



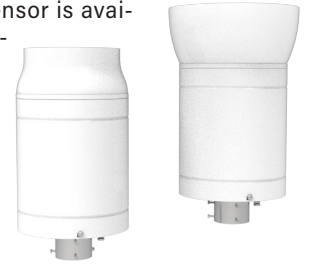




-  Mouth area of 500 or 1000 cm²
-  Accurate even at high rainfall intensities
-  Automatic correction of cumulative measurement (versions -E)
-  Integrated diagnostic functions: inclinometer, accelerometer

Description

TP rain gauges are high-precision sensors designed to measure cumulative precipitation and precipitation intensity. The measurement principle is based on a tipping bucket mechanism designed to minimize friction generated by the oscillating action. This system has made it possible to achieve high standards of accuracy across the entire measurement range. The sensor is available in both a contact/pulse output version (TP500-N and TP1000-N) and a version with correction electronics (TP500-E and TP1000-E) to compensate for the mechanical error intrinsically caused by the tipping bucket operation, ensuring high accuracy even at high precipitation intensities. In particular, through numerous laboratory tests, an algorithm has been developed that allows the measured cumulative precipitation value to be modified, aligning it with the theoretical value according to the intensity of the rain. The sensor body is made of aluminum alloy and finally heat-coated with a special anti-UV paint that guarantees high durability and resistance to atmospheric agents. All available models are supplied with a power and signal cable (12 m).



Main features

- **Mouth area 500 or 1000 cm²**
- **Measures up to 500 mm/h**
- **Accurate even at high rainfall intensities**
- **Compliant with WMO guidelines**
- **Compliant with EN17277 (versions -E)**
- **Automatic correction of cumulative measurement**
- **Protected against power surges**
- **Integrated diagnostic functions: inclinometer, accelerometer**
- **Redundant reed switch (optional)**

Technical Specifications*

Measurement performance

Collecting area	500 or 1000 cm ²
Conversion constant	0.2 mm/impulse
Amount resolution	0.2 mm
Intensity resolution (-E and -12 versions)	0.1 mm/h
Amount range	0 ÷ ∞ mm
Intensity range (-E and -12 versions)	0 ÷ 500 mm/h
Amount accuracy (-N version)	< 3 % @ < 150 mm/h, < 6 % @ < 300 mm/h
Amount accuracy (-E and -12 versions)	< 3 % @ < 300 mm/h
Intensity accuracy (-E and -12 versions)	< 3 % @ < 300 mm/h

Operating conditions

Temperature	0°C ÷ +70°C
Rainfall intensity	0 ÷ 500 mm/h

Outputs

Reed contact	0.2 mm/impulse
RS485-Modbus / SDI-12	Raw amount [mm], 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 and -12 versions)

Voltage supply	10 ÷ 15 Vdc
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Power consumption (mA)	Min	Typical	Max
RS485-Modbus / SDI - 12 / 0 ÷ 2 V	-	1	3
4 ÷ 20 mA	5	-	25

Mechanical specifications

Materials	Corrosion-resistant metal alloys and stainless steel fasteners
Dimensions	Ø = 300 mm; Height = 585 mm (for 500 cm ²), Ø = 356 mm; Height = 615 mm (for 1000 cm ²)
Electrical connections	IP67 / 7 pole male connector
Finishing touch	RAL 9003 thermosetting polyester powder varnishing

Ordering codes

	500 cm ² area	1000 cm ² area
Reed contact output	PSM-t043-TP500-N	PSM-t043-TP1000-N
Version with electronic correction. Available outputs: RS485-Modbus or SDI-12, Contact, optional current and voltage.	PSM-t043-TP500-E	PSM-t043-TP1000-E
Optional EN17277 certificate, A class.	PSM-t043-TP500-CERT	PSM-t043-TP1000-CERT

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