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

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception area</td>
<td>400 cm²</td>
</tr>
<tr>
<td>Resolution</td>
<td>CES189-A2 0,2 mm</td>
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<tr>
<td></td>
<td>CES189-A5 0,5 mm</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Between 0 et 150 mm/h ± 5%</td>
</tr>
<tr>
<td>Operating range</td>
<td>0 à 300 mm/h</td>
</tr>
<tr>
<td>Linearization in function of rain intensity</td>
<td>Correction done by the acquisition unit</td>
</tr>
<tr>
<td>Contact duration</td>
<td>Between 20 and 250 ms</td>
</tr>
</tbody>
</table>

### 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