

Rain gauge with collecting area of 1000cm²



Description

The sensor is made up of a funnel collector and a couple of calibrated collecting containers (tipping buckets).

The calibrated collector area is 1000cm². The collector collection is made of anodized aluminum, the shape is such as to prevent the rain from splashing in and out, according to WMO recommendations. An appropriate circular deflector reduces the undesired effects of the turbulence caused by wind.

The sensor is designed for operating in severe environmental conditions. In order to facilitate cleaning and maintenance activities, a smart tilt system was created for opening the sensor.

When the precipitation fills one of the collectors, the balance of the tipping system fails, this causes the tilting of the collection system. This action, on the one side puts the empty bucket in the collection position, on the other side allows the emptying of the full bucket. The instrument reports upon the event by generating an electrical output signal of On-Off type (opening / closing of a contact). The tipping bucket system is equipped with a level bubble and three positioning screws for the correct leveling. In case it has to do with solid precipitation (snow or hail), the instrument is able to evaluate the amount of water obtained from its melting.

The body is made up of an anodized aluminium cylinder with a height of approximately 70 cm. The cylinder is white painted in order to obtain the maximum reflection of incoming solar radiation: solution that reduces the evaporation of the residue into the bucket. It is hooked to a circular support of aluminium and fastened to the base. The electromechanical system of measurement of the precipitation is placed inside.

The base is made up of a single piece of cast aluminium. On the lower part there is the place for the mounting pole (diameter 60mm) and two holes for the drain of the water after each tipping activity.

In order to better the accuracy of the measurement, MTX integrates an electronic control board based on a 32bit microprocessor which, through intensive rain algorithms, is able to correct the linearity errors typically introduced by tipping buckets. This option guarantees an accuracy of 2% over the entire operating range (0-300mm / h).

In order to cope with low temperature situations, the precipitation sensor can be integrated with a thermostatic heating system.



Rain gauge 1000cm²



Rain gauge — installation example

Technical specifications may be varied without prior notice

Technical specifications

Sensor type	Tipping bucket in anodized aluminium with 2 relé reed
Collecting area	1000cm ²
Measuring range	0 ... 300mm/h
Accuracy	<1% @ 24mm/h ± 2% with optional error correction software module according to the intensity of rain
Resolution	0,2mm; 0,1mm (optional)
Leveling	Tipping bucket with level bubble
Electrical output	Double contact on 3 wires (reed contact) Single contact (optional) RS485 modbus
Heater (optional)	24Vac - 450W with thermostat regulated for temperatures between 4 and 6°C
Operating range	0...+70°C; -30...+70°C (with heating system)
Dimensions	H=860mm - Diam.=360mm
Weight	15 kg (17kg with heating option)
Maintenance	Ordinary cleaning (suggested every 6 months)
Calibration	Calibration of the receiver (suggested every 2 years)

Ordering codes

Rain gauge with double contact output	FAK010AA
Rain gauge with single contact output N.C.	FAK010CA
Rain gauge with single contact output N.O.	FAK010DA
Rain gauge with double contact output and heater option	FAK015AA
Rain gauge with single contact output (N.C.) and heater option	FAK015CA
Rain gauge with single contact output (N.O.) and heater option	FAK015DA
External board converting rain gauge contact to electrical serial 4-20mA	EAA310BA

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