



Mouth area 200 cm²

High precision

Automatic correction of cumulative measurement (-E versions)

Integrated diagnostic functions: inclinometer, accelerometer (-E versions)

Available with heater

Description

The TP200 is a rain gauge with a collection area of 200 cm² and a tilting pan. It is extremely accurate and also suitable for latitudes where high intensity rainfall is the norm (monsoons or tropical rains).

The sensor consists of an oscillating tipping bucket whose fulcrum, shaped like a knife blade, rests on a V-shaped seat in order to minimize friction, thus facilitating the tipping of the bucket and ensuring high accuracy even at high precipitation intensities. The sensor body is made of aluminum alloy and is hot-coated with a special UV-resistant paint that guarantees high durability and resistance to atmospheric agents.

The TP200 is available in two versions: the TP200-N with pulse output without any type of signal conditioning, and the TP200-E equipped with signal conditioning electronics that reduce measurement uncertainties at high precipitation intensities, both for intensity and cumulative values. The TP200-E version provides contact output (cumulative precipitation), current output (cumulative precipitation), or Modbus and SDI-12 serial output (both intensity and cumulative) on a single connector.

The sensor in the TP200-N version only is also available with the option of a heater powered by 24 V DC or AC, and is supplied complete with power and signal cable (12 m).



Caratteristiche Principali

- **Mouth area 200 cm²**
- **Measurable intensity up to 500 mm/h**
- **Accurate even at high rainfall intensities**
- **Automatic measurement correction (versions -E)**
- **Integrated diagnostic functions: inclinometer, accelerometer (versions -E)**
- **Protected against power surges**
- **Available with heater**

Technical Specifications*

| Measurement performance | | | |
|--|--|---------|-----|
| Collecting area | 200 cm ² | | |
| Conversion constant | 0.2 mm/impulse | | |
| Amount resolution | 0.2 mm | | |
| Intensity resolution (TP200-E) | 0.1 mm/h | | |
| Amount range | 0 ÷ ∞ mm | | |
| Intensity range (TP200-E) | 0 ÷ 500 mm/h | | |
| Amount accuracy (TP200-N) | ±2% @ 10 ÷ 70 mm/h ±5% @ 70 ÷ 150 mm/h ±7% @ 150 ÷ 200 mm/h ±10% @ 200 ÷ 300 mm/h Accuracy: < 3% (0 - 500 mm/hr) by datalogger correction | | |
| Amount accuracy (TP200-E) | ±2% @ < 300 mm/h | | |
| Intensity accuracy (TP200-E) | ±2% @ < 300 mm/h | | |
| Operating conditions | | | |
| Temperature | 0°C ÷ +70°C | | |
| Temperature (heated version) | -20°C ÷ +70°C | | |
| Rainfall intensity | 0 ÷ 500 mm/h | | |
| Outputs | | | |
| Reed contact | 0.2 mm/impulse | | |
| RS485-Modbus / SDI-12 | Adjusted intensity [mm/h], Adjusted amount [mm] | | |
| Tension (optional) | 0 ÷ 2 V ↔ 0 ÷ 500 mm/h | | |
| Current (optional) | 4 ÷ 20 mA ↔ 0 ÷ 500 mm/h | | |
| Power supply and Consumption (-E version) | | | |
| Voltage supply | 7 ÷ 30 Vdc | | |
| Heating system voltage supply | 12 ÷ 24 V [DC o AC] | | |
| Consumption (mA) | | | |
| | Min | Typical | Max |
| RS485-Modbus / SDI - 12 / 0 ÷ 2 V | - | 1 | 3 |
| 4 ÷ 20 mA | 5 | - | 25 |
| Heating system power | 90 W @ 24 Vdc | | |
| Mechanical specifications | | | |
| Materials | Corrosion-resistant metal alloys and stainless steel fasteners | | |
| Weight | 2.2 kg | | |
| Dimensions | Ø = 165 mm; Height: = 345 mm | | |
| Electrical connections | IP67 / 7 pole male connector | | |
| Finishing touch | RAL 9003 thermosetting polyester powder varnishing | | |
| Ordering codes | | | |
| Reed contact output | PSM-t027a-TP200-N | | |
| Heated version, Reed contact output | PSM-t028a-TP200R-N | | |
| Version with electronic correction. Available outputs: RS485-Modbus or SDI-12, contact, optional current and voltage. | PSM-t027q-TP200-E | | |
| Heated version with electronic control. Available outputs: RS485-Modbus or SDI-12, contact, optional current and voltage | PSM-t028q-TP200R-E | | |
| Optional: EN 17277 certification, Class A | PSM-t027-TP200-CERT | | |

*Changes on technical performances can be applied upon request of specific calibration