**Overview Precipitation Sensors rain\[e\] Series**

**rain\[e\]** is a new kind of precipitation sensor: Highest resolution combined with a very compact design.

The unique, continuously self-emptying collecting system enables the measurement of each single drop with the high resolution of 0.001 mm/m² and prevents incorrect measurements, which can occur with other weighing systems.

The rain\[e\] series is compatible with a wide range of data loggers and ideal for setting up measurement networks.

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**rain\[e\]**
- Standard device with 200 cm² collecting surface (WMO compliant)
- Best connectivity due to multiple interfaces
- DAkkS proof of non-impact of the measurement sensor by wind and solar radiation

**rain\[e\]LP**
- Low Power (LP) version with minimal energy consumption
- Ideal choice for solar or battery powered applications
- For agricultural monitoring networks, traffic meteorology, measuring networks of water utilities, sewage treatment plants

**rain\[e\]400**
- Larger collecting surface: 400 cm²
- Compact and robust design at a very low weight
- Easy installation and maintenance
- Environment-friendly as all rain\[e\] sensors, because it is free of anti-freeze agents
- Collecting surface: 200 cm²

**rain\[e\] Modbus**
- The Modbus RTU interface simplifies sensor installation and integration into networks.
- Weatherproof and durable, like all rain\[e\] sensors with all-metal housing

**rain\[e\]one**
- Cost-effective sensor in first-class, proven quality
- Same features as in the premium class of the rain\[e\] series
- Slight differences in technical data (quantity and intensity of all precipitation)

**rain\[e\]one Modbus**
- Cost-effective sensor with Modbus RTU interface
- First-class equipment as in the premium class of the rain\[e\] series
- Slight differences in technical data (quantity and intensity of all precipitation)

**rain\[e\]H3 Ethernet**
- Meets the high requirements of the German Weather Service (DWD), and is installed at all stations of the DWD with automatic precipitation measurement.
- With electronically controlled ring, funnel and drain heating

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## Overview Precipitation Sensors rain[e] Series

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### Measurable precipitation types:
- liquid
- liquid, solid, mixed
- liquid
- liquid, solid, mixed
- liquid
- liquid, solid, mixed
- liquid
- liquid, solid, mixed
- liquid
- liquid, solid, mixed
- liquid
- liquid, solid, mixed

### Measurement principle:
- weighing, with automatic self emptying

### Operating temperature:
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C
- +2 °C - 40...+70 °C

### Storage temperature:
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C
- -40...+70 °C

### Collecting area:
- 400 cm²
- 200 cm²

### Measuring range (amount):
- 0.001 mm or 2 % at ≥ 6 mm/min
- 0.001 mm or 1 % at < 6 mm/min
- 0.001 mm or ≤ 3 mm/min
- 0.001 mm or ≥ 3 mm/min
- 0.001 mm or ≤ 6 mm/min
- 0.001 mm or ≥ 6 mm/min
- 0.1 mm or 2 %
- 0.1 mm or 1 %
- 0.1 mm or 1 %
- 0.1 mm or 2 %
- 0.1 mm or 1 %
- 0.1 mm or 2 %

### Resolution (amount):
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm
- 0.001 mm

### Signal outputs:
- 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)

### Connector:
- 8 pole M12
- 8 pole M12
- 8 pole M12
- 8 pole M12
- 8 pole M12
- 8 pole M12
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- 8 pole M12
- 8 pole M12
- 8 pole M12

### 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)

### 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
- EN 61000-4-3
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-11
- NAMUR NE-21

### Protection class load cell:
- IP67

### Current 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. 10.5 mA at 12 V
- max. 45 mA at 24 V power supply and analog output * typ. 10.5 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 (direct):
- 9.8...32 V DC
- 9.8...32 V DC

### Heating:
- without electronically controlled
- 2 heating circuits
- without electronically controlled
- 2 heating circuits
- without electronically controlled
- 2 heating circuits
- without electronically controlled
- 2 heating circuits
- without electronically controlled
- 2 heating circuits
- without electronically controlled
- 2 heating circuits

### Target temperature:
- without +2 °C funnel surface temperature
- without +2 °C funnel surface temperature
- without +2 °C funnel surface temperature
- without +2 °C funnel surface temperature
- without +2 °C funnel surface temperature
- without +2 °C funnel surface temperature

### Accuracy:
- ± 1 °C
- ± 1 °C
- ± 1 °C
- ± 1 °C
- ± 1 °C
- ± 1 °C

### Heating power:
- 80 W (funnel) - 60 W (discharge/collecting vessel)
- 150 W (funnel) - 60 W (discharge/collecting vessel)
- 80 W (funnel) - 60 W (discharge/collecting vessel)
- 80 W (funnel) - 60 W (discharge/collecting vessel)
- 80 W (funnel) - 60 W (discharge/collecting vessel)
- 70 W (funnel) - 60 W (discharge/collecting vessel)

### Supply voltage:
- 24 V DC / 140 W
- 24 V DC / 140 W
- 24 V DC / 140 W
- 24 V DC / 140 W
- 24 V DC / 140 W
- 24 V DC / 140 W
- 24 V DC / 200 W

*) no icing or snow drifting