

TIPPING BUCKET RAIN GAUGE

(RG50 Series)

Features

- Rugged, accurate and reliable
- Minimal maintenance, 25 years+ deployment life
- Low friction, non-seizing bucket bearings
- Gold plated buckets for minimal moisture retention
- Very stable calibration
- Built-in bubble level

Applications

- Rainfall distribution and intensity
- Workflow planning
- Safety and automation
- Flood mitigation programs
- Hydrology
- PLC, RTU and SCADA connectivity

The Envirodata RG50 range of siphon controlled tipping bucket rain gauges are professional instruments designed and constructed for long-term operation with minimal maintenance under all climatic conditions.

All materials are corrosion resistant. These proven instruments are accurate to within 1% for rainfall rates up to 200mm/hr and 3% up to 380mm/hr. The maximum measurable rain rate is 700mm/hr.

Method of Operation

Rain falling on the 203mm copper collecting funnel is directed through a siphon control unit which discharges as a steady stream into a two compartment bucket mounted in unstable equilibrium.

As each compartment fills, the bucket tilts alternately about its axis. Each tip causes the magnet to trigger the Hall Effect circuit in Envirodata's sensing electronics. This produces a 250ms square wave



pulse corresponding to 0.2mm of rainfall. This signal is robust, highly immune to electrical noise and able to travel long distances with no signal loss. Versions are available with dual Hall Effect sensors (RG50H2).

Mounting Options

The RG50 series has optional mounting posts with levelling bracket, designed to place the rim at either 500mm or 1000mm above ground level to meet BoM guidelines. Brackets for rail mounting and for mounting from a vertical surface or post are also available.

Bird Protection

The BS34 is a ring of stainless steel bird deterrent spikes designed to prevent birds landing on the rim and fouling the collection funnel.

RG50R2 Reed Contact Model

The RG50 can optionally be supplied with a dual Reed switch output to provide you with dual contact closure outputs. (Special Order - part # RG50R2)

TIPPING BUCKET RAIN GAUGE SPECIFICATIONS

Rain Gauge Signal Converter Options

Envirodata has developed a dedicated rain gauge converter (RGC12) to connect your RG50 high quality rain gauge to your PLC, SCADA, RTU or logger.

We have provided sinking or sourcing outputs, with either low going or high going pulses, at system voltage (6 to 28 VDC). We also provide two isolated voltage free contact outputs.

No matter your interface requirements, the RGC12 has the easily selected answer.

Specifications

Mechanism	Tipping Bucket
Measurement Units	Millimetres (mm)
Operating Range	Up to 700 mm/hr
Accuracy	± 1% to 200mm/hr ± 3% to 380mm/hr
Resolution	0.2mm per tip

Materials

Collector	Copper
Jacket	Stainless Steel
Base	Cast Marine Grade Aluminium
Bucket	Gold Plated Brass
Bridge	Anodized Marine Grade Aluminium
Fasteners	Stainless Steel

Dimensions

Funnel Diameter	203mm
Height	300mm
Base Diameter	285mm

Supply Voltage

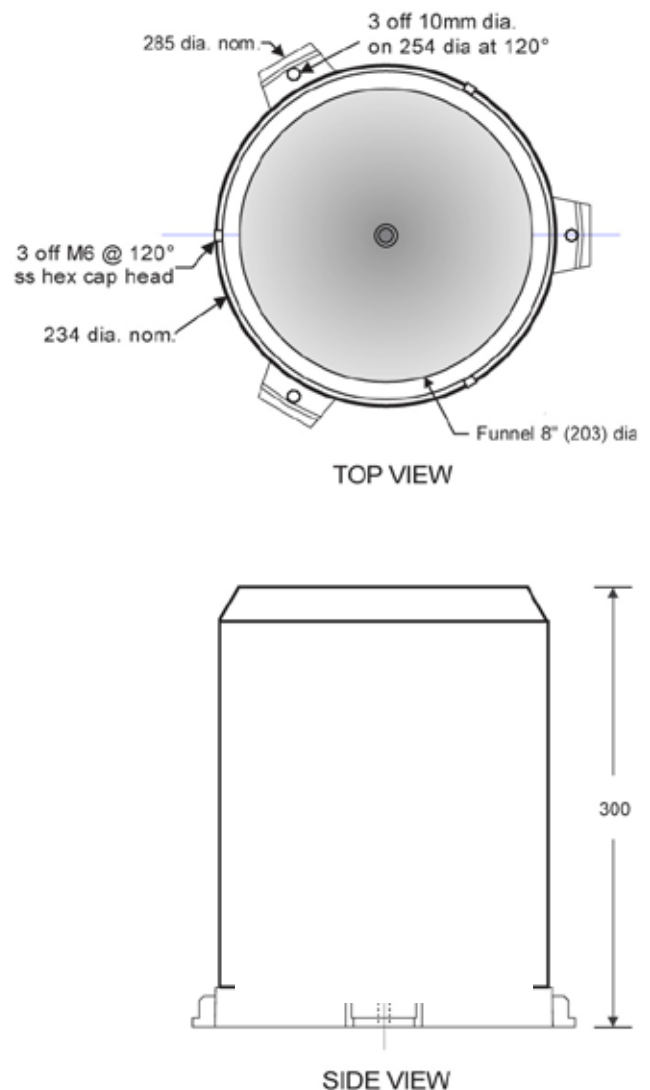
- 6 to 28 Volts DC Nominal

Recalibration Interval

Field calibration recommended every 12 months

Configurations

Model	RG50
Detection System	Hall Effect (electronic) 3-wire connection



Output Pulse Voltage	5V
Debouncing	Automatic
Pulse Stretching	Yes, 250ms, square wave form
Power Consumption	<1.5mA at 12V DC
Cable Type (UV stable)	8m 3-Core with 2 x IP66 connectors

Options

- FX08 - 8m cable (16m or custom cable available on request)
- 1m mounting post & levelling bracket (ISRG-RM)
- Bird spikes (BS34)
- RGC12 - Rain gauge converter