

Tipping bucket rain-gauge Model 3029



Principle

The model 3029 tipping bucket rain gauge allows the measurement of rain depth in millimeters (mm or L/m²) with a standard resolution of 0.2mm

Each time the bucket tilts, the system produces 2 dry contacts (via 2 ILS NO on a removable tropicalized circuit), allowing 2 different pieces of equipment to be connected. The measured precipitation value simply corresponds to the number of recorded contacts multiplied by 0.2mm

No power consumption

The sensor does not need to be powered unless it is to be fitted with a heater. Maintenance is limited to occasional cleaning of the cone and the bucket. It is even better not to clean the bucket so that it remains hydrophilic. Indeed, a highly wettable bucket is more faithful than imperfectly hydrophobic. The initial calibration takes into account this wetting error which occurs quickly after deployment of the sensor.

Very greatly reduced sensitivity to clogging

The 7mm flow diameter coupled with the double oblong nozzle of the cover reduces the risk of clogging resulting from the solidification of algal deposits.

At very high intensities, the possibility of correcting the accumulations according to the measurement step, the raw accumulations C and C²

$$Cc = C + \left(\frac{B}{pR^2}\right)C^2$$

B form factor specific to the rain gauge bucket (0.1008 for the 8 gram bucket), R its resolution, C the gross accumulation in mm and P the measurement interval in sec.

Cc is the corrected accumulation in mm

Technical specifications

- Standard resolution of 0.2mm per dry contact closure (duration >30ms without bounces, max cutting power 5W/24V/0.5A)
- Rain intensity up to 800 mm/h
- 400 cm² receiving cone in white lacquered 304L stainless steel
- Weight 4 kg (5.5 with heating system)
- Dimensions ø25 h40cm
- Level adjustment using 6 spheroconic washers, 3 A2 stainless steel springs and a HDPE plate

Options

- Heating system 30W 24V
- Local recorder with screen (bluetooth or USB)
- ICCP-AA card to increase time duration contact
- Recorder 2G/3G/4G
- 869MHz radio contact transmitter range 500m
- Resolution 0.1mm bucket = 4grams
- Resolution 0.5mm bucket = 20grams