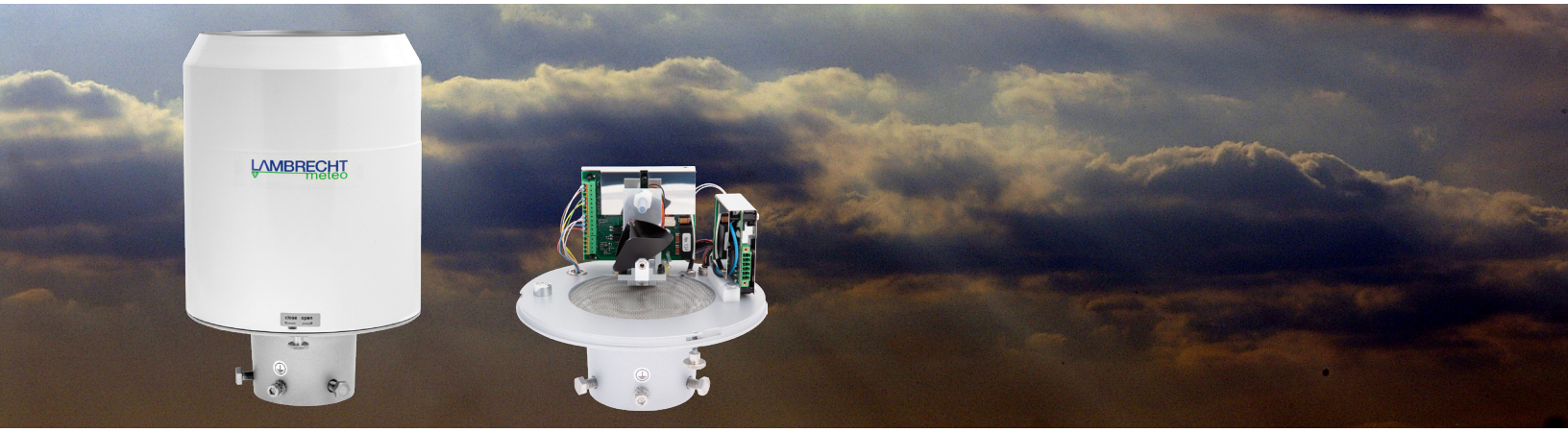
PRODUCT OVERVIEW

rain[e] Precipitation Sensors



High-resolution rainfall measurement in a compact design

OVERVIEW

rain[e]

Standard device with 200 cm^2 collection surface (WMO-compliant)

rain[e]LP

Low-power model with minimal energy consumption

rain[e]400

Larger collection surface of 400 cm^2 with compact design

rain[e]one Modbus

Cost-effective version with Modbus RTU interface

BENEFITS

- Industry-leading resolution and **accuracy of 0.001 mm/m²** in a compact design
- Unique, continuously self-emptying collection system prevents overflow and incorrect measurements
- Environmentally friendly design provides full functionality all year without antifreeze
- Compatible with a wide range of data loggers for easy set up or expansion of your rainfall network

rain[e]H3

Meets the high requirements of the German Weather Service (DWD)

	rain[e] unheated	rain[e] heated	rain[e]LP unheated	rain[e]400 heated	rain[e]400 heated	rain[e]one Modbus unheated	rain[e]one Modbus heated	rain[e]H3 Ethernet heated
ID	**00.15184.000000**	**00.15184.400000**	**00.15184.010000**	**00.15184.004000**	**00.15184.404000**	**00.15184.000101**	**00.15184.400101**	**00.15184.540020**
Measurable precipitation types	liquid	liquid, solid, mixed	liquid	liquid	liquid, solid, mixed	liquid	liquid, solid, mixed	liquid, solid, mixed
Measuring principle	weighing, with automatic self-emptying							
Operating temperature	0…+70 °C	-40…+70 °C *)	0…+70 °C	0…+70 °C	-40…+70 °C *)	0…+70 °C	-40…+70 °C *)	-40…+70 °C *)
Storage temperature	-40…+70 °C							
Collection surface	200 cm²			400 cm²		200 cm²		
Measuring range (amount)	unlimited (0.005…∞ mm)			unlimited (0.0025…∞ mm)		unlimited (0.0025…∞ mm)		unlimited (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 mm/min and 2 % at ≥ 3 mm/min		0.1 mm or 2 %		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…10 mm/min resp. 0…600 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							
Signal outputs	SDI-12 • RS-485 (SDI-12-, ASCII-, TALKER protocol, Modbus RTU); 2 pulse outputs for linearized, bounce-free output signal; status output (configurable, e.g. rain yes/no or heating on/off); analog output 0/4...20 mA (0...2.5/5 V)		SDI-12 • 1 pulse output for linearized, bounce-free output signal	SDI-12 • RS-485 (SDI-12-, ASCII-, TALKER protocol, Modbus RTU); 2 pulse outputs for linearized, bounce-free output signal; status output (configurable, e.g. rain yes/no or heating on/off); analog output 0/4...20 mA (0...2.5/5 V)		RS-485 (Modbus RTU) • 1 pulse output for linearized, bounce-free output signal		SDI-12 • RS-485 (SDI-12-, ASCII-, TALKER protocol, Modbus RTU); 2 pulse outputs for linearized, bounce-free output signal; · status output (configurable, e.g. rain yes/no or heating on/off); analog output 0/4...20 mA (0...2.5/5 V); Ethernet 100 Mbits/s
Connector	8 pole M12	8 pole M12 4 pole T-coded (heating)	5 pole M12 A-coded	8 pole M12	8 pole M12 4 pole T-coded (heating)	4 pole M12	4 pole M12 4-pole T-coded (heating)	8 pole M12 4 pole T-coded (heating) 4 pole D-coded
Dimensions	292 mm x 190 mm (H x D)			311 mm x 256 mm (H x D)		292 mm x 190 mm (H x D)		377 mm x 190 mm (H x D)
Mountable on	Ø 60 mm							
Weight	approx. 2.5 kg			approx. 4 kg		approx. 2.5 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							
PIP code	IP67							
Power consumption	max. 45 mA at 24 V power supply and analog output • typ. 6.5 mA at 24 V power supply and pulse output • typ. 12.5 mA at 12 V		typ. 6.9 mA at 12 V power supply	max. 45 mA at 24 V power supply and analog output • typ. 6.5 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 power supply with Ethernet
Supply voltage	9.8...32 VDC		9.8...12 VDC	9.8...32 VDC				
Heating data								
Heating	none	electronically controlled, 2 heating circuits	none	none	electronically controlled, 2 heating circuits	none	electronically controlled, 2 heating circuits	electronically controlled, 3 heating circuits: ring, funnel and drain heating
Target temperature	none	+2 °C funnel surface temperature	none	none	+2 °C funnel surface temperature	none	+2 °C funnel surface temperature	+2 °C funnel surface temperature
Accuracy	none	±1 °C	none	none	±1 °C	none	±1 °C	±1 °C
Heating power	none	80 W (funnel) 60 W (discharge/ collection vessel)	none	none	150 W (funnel) · 60 W (discharge/ collection vessel)	none	80 W (funnel) · 60 W (discharge/ collection vessel)	70 W (funnel) · (discharge/ collection vessel) · 70 W (ring heating)
Supply voltage	none	24 VDC / 140 W	none	none	24 VDC / 210 W	none	24 VDC / 140 W	24 VDC / 200 W

*) No icing or snow drifting

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