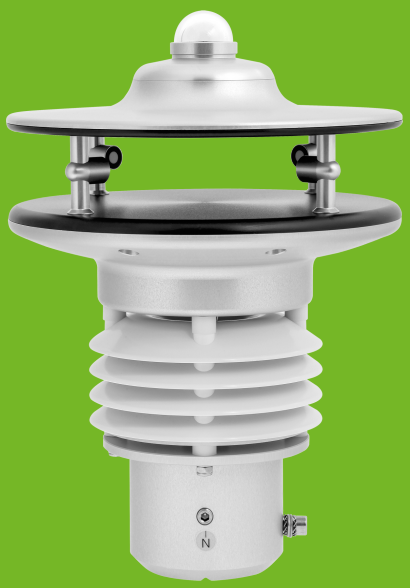
u[sonic]WS7 Modbus WEATHER SENSOR



The user-friendly all-in-one solution

The u[sonic]WS is the newest, most compact and system-capable addition to the LAMBRECHT meteo weather sensor series. Wind direction and speed are measured by ultrasound sensors, beyond the wind parameters the air temperature, humidity and pressure values are also determined; the dew point is calculated. The lamella shelter of the humidity and temperature sensor protects the sensor from the deteriorating effects of the climate and ensures improved and more accurate measurements. A wide variety of interfaces and protocols are available. There are no limits for the u[sonic]WS7 when it comes to its applications.

- No moving measuring elements, no wear
- Seven weather parameters: wind direction and speed, air temperature, rel. humidity, barometric pressure, global radiation, dew point
- Intelligent heating depending on wind speed and wind direction
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological application
- On- and offshore wind turbines
- Building automation and environmental engineering
- Traffic and industrial meteorology
- Wind warning and event engineering
- Large-scale photovoltaic systems
- Alpine applications

Professional Line	u[sonic]WS7 Modbus
Id-No.	00.16480.001130
Meas. range wind direction	0...359.9°
Meas. range wind speed	0...65 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 %
Meas. range barometric pressure	300...1100 mbar
Meas. range global radiation	0...2000 W/m^2 • global radiation within range of 285...3000 nm
Accuracy wind direction	< 2° (> 1 m/s) RMSE

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PRODUCT-VIEW

LAMBRECHT meteo

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Professional Line	u[sonic]WS7 Modbus
Accuracy wind speed	± 0.2 m/s RMSE (v 10 m/s) • ± 2 % RMSE (10 v 65 m/s)
Accuracy air temperature	± 0.1K (0...60 °C) • ± 0.2K (-40...0 °C) > 2 m/s
Accuracy rel. humidity	typ. ± 1.5 % (0...80 %) • ± 2 % (> 80 %)
Accuracy barometric pressure	± 0.5 mbar
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 %
Resolution barometric pressure	0.1 mbar
Resolution global radiation	0.2 W/m^2
Non-linearity	± 1 % (100...1000 W/m^2)
Trigger threshold	0.1 m/s
Protocols	Modbus RTU
Interface	RS485
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70) • 0...100 % r. h.
Strongest wind impact velocity	100 m/s
Supply voltage	without heating: 6...60 VDC • with heating : 24 V AC/DC ± 20 %
Current consumption	sensor: typ. 50 mA at 24 VDC • with heating : max. 10 A at 24 V AC/DC
Meas. element global radiation	thermopile with high-quality thermo-electric cells
Meas. principle global radiation	thermoelectric
Heating data	60 W
Dimensions	Ø 199 mm • height 284 mm
Housing	seawater resistant aluminium
Protection class	IP 66 • IP 67
Weight	approx. 3.4 kg
Standards	Salt fog: EN 60945 • Low voltage guide line: 72/23 EWG
EMC standards / Electrical safety	DIN EN 60945 • DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.14567.060010 Sensor cable, 15 m, 4-pol. M12-plug

As of: 25.11.2024

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EOLOS-IND STATIC WEATHER SENSOR

Wind speeds up to 85 m/s measurable

The perfect weather sensor for a wide range of applications. The integrated sensors in the weather module measure the ambient parameters with high precision. The compact construction of the static measuring system and the space saving, robust housing make the sensor extremely durable.

- Very high wind speeds up to 85 m/s measurable
- Without moving measuring elements
- Five weather parameters measurable: two wind parameters, air temperature, relative humidity, air pressure, plus dew point
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Optimal heatable for all climatic zones
- Easy to install, easy to maintain

APPLICATIONS

- Wind turbines
- Traffic meteorology
- Weather services and environmental agencies
- Chemical and industrial plants
- Power plants
- Wastewater treatment plants and landfills

Professional Line	EOLOS-IND
Id-No.	Static Weather Sensor EOLOS-IND H heated • Id-No. 00.16430.010002
Meas. range wind direction	0...360°
Meas. range wind speed	0.1...85 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Meas. range barometric pressure	600...1100 hPa
Accuracy wind direction	± 3°
Accuracy wind speed	± 0.5 m/s ± 5 % of meas. value
Accuracy air temperature	± 0.8 °C (v > 2 m/s)
Accuracy rel. humidity	± 3 % (10...90 %) • ± 4 % (0...100 %)

Continued on page 2

PRODUCT-VIEW

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Professional Line	EOLOS-IND
Accuracy barometric pressure	± 2 hPa (-30...+70 °C)
Resolution wind direction	1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.5 % r. h.
Resolution barometric pressure	0.1 hPa
Protocols	NMEA 0183 • WIMWV • WIMHU • WIMMB • WIMTA
Interface	serial • RS 422/ talker • baud rate 4800 • 1 Hz (meas. cycle of 10 Hz) • 8 N 1
Range of application	temperature -40...+70 °C heated • wind speed 0...100 m/s • 0...100 % r. h.
Supply voltage	24 VDC (-22 %/ +34 %) • max. 2.5 A • heating: 24 VDC/ 70 W (max. 3 A) • electr. controlled
Dimensions	H 382 mm • Ø 120 mm • mast adapter Ø 50 mm for mounting on standard pipe
Housing	aluminium • anodised • IP 66
Weight	approx. 2.5 kg
Options (order separately)	Indicator unit e.g. (14742) METEO-LCD • Data logger e.g. met[LOG] • Mast and power supply unit • Visualisation and evaluation software MeteoWare-CS3
Accessories (order separately)	32.16420.066100 Cable 10 m • 12-pole bayonet plug • ready-for-use

As of: 25.11.2024

PRODUCT-VIEW

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EOLOS-Modbus STATIC WEATHER SENSOR

For 6 weather parameters

The perfect weather sensor for a wide range of applications. The Modbus RTU interface simplifies sensor installation and integration into networks. The integrated sensors in the weather module are measuring the ambient parameters with high precision. The compact construction of the static measuring system and the space saving, robust housing make the EOLOS-Modbus extremely durable.

- No moving measuring elements, no wear
- Provides six weather parameters in one device
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Height adjustment of air pressure possible
- Easy to install, easy to maintain

APPLICATIONS

- Professional meteorological applications
- Building automation
- Photovoltaic systems
- Industrial meteorology

Professional Line	EOLOS-Modbus
Id-No.	00.16430.001032
Meas. range wind direction	0...360°
Meas. range wind speed	0.1...50 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Meas. range barometric pressure	600...1100 hPa
Accuracy wind direction	3° RMS
Accuracy wind speed	0.5 m/s RMS at 0.1...5 m/s • 0.5 m/s ± 5 % RMS of measured value at 5.1...40 m/s
Accuracy air temperature	± 0.8 °C (v > 2 m/s)
Accuracy rel. humidity	± 3 % (10...90 %) • ± 4 % (0...100 %)

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PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

Professional Line	EOLOS-Modbus
Accuracy barometric pressure	± 2 hPa (-30...+70 °C)
Resolution wind direction	1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.5 % r. h.
Resolution barometric pressure	0.1 hPa
Protocols	Modbus RTU
Interface	RS 485
Range of application	temperature -40...+70 °C • wind speed 0...100 m/s • 0...100 % r. h.
Supply voltage	24 VDC · max. 2.5 A
Dimensions	H 382 mm • Ø 120 mm • mast adapter Ø 50 mm for mounting on standard pipe
Housing	aluminium • anodised • IP 66
Weight	approx. 2.5 kg
Included in delivery	4-pole M12 plug connector
Accessories (order separately)	32.14567.060010 sensor cable, 15 m, 4 pole, M12 plug 32.14567.060000 sensor cable, 12 m, 4 pole, M12 plug

As of: 25.11.2024

PRODUCT-VIEW

LAMBRECHT meteo

AN aem BRAND

EOLOS-NAV2 STATIC WEATHER SENSOR

The perfect ship weather sensor

and specialized for offshore operation is the static weather sensor EOLOS-NAV2. The compact, space saving construction of the housing, the special anodized coating as well as the protective paint finish make it extremely resistant to seawater as well as durable and reliable. With EOLOS-NAV2 you can easily measure 5+1 parameters in one and at the same time: wind direction, wind speed, air temperature, humidity, air pressure + dew point temperature (calculated value).

- With independent, integrated sensors for high accuracies for each individual parameter
- Very high wind velocities up to 85 m/s measurable!
- Very easy to maintain
- No moving measuring elements, no wear
- Integrated heating system for non-icing operation all year round

APPLICATIONS

- Maritime
- Coastal monitoring
- Offshore wind turbines
- Industrial and port facilities
- Drilling rigs

Professional Line	EOLOS-NAV2
Id-No.	00.16432.210002
Meas. range wind direction	0...360°
Meas. range wind speed	0.1...85 m/s
Meas. range air temperature	-40...+70 °C
Meas. range rel. humidity	0...100 % r. h.
Meas. range barometric pressure	600...1100 hPa
Accuracy wind direction	± 3°
Accuracy wind speed	± 0.5 m/s ± 5 % of the meas. value
Accuracy air temperature	± 0.8 °C (v > 2 m/s)
Accuracy rel. humidity	± 3 % (10...90 %) • ± 4 % (0...100 %)
Accuracy barometric pressure	± 2 hPa (-40...+85 °C) • ± 0.5 hPa at 25 °C

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PRODUCT-VIEW

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Professional Line	EOLOS-NAV2
Resolution wind direction	1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.5 % r. h.
Resolution barometric pressure	0.1 hPa
Protocols	NMEA 0183 • WIMWV • WIMHU • WIMMB • WIMTA
Interface	serial • RS 422/ talker • baud rate 4800 • 1 Hz (meas. cycle of 4 Hz) • 8N1
Update rate	4 Hz
Range of application	temperature -40...+70 °C • wind speed 0...100 m/s • humidity 0...100 % r.h.
Supply voltage	18...32 V DC · max. 2.5 A • heating: 24 V DC/ 70 W (max. 3 A) · electr. controlled
Dimensions	H 388 mm • Ø 120 mm • mast adapter Ø 50 mm for mounting on standard pipe
Housing	aluminium • anodised • IP 66
Weight	approx. 2.5 kg
Options (order separately)	Indicator unit e.g. (14742) METEO-LCD/NAV • Data logger e.g. SYNMET-NAV or met[LOG] • Mast and power supply unit • Visualisation and evaluation software MeteoWare-CS3
Accessories (order separately)	32.16420.066100 Cable 10 m • 12-pole bayonet plug • ready-made

As of: 25.11.2024