

rain[e]

Latest weighing technology allows all rain[e] sensors a high resolution and excellent precision at a very small construction volume.

High Quality Weighing Precipitation Sensors



rain[e]



rain[e]H3



rain[e]400

closer to the climate



The first of a new kind.

Latest weighing technology combined with a self-emptying collecting system allows the rain[e] 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

classical meteorology and hydrology •
measuring networks of water suppliers •
lysimeter systems • sewage plants • Weather
services • airports • traffic meteorology

Professional Line

rain[e], unheated

Measuring principle:
Operating temperature:
Collecting area:
Amount measuring range:
Amount resolution:
Amount accuracy:
Intensity range:
Intensity resolution:
Intensity accuracy:
Standards:

Protection class weighing cell:
Current consumption:

Supply voltage:
Signal outputs:

Weighing precipitation sensor rain[e]

Id-No. 00.15184.000 000

weighing with automatic self emptying
0...+70 °C (unheated)
200 cm²
without limitation (0.005...∞ mm)
0.001 mm (pulse output: 0.01 mm)
± 0.1 mm or ± 1 % at < 6 mm/min and ± 2 % at > 6 mm/min
0...20 mm/min resp. 0...1200 mm/h
0.001 mm/min resp. 0.001 mm/h
± 0.1 mm/min resp. ± 6 mm/h
WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11
NAMUR NE-21
IP67
max. 45 mA at 24 V power supply and analogue output •
typ. 6.5 mA at 24 V power supply and pulse output · typ. 10.5 mA at 12 V
9.8...32 V DC
· 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...2.5/5V)

rain[e], heated

Data like rain[e] 00.15184.000 000, but in addition with controlled 2-circuit-heating
Target temperature (heating):
Heating power:
Supply voltage:
Operating temperature:

Id-No. 00.15184.400 000

+2 °C funnel surface temperature
80 W (funnel) • 60 W (outlet/ tipping bucket)
24 V DC / 2 heating circuits 80 W and 60 W
-40...+70 °C (no icing, no snowdrift)



PRECIPITATION SENSOR „rain[e]H3“

Weighing precipitation sensor

rain[e]H3

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 heaters
- easy installation and maintenance



Technical Data

Weighing Precipitation Sensor rain[e]H3

Id-No. 00.15184.540 020

| | |
|--|---|
| Measurable precipitation types: | liquid, solid, mixed |
| Measuring principle: | weighing with automatic self emptying |
| Operating temperature: | -40...+70 °C (no icing or snow drift) |
| Storage temperature: | -40...+70 °C |
| Collecting area: | 200 cm ² |
| Measuring range (amount): | without limitation (0.005...∞ mm) |
| Resolution (amount): | 0.001 mm |
| Accuracy (amount): | ± 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 |
| Resolution (intensity): | 0.001 mm/min resp. 0.001 mm/h |
| Accuracy (intensity): | ± 0.1 mm/min resp. ± 6 mm/h |
| Integrated outside temperature sensor: | measuring range: -35...+45 °C • basic accuracy*: < 0.5 °C |
| Dimensions: | 377 mm × 190 mm (H × Ø) |
| Mountable on: | Ø 60 mm |
| 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 |
| Protection class weighing cell: | IP67 |
| Protection class housing: | IP64 |
| Current consumption: | max. 150 mA at 12 V supply with Ethernet |
| Supply voltage: | 9.8...32 V DC |
| Heating data: | electronically controlled ring-, funnel- and drain-line heaters |
| Target temperature: | +2 °C funnel-surface temperature |
| Accuracy: | ± 1 °C |
| Heating power: | 70 W (funnel) · 60 W (discharge/ collecting vessel) · 70 W (ring heating) |
| Output signals: | · 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...2.5/5V) |
| Real Time Clock (RTC): | integrated |

*) without the influence of sunlight

rain[e]400



ecological

Full functionality around the year without antifreeze fluid makes the rain[e]400 very environmentally friendly.

extraordinary

The rain[e]400 is a new kind of weighing precipitation sensor. Highest resolution combined with the most compact unique design.

exact

Our unique self-emptying collecting system allows single drop measurement at the high resolution of 0.001 mm/m².

efficient

Highest functionality delivered in compact space, yet providing 6 different interfaces. rain[e]400 supports solar-powered applications at low power consumption. Optionally, rain[e]400 is available with a high-efficiency heating system.

easy

rain[e]400 is easy to lift, to transport, to install, to check and to maintain.

economic

Small package volume and light weight allow for low transport costs. The rain[e]400 is up to 50% less expensive than other weighing sensors, yet providing similar or improved functionality.

Professional Line

rain[e]400, unheated

Measuring principle:
Operating temperature:
Collecting area:
Amount measuring range:
Amount resolution:
Amount accuracy:
Intensity range:
Intensity resolution:
Intensity accuracy:
Standards:

Protection class weighing cell:
Current consumption:

Supply voltage:
Signal outputs:

Weighing precipitation sensor rain[e]400

Id-No. 00.15184.004 000

weighing with automatic self emptying
0...+70 °C (unheated)
400 cm²
without limitation (0.0025...∞ mm)
0.001 mm (pulse output: 0.01 mm)
± 0.1 mm or ± 1 % at < 3 mm/min and ± 2 % at > 3 mm/min
0...10 mm/min resp. 0...600 mm/h
0.001 mm/min resp. 0.001 mm/h
± 0.1 mm/min resp. ± 6 mm/h
WMO-No. 8 • VDI 3786 Bl. 7 • EN 61000-2, -4 • EN 61000-4-2, -3, -4, -5, -6, -11
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· 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...2.5/5V)

rain[e]400, heated

Data like rain[e]400 00.15184.004 000, but in addition with controlled 2-circuit-heating
Target temperature (heating):
Heating power:
Supply voltage:
Operating temperature:

Id-No. 00.15184.404 000

+2 °C funnel surface temperature
150 W (funnel) • 60 W (outlet/ tipping bucket)
24 V DC / 2 heating circuits 150 W and 60 W
-40...+70 °C (no icing, no snowdrift)