

Tipping-bucket rainfall sensor for measuring the rainfall quantity and intensity during a given period

Benefits

High reliability

- Data recorded by the acquisition unit
- Autonomy : powered by the acquisition unit

Quality of measure

- Several resolutions according to applications
- Extended range of measurement intensity

Robustness

- Hardy to harshest conditions : salt fog, sand and dust wind, oil steams

Easy set up and maintenance

- Easy mounting on a standalone stand
- May also be mounted directly on the main body of the station
- Housekeeping: simply cleaning of the cone-shaped funnel and of the bucket



Operation

The CES189 has been designed specifically to operate with Cimel's automatic weather stations, using Cimel's innovating custom MicroAmps technology

- A cone-shaped funnel collects the precipitations (droplet by droplet) and pours them into the tipping-bucket through a calibrated aperture that controls drops' size
- The tipping bucket's geometry, its material and mechanism insure a perfect repetitive draining
- The bucket tipping is detected by a REED contact (dry contact without mercury)
- The REED contact transducer is sampled by impulsion by the acquisition unit

- Every tipping matches a definite rain quantity for each bucket model (0.2 or 0.5 mm)

Technical features

Measurements		Value
	Reception area	400 cm ²
Resolution	CES189-A2 CES189-A5	0,2 mm 0,5 mm
Accuracy		Between 0 et 150 mm/h : $\pm 5\%$
Operating range		0 à 300 mm/h
Linearization in function of rain intensity		Correction done by the acquisition unit
Contact duration		Between 20 and 250 ms
Output		Electrical contact
Connection		Cable 10 m max
Environment	Temperature	-40°C to 70°C
	Relative humidity	From 0 to 100% with condensation
General	Body and ring	Epoxy coated zinc
	Ring diameter	22,7 cm
	Height	31,4 cm
	Weight	3 kg

Implementation

The rain gauge base, where the bucket is placed, may be levelled with 3 leveling screws. A built-in spirit level is provided for adjustment

The automatic rain gauge can be mounted:

- On the main body of the station



- On a standalone stand



Accessories

- Cable : 2 m for setting up on the main body of the station
- Coated cable : 7 m for setting up on a deported support
- Heating system (power 220 V)
- Standalone stand