



BROCHURE:

rain[e]observer Precipitation System

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Precipitation detection with the rain[e]observer



Precipitation detection with the rain[e]observer

Lambrecht meteo, an AEM brand, is a leading global supplier of sensors for rain measurement and precipitation detection.

APPLICATIONS:



Water management, measuring networks, hydrology



Early flood warning, weather services

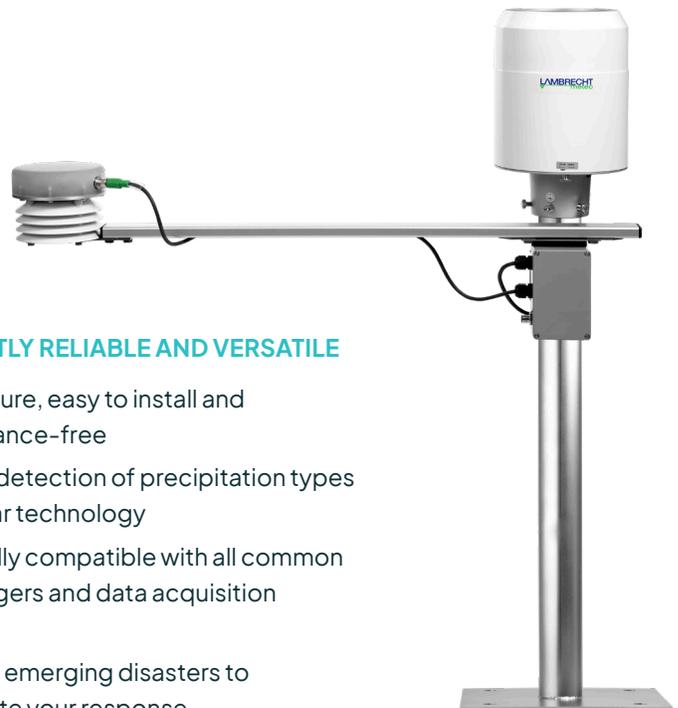


Traffic meteorology, road weather monitoring

TIME-CRITICAL AND WATER MANAGEMENT APPLICATIONS

Measuring precipitation for water management and public safety is a complex, crucial task. In these times of climate change, precipitation monitoring and measurement is more important than ever, especially as floods and major storms increase around the world. Each individual type of precipitation - rain, snow, freezing rain, or hail - presents unique measurement challenges.

Our real-time complete system facilitates measurement and data collection while ensuring the fastest possible response to flood events or road condition reports.



CONSISTENTLY RELIABLE AND VERSATILE

- Fast, secure, easy to install and maintenance-free
- Reliable detection of precipitation types with radar technology
- Universally compatible with all common data loggers and data acquisition systems
- Monitors emerging disasters to accelerate your response



Which rain[e] is the
the right one for you?

Which rain[e] is the right one for you?



The rain[e] measures precipitation totals and precipitation intensity with astonishing precision

The rain[e] is a compact precipitation sensor with a unique, sensitive measuring principle that combines the advantages of weighing and collecting rain gauges. The continuously self-emptying collection device ensures the measurement of every single drop with high resolution (0.001 mm/m²) while preventing the measurement errors often found with other devices. The high measurement accuracy meets the requirements of WMO Guideline No. 8.

The rain[e] series can be used universally with all common data loggers and data acquisition systems, as our Ser[LOG], and is ideal for setting up measurement networks. The rain[e]H3 sensors meet the stringent requirements of the German Weather Service (DWD) and are used at all DWD stations with automatic precipitation measurement.

MORE BENEFITS

- DAKkS verification of non-influence of the measuring sensor by wind and solar radiation
- Best connectivity with multiple interfaces



Technical specifications of the rain[e] series

Technical specifications of the rain[e] series

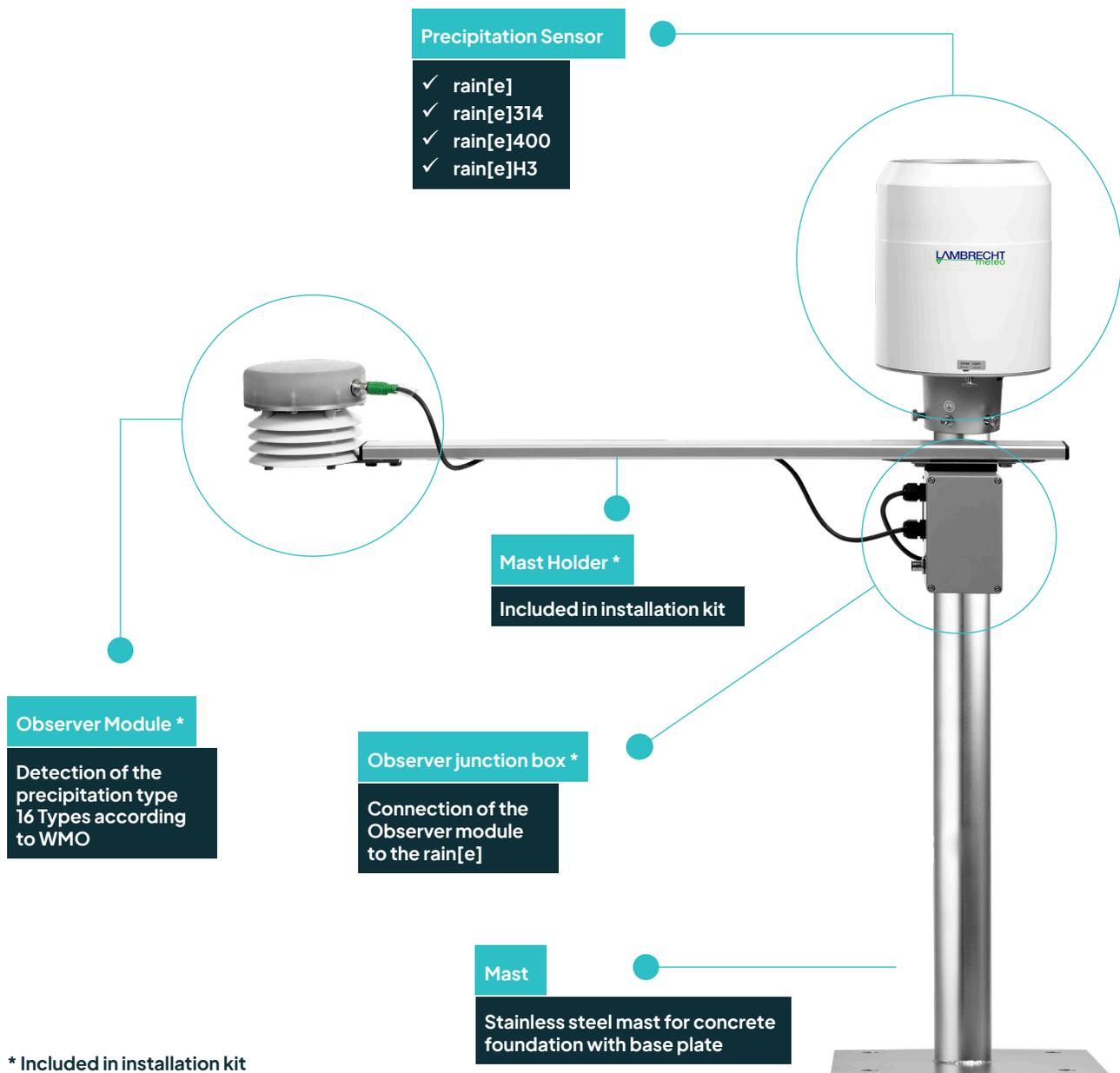
	rain[e] heated, preconfigured	rain[e]314 heated, preconfigured	rain[e]400 heated, preconfigured	rain[e]H3 heated, preconfigured
ID	00.15184.400900	00.15184.403900	00.15184.404900	00.15184.540920
Measurable precipitation types:	liquid, solid, mixed			
Measuring principle:	weighing, with automatic self-emptying			
Operating temperature:	-40...+70 °C *)			
Storage temperature:	-40...+70 °C			
Collecting area:	200 cm ²	314 cm ²	400 cm ²	200 cm ²
Measuring range (Amount):	without limitation (0.005...∞ mm)	without limitation (0.0032...∞ mm)	without limitation (0.0025...∞ mm)	without limitation (0.005...∞ mm)
Resolution (Amount):	0.001 mm (pulse output: 0.01 mm)			0,001 mm
Accuracy (Amount):	0.1 mm or 1 % at < 6 mm/min and 2 % at ≥ 6 mm/min	0.1 mm or 1 % at < 3.82 mm/min and 2 % at ≥ 3.82 mm/min	0.1 mm or 1 % at < 3 mm/min and 2 % at ≥ 3 mm/min	0.1 mm or 1 % at < 6 mm/min and 2 % at ≥ 6 mm/min
Measuring range (Intensity):	0...20 mm/min resp. 0...1200 mm/h	0...12 mm/min resp. 0...720 mm/h	0...10 mm/min resp. 0...600 mm/h	0...20 mm/min resp. 0...1200 mm/h
Resolution (Intensity):	0.001 mm/min resp. 0.001 mm/h			
Accuracy (Intensity):	0.1 mm/min resp. 6 mm/h			
Measured value output:	SDI-12 • Modbus RTU			
Plug:	8-pole M12 (sensor) · 4-pole T-coded (heating)			8-pole M12 (sensor) · 4-pole T-coded (heating) · 4-pole D-coded (Ethernet)
Dimensions:	292 mm x 190 mm (H x D)	311 mm x 256 mm (H x D)	311 mm x 256 mm (H x D)	377 mm x 190 mm (H x D)
Mountable on:	Mounting mast Ø 60 mm			
Weight:	approx. 2.5 kg	approx. 4 kg	approx. 4 kg	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			
Protection class load cell:	IP67			
Current consumption:	max. 45 mA at 24 V power supply and analog output • typ. 7.5 mA at 24 V power supply and pulse output • typ. 12.5 mA at 12 V			max. 45 mA at 24 V power supply and analog output • typ. 12.5 mA at 12 V • max. 150 mA at 12 V supply with Ethernet
Supply voltage:	9.8...30 V			
Heating				
Heating data:	electronically controlled, 2 heating circuits			electronically controlled, 3 heating circuits: ring, funnel and drain heating
Target temperature:	+2 °C funnel surface temperature			
Accuracy:	± 1 °C			
Heating power:	80 W (funnel) · 60 W (drain/ collecting vessel)	150 W (funnel) · 60 W (drain/ collecting vessel)	150 W (funnel) · 60 W (drain/ collecting vessel)	70 W (funnel) · 60 W (drain/ collecting vessel) · 70 W ring heating
Supply voltage:	24 VDC / 140 W	24 VDC / 210 W	24 VDC / 210 W	24 VDC / 200 W



Overview of the rain[e]observer

Overview of the rain[e]observer

You can turn your rain[e] precipitation sensor into a rain[e]observer by connecting the Observer installation kit. The Doppler radar of the rain[e]observer emits electromagnetic waves in the mW range upwards, i.e. towards the precipitation, via a transmitting antenna array. The frequency used is internationally approved for measurements of this type. The receiving antenna array of the sensor receives the signal reflected from droplets or particles, from which the difference of frequency between the two signals is determined. That means you can calculate the exact speed of falling drops, which, combined with air temperature and humidity values, allows you to measure and differentiate 16 different types of precipitation.



Our "No compromise
on quality" pledge

Our "No compromise on quality" pledge

At Lambrecht meteo, an AEM brand, we pride ourselves on the high quality, long lifespan, and thoughtful design of our products. We are committed to delivering robust and durable solutions, like the rain[e]observer, which support both business optimization and environmental sustainability. If you already have an existing rain[e] precipitation monitoring installation, upgrading to Lambrecht's rain[e]observer is a simple and rewarding process.

TECHNICAL DATA OBSERVER INSTALLATION SET



Figure: Complete Observer installation kit

ID 32.15184.300000	Observer installation kit with installation material
Power characteristics	In addition to the rain[e] 14 mA at 24 V; max. 25 W in heating mode
Area of application	-40...70 °C (heated, no icing, no snow drifting)
Storage conditions	-55...+80 °C
Protection type	IP65 / IP67
Materials	<ul style="list-style-type: none"> • Brackets and fasteners: V4A • Cover: PC (Polycarbonate – UV stabilized) • Base plate: Aluminum, anodized • Lamellae: ASA • Traverse profile: Aluminum • Junction Box: PA6
Weight	2.1 kg
Mounting type	Tab to mount on system traverse. The traverse can be fastened to pipes of up to 80 mm diameter.



Precipitation Types (according to SYNOP table 4680)

No precipitation
Precipitation present
Light drizzle
Moderate drizzle
Heavy drizzle
Light rain
Moderate rain
Heavy rain
Light rain and/or drizzle with snow
Moderate rain and/or drizzle with snow
Snow
Light snow
Moderate snow
Heavy snow
Ice grains
Heavy hail

Accessory overview and specifications

Accessory overview and specifications

We offer many accessories for customizing and enhancing your rain[e]observer system. If an accessory you need is not listed, please contact our sales team for further assistance.

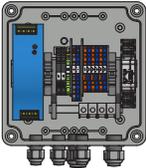
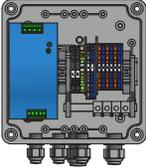
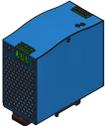
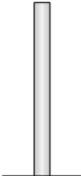
You can contact us at info@lambrecht.net or **+49 551 4958 - 0**.

ID	Product	
00.15184.400900	rain[e] heated, preconfigured Weighing precipitation sensor	
00.15184.403900	rain[e]314 heated, preconfigured Weighing precipitation sensor	
00.15184.404900	rain[e]400 heated, preconfigured Weighing precipitation sensor	
00.15184.540290	rrain[e]H3 heated, preconfigured Weighing precipitation sensor	
32.15184.300000	Observer installation kit Included installation material	



Accessory overview and specifications

Customize your rain[e]observer.

Telemetry		
ID		
00.95770.000000	<p>Data Logger Ser[LOG]</p> <p>Simple configuration with the Ser[LOG] Commander App.</p> <p>Large sensor library with predefined Lambrecht meteo sensors.</p> <p>The sensor library can be easily expanded with sensors from other manufacturers.</p>	
36.09340.000000	<p>MeteoWare-CS3 Standard</p> <p>PC software package for Lambrecht systems for acquisition, evaluation of meteorological data; supporting three stations / one user; incl. data retrieval service, wind statistics, SQL interface</p>	
Power Supply Units in Housing		
ID		
00.14966.715000	<p>Power: 150 W (@230 VAC; 125 W @115 VAC)</p> <p>Output: 24 VDC (6.5 A @ 230 VAC; 5.2 A @115 VAC)</p> <p>Input: 90...264 VAC</p> <p>in plastic housing, gray, IP66</p> <p>included distribution terminals</p>	
00.14966.724000	<p>Power: 240 W</p> <p>Output: 24 VDC (10 A)</p> <p>Input: 90...264 VAC</p> <p>in plastic housing, gray, IP66</p> <p>included distribution terminals</p>	
Power Supply Units for DIN Rail TS35		
ID		
64.59021.070000	<p>Power: 150 W (@230 VAC; 125 W @115 VAC)</p> <p>Output: 24 VDC (6.5 A @ 230 VAC; 5.2 A @115 VAC)</p> <p>Input: 90...264 VAC</p>	
64.59021.080000	<p>Power: 240 W</p> <p>Output: 24 VDC (10 A)</p> <p>Input: 90...264 VAC</p>	
Masts, Traverses and Accessories		
ID		
00.15180.800050	<p>Stainless steel mast with base plate for rain[e]</p>	



Accessory overview and specifications

Customize your rain[e]observer.

00.15180.300000	Stainless steel mast with screw foundation for rain[e]	
32.14966.030000	Mast support for power[cube]	
ID	Cable	
32.15184.060000	Connection cable with M12 plug (sensor - data logger) Length = 10 m (8-core)	
32.15184.061000	Connecting cable (heating) for mounting on the mast L ≈ 1 m (4-core)	
32.15184.061010	Connecting cable (heating) for mast mounting L ≈ 10 m (4-core), T-coded	
ID	Bird Defense Ring	
32.15180.022040	Bird defense ring for rain[e]400 and rain[e]314	
32.15180.023020	Bird defense ring for: rain[e], rain[e] Modbus, rain[e]one, rain[e]one Modbus, rain[e]LP	
ID	Other	
33.15189.049010	Debris trap (spiral)	
32.15184.080000	Calibration set rain[e]	

Advanced Environmental Monitoring

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