



Liquid precipitation measurement
OTT WAD 200 / 314
Weighing rain gauge with automatic drain

OTT WAD 200 / 314

A liquid precipitation measuring instrument that combines the advantages of a tipping & weighing system: innovation and traditional measuring technology in one instrument.

State-of-the-art weighing technology combined with a self-emptying weighing rain sensor for high resolution and precision in a very compact design. Especially suitable for use in subtropical and tropical climates. The highly sensitive measuring principle of the liquid precipitation meter meets the requirements of the WMO guidelines and delivers accurate measured values in real time for both quantity and intensity of liquid precipitation in the impressive range of 0.001 to 720 mm/h.

The WAD 200 and 314 has a low power consumption and is an extremely reliable and accurate measuring instrument even under extreme weather conditions and extreme rain events. A usually prescribed annual check or calibration can be carried out with the aid of a reference weight and is therefore more accurate than the usual calibration procedure using water volume.

Meteorology



Liquid precipitation measurement with the OTT WAD

Benefits:

- Small size – installation on 2" tube.
- Available with 200 or 314 cm² collection opening.
- Intensity and total data output according to WMO guideline no. 8 with measuring range from 0.001 to 720 mm/h.
- Compensation of temperature and wind errors by internal filter algorithm.
- Various data interfaces (SDI-12, RS-485, pulse output) for easy system integration.
- Configurable via USB port.
- Solid design for high MTBF.
- Self-emptying weighing rain sensor allows unattended long-term use.
- Low power consumption enables operation with solar power supply.

OTT WAD 200 / 314 – fields of application

For liquid precipitation measurement networks:

- In urban areas
- Of scientific research programmes
- Of flood warning systems
- For the calibration of weather radar data
- As replacement for manual control precipitation measurement methods

OTT WAD 200 / 314 – OTT WAD Commander software

The data is issued via a web host and made available to network operators and customers on the basis of a software solution. The embedded USB-port allows to manage the intensity and cumulative rain data, multiple interfaces like SDI-12, RS485-2-wire/4-wire, pulse output, analogue output as voltage or current output (optional), to retrieve data, diagnostics and to carry out guided accuracy tests as well as firmware updates.

Technical Data

General:

- Sensor type: Weighing precipitation gauge
- Sensor element: Hermetic sealed load cell
- Precipitation types: Liquid
- Collecting area: 200 cm² / 314 cm²
- Capacity: 0,2 mm bucket, self-emptying

Measuring range:

- Amount: without limitation (0,005... ∞ mm)
- Intensity: 0 .. 10 mm/min resp 600 mm/h

Resolution:

- Amount: 0,001 mm
- Intensity: 0,001 mm/min resp. 0,001 mm/h

Accuracy:

- Amount: ±0,1 mm or ±2 %
- Intensity: ±0,1 mm/min resp. ±6 mm/h or ±2 %

Electrical:

- Electronics: 9.8 to 32VDC / 160 mW (SDI-12 & pulse output)

Interfaces:

- USB: Configuration / Service-Mode
- Serial interface: SDI-12 or RS485 2-wire
- Baud rate: 1200 (SDI-12) 2400 to 19200 baud (RS-485)
- Pulse output: 0.01 / 0.1 / 0.2 / 0.5 / 1.0 mm
- Status output: Rain yes/no
- Analogue output: 0/4 ... 20 mA or 0 ... 2/5 V

Data:

- Real time (RT): Intensity & cumulative precipitation
- Status: Operational mode, hardware
- Output interval: 1 min (intensity) 1 to 60 minutes
- Output formats: SDI-12 V1.3: metric & imperial units; RS-485 (galvanic isolated): ASCII.TXT and MODBUS

Dimensions:

- WAD 200: 292 x 190 mm
- WAD 314: 311 x 256 mm

Weight:

- WAD 200: ca 2,5 kg

- WAD 314: ca. 4,0 kg

Material:

- Ring, funnel, plate: aluminium alloy
- Mounting/Installation Ø: 2" / 60mm

Environmental

- Operating temperature: 0 ... +70 °C
- Storing temperature: -50 ... +70 °C
- Ambient relative humidity: 0 ... 100% RH
- Protection class Load cell: IP 67; instrument: IP 64
- Wind Speed Survival: 60 m/s

EMC/EMI and Norms:

- Overvoltage: EN 61000-4-2/-4/-5/-6/-11 Level 5 (4 kV), integrated for power & interface cables
- EMC/EMI: EN 61000-4-3, CE conform
- RoHS: 2011/65/EU
- Norms: WMO-No 8, VDI 3786 Bl. 7

Accessories:

- Operating program
- 10 m / 20 m cable
- test & calibration set
- bird protection
- wind shield