



Rain Gauge Measurement Systems

Rain Gauges and Data Logger

Key Features

- Tipping Bucket and Weighing Systems
- High precision rain gauge with impulse output (0.1mm or 0.2mm)
- Longterm Stability
- Digital data recording of precipitation impulses via rain data logger RDS-2
- Optional: bird protection ring and/or heating system with temperature control
- Telemetric data transmission via GSM/GPRS or satellite (e.g. Iridium)



Data Logger RDS-2



Rain Gauge
RG 50



Rain Gauge
TRW



Telemetric
Rain Gauge RG100
with IRIDIUM-Satellite
Transmission



RG-50 Production



RG-50
with metal stand



TRW Rain Station



Telemetric Rain Gauge
Station



Installation of RG-100
on roof top



Groundwater
Station with
RG50



RG 50

Tipping Bucket Rain Gauge

High precision rain gauge system with impulse output. Suitable for connection to automatic data loggers (e.g. RDS-2) and telemetric transmission systems (GSM/GPRS, satellite). Tipping bucket with single sided ball bearings, level and adjusting screw.

For the installation in areas with a risk of frost, the rain gauge can optionally be equipped with a funnel heating system.



Tipping Bucket System

Technical Details:

Housing:	Aluminium, coated
Orifice, collecting area:	200cm ² , 400cm ² (optional)
Resolution:	1 impulse = 0.1mm precipitation or 1 impulse = 0.2mm precipitation
Funnel Heating System:	15W, 24V, switching point +4°C, switching hysteresis +3°C
Switching capacity:	3W
Direct current voltage:	150V
Circuit DC:	0.25A
Output:	Reed contact impulse (potential free contact)
Tipping bucket:	Plastic material (heavy duty)
Dimensions:	Height 346mm, Diameter 205mm
Weight:	3.9kg



RG 100

Tipping Bucket Rain Gauge System

The SEBA rain gauge system **RG 100** offers a compact design which combines the protection housing and funnel system into one unit.

The special aluminum lockable protection housing can contain the tipping bucket, data logger (RDS-2, Unilog), modem (GSM/GPRS, satellite), power supply and if desired a collecting bottle.

Collecting Area:	200 cm ² , 400 cm ² or 500 cm ²
Recording Time:	depends on selected data logger type (RDS-2, UnilogCOM)
Output:	Impulse, potential free
Resolution:	1 impulse = 0.1mm precipitation or 1 impulse = 0.2mm precipitation
Collecting bottle:	5 liters, plastic material
Funnel:	(DIN 58667) plastic, 200cm ³ = 10mm precipitation



TRW

Weighing Rain Gauge System



Weighing System

The total rain weighing sensor type **TRW** is suitable for all types of precipitation: liquid, solid or mixed.

Collecting Area:	200 cm ²	500 cm ²	200 cm ²
Range of precipitation:	750mm	250mm	1250mm
Dimensions:	Ø 360x540	Ø 360x380	Ø 385x650 mm
Weight:	8,0 kg	8,0 kg	9,5 kg
Precision:		0,1 %	
Max. rain intensity:		120mm/min	
Resolution:		0,001mm	
Serial interface(s):		RS485/SDI-12	
Impuls Output:		1; 0,1; 0,01 mm	



Humidity: 0-100%
 Power Supply: 8...14 V_{DC}
 Protection Class: IP65
 Power Consumption: typ. 35mA; typ 15mA
 Heating: optional
 Operation Temperature: -35°C ... +70°C (+/- 0,5°C)
 Storage Temperature: -50°C ... +70°C

The TRW rain gauge has successfully passed the WMO intercomparison laboratory test.

Data Recording Data Logger Type RDS-2

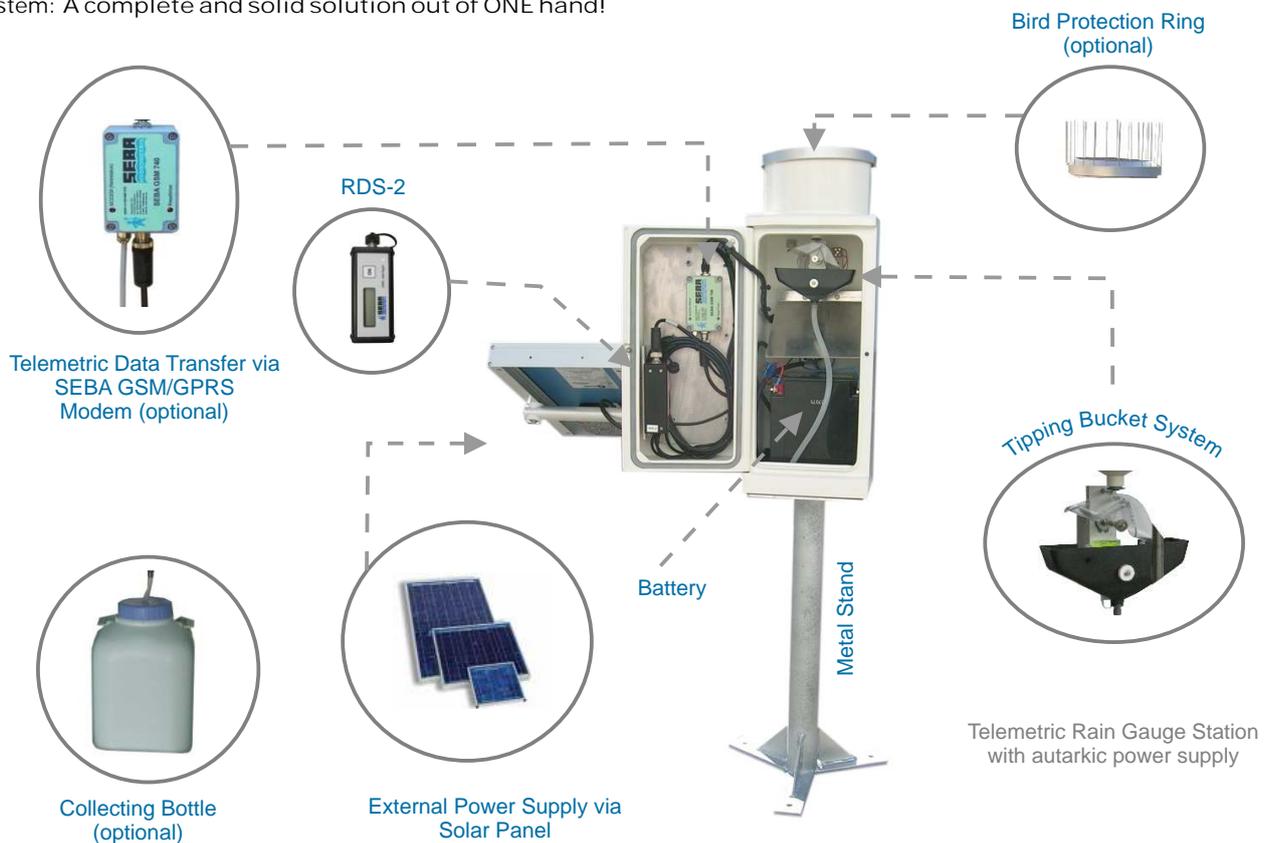
The RDS-2 data logger is characterized by its simple and user-friendly handling, high operation reliability, robust and compact design including a water-tight plastic foil keyboard. This logger serves for digital recording of precipitation tipping bucket impulses associated with date and time.

Interface: RS 232 COM Port
 Memory: 1 MB
 ca. 490,000 values
 with 0.1mm tipping bucket = 49,000mm precipitation
 deviation +/- 15 ppm
 Real Time Clock: internal lithium battery
 sufficient for > 8 years
 Power Supply: alpha-numerical LCD-display
 Keyboard: aluminium with plastic-foil IP 65
 Housing: W x H x L 61 x 125 x 36mm
 Dimensions:
 Weight: appr. 250g
 Operation Temp.: -20 °C ... +70 °C



Complete Rain Gauge Station

SEBA Rain Gauge Station in combination with a data logger and automatic telemetric system: A complete and solid solution out of ONE hand!



A detailed description of our telemetric data transfer solutions are described in detail in a separate SEBA brochure.

Additional Options

Accessories:

- Heating system for RG100: for heating the internal rain gauge, 2-point control system and thermistor switch, 60 Watt heating power, 24V power supply
- Funnel heating system for RG50 and RG100: for de-icing, 15 Watt heating power
- Ring heating system
- Mains adapter: IP 40, 220V/24VAC/200VA for power supply of heating system
- Mains adaptor: IP 64, 220V/24VDC/60VA power supply suitable for field installations
- Bird Protection Ring: prevents any interference of birds sitting or nesting at or inside the rain gauge
- Tipping Bucket System for additional or belated installation for data logger or telemetric data transfer. Technical details as in RG 100.

For all types of tipping bucket systems:

- Impulse/Power-Transducer
Output 0/4-20mA = 0-10mm precipitation, configurable to 50 - 1,600 impulses, power supply 220V or 24V.

For RG 50 / RG 100



- 2" Metal Stand with flange

Total height incl. rain gauge: 1,200mm (1.2m) for a secured installation of the rain gauge

Model Series HRG 200

Rain Gauge Type HRG 200

With an integrated syphon device (Hellmann system) and registration via drum or strip chart recorder. Depending on the amount of precipitation, the registration pen is being moved upwards by a float. An automatic drain of the inbuilt cylinder into a collecting bottle is being conducted at a precipitation height of 10mm. A metering in liters with the measuring vessel (DIN 58667) as a control device can be conducted at any time. After a complete draining of the cylinder, the pen is automatically zeroed on the chart. The housing as well as funnel system are composed of stove enamelled aluminium. The rain gauge is extremely robust and secure with strong locks, hinges and stand supports.

HRG 200/B

Strip Chart Recorder

HRG 200/T

Drum Recorder

Technical Details

	HRG/B
Collecting Area:	200cm ²
Recording Time:	31 days
Clockwork:	Hand driven
Max. record. chart width:	80mm = 10mm precipitation
Resolution:	0.1mm
Collecting Bottle:	8 liters, plastic material
Measuring vessel (DIN 58667)	200cm ³ = 10mm precipitation
Dimensions: (height, housing Ø, roof Ø)	1000mm x 385mm x 490mm
Weight:	appr. 18kg



	HRG/T
Collecting Area:	200cm ²
Recording Time:	1 resp. 7 day(s) <i>(please specify when ordering)</i>
Clockwork:	Hand driven
Max. record. chart width:	80mm = 10mm precipitation
Resolution:	0.1mm
Collecting Bottle:	5 liters, plastic material
Measuring vessel (DIN 58667)	200cm ³ = 10mm precipitation
Dimensions: (height, housing Ø, roof Ø)	1000mm x 238mm x 372mm
Weight:	appr. 13kg



The right is reserved to change or amend the foregoing technical specification without prior notice.



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