



Tipping bucket rain gauge

### TIPPING BUCKET RAIN GAUGE

The Casella CEL Tipping Bucket Rain Gauge is a reliable and extremely robust transducer, designed as a stand-alone sensor for operation within an existing logging system, such as the Casella CEL Automatic Weather Station. The body and funnel are made from aluminium alloy with an accurately machined septum ring at the top giving an aperture of 400cm<sup>2</sup>. The tipping bucket mechanism is mounted inside the body on a cast aluminium-alloy base, incorporating a built-in spirit level to ease correct positioning.

The rain gauge comprises a divided bucket assembly, which is pivoted at the centre. Rain collects in one side of the bucket, which then tips when a predetermined volume of water has been collected. The tipping action discharges the collected water and repositions the opposite side of the bucket under the discharge nozzle ready for filling. The bucket tips are monitored by means of a sealed reed switch, capable of indefinite operation, thus ensuring that this instrument has a long working life.

### Applicable Standards

BS 7843 Guide to acquisition and management of MET precipitation data recorders part 1 and 2

### 200CM TIPPING BUCKET RAINGAUGE

Casella Tipping Bucket Rain Gauges are reliable and extremely robust devices intended for use as stand-alone sensors operating within an existing logging or data acquisition system.

This latest 200cm<sup>2</sup> version of Tipping Bucket Rain Gauge is based on the best selling 400cm<sup>2</sup> gauge supplied by Casella CEL worldwide and has been specially designed for many applications that now require a gauge with smaller diameter for hydrometric applications.

The measuring principle complies with 'Guide to Meteorological Instruments No. 8 of the WMO'.

### FEATURES

- Proven tipping bucket mechanism
- Catchment area of 200cm<sup>2</sup>
- Resolution of 0.2 mm
- Accuracy 1% (@26mm/hr)
- Integral Levelling screws and bulls eye level

Specification	TIPPING BUCKET RAIN GAUGE	Specification	200CM TIPPING BUCKET RAIN GAUGE
Bucket sizes	0.1, 0.2 or 0.5mm	Bucket size	0.2 mm
Aperture	400cm <sup>2</sup>	Aperture	200 cm <sup>2</sup>
Accuracy	±1% @ 1 litre/hr	Accuracy	±1% at 26mm/hr
Weight	2.6kg	Capacity	Unlimited
<u>Ordering information</u>		Transducer	Magnet/Reed switch
0.1mm Tipping Bucket Rain Gauge (light rainfall)	102471E	Operating temperature range	1°C to 85°C
0.2mm Tipping Bucket Rain Gauge (moderate rainfall)	100000E	Output	Contact closure
0.5mm Tipping Bucket Rain Gauge (heavy rainfall)	100573E	Weight	3.2 kg
		<u>Reed Switch Details</u>	
		Double pole relay for attachment to 2 separate logging devices. Switching contact closure time is typically less than 100 milli-seconds for 0.2 mm of rain.	
		Maximum current rating	500 mA
		Breakdown voltage	400 V D.C. minimum
		Contact resistance	150 mΩ
		Insulation resistance	10 <sup>11</sup> Ω (100 GΩ)
		Capacitance open contacts	0.2 pF
		Life	10 <sup>11</sup> operations.
		<u>Ordering information</u>	
		200cm Tipping Bucket Rain Gauge	100594D