

Package contents

1x TB Rain gauge
1x TB3115 meter connecting lead
1x Allen Key
1x Quick Installation Guide
TB7 only:
24x bird spikes (18 pcs + 6 pcs spare)

Specifications summary

Accuracy TB3/TB4:

0...250 mm per hour: +/-2 %
250...500 mm per hour: +/-3 %

Accuracy TB7:

0...200 mm per hour, +/-5 %
200...500 mm per hour, +/-8 %
Range: 0...700 mm/hr

Enclosure:

TB3/TB4: Anod. powder coated aluminium
TB7: UV-resistant ASA polymer

Base:

TB3: Anod. Powder-coated aluminium
TB4/TB7: UV-resistant ASA polymer

Bucket – model-dependent:

Teflon-impregnated polymer (typical)
Painted metal

Pivots: Sapphire

Reed Switch: Varistor surge protected 24V

Siphon Assembly: TB3/TB4

Straight Nozzle: TB7

Finger Filter: TB3/TB4/TB7

Resolutions Available:

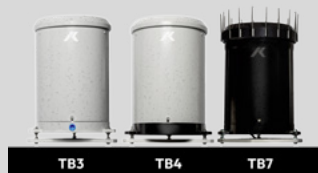
0.01 inch: TB3/TB4/TB7
0.2 mm/0.5 mm/1.0 mm: TB3/TB4/TB7
0.1 mm: TB3/TB4 with 300 mm catch opt.

Compliance

CE, RoHS

Unpacking and Setup

To prepare the Tipping Bucket Raingauge for installation:



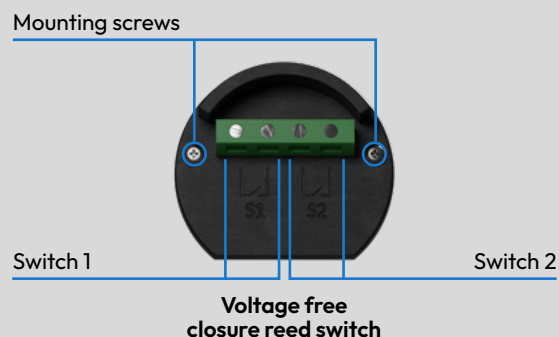
- Unpack:** Lift the unit from the carton and place it on a secure surface.
- Remove Packaging:** Remove the polythene bag.
- Loosen Screws:** Use the Allen key to loosen the three enclosure securing screws until the screw heads are clear of the enclosure.
- Remove Cover:** Lift the enclosure from the gauge.
- Secure Bucket:** Carefully remove the elastic band that secures the bucket assembly during shipping.
- TB7 Only:** Insert the bird spikes (the flat side of the spike must face the funnel).

Cable and connector pinout

Dual Reed Switches S1 & S2: When the bucket tips, a double-reed contact closes, sending a pulse (contact closure). Two isolated reed-switch outputs allow connection to up to 2 devices (redundant rain data logging). Use a 2-wire cable to connect the switch to a local data logger.

Important: The reed switch is not bounce-free and may generate false signals due to mechanical noise.

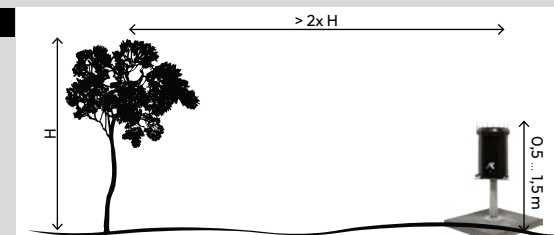
Caution: Incorrect connections may damage the instrument.



Mounting instructions 1

Site selection:

- Install the gauge on level ground where possible. Avoid sloping sites.
- Site should have adequate protection from strong winds.
- Site should be free of large obstructions such as buildings and trees.
- Provide suitable ground surface to avoid splashing into the gauge.



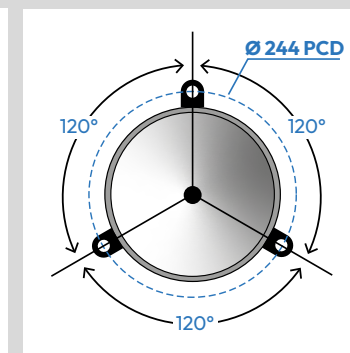
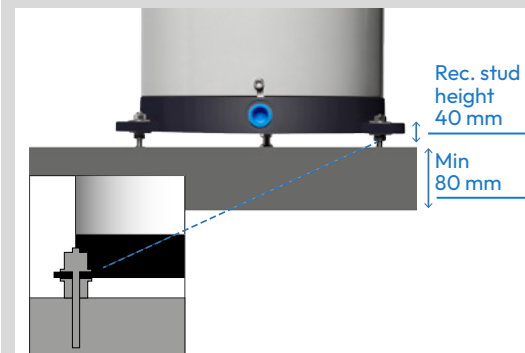
Regardless of mounting method, please ensure:

- The Rain Gauge is correctly adjusted in the horizontal and vertical plane using the fitted bubble level.
- Ensure enclosure catch area and drain holes are kept clean and free of debris.

Mounting instructions 2

Mounting on flat ground:

- Requires a solid and levelled foundation to be prepared before installing the rain gauge.
- Drill 3 holes at 120° distance and for a Pitch Circle Diameter of 244 mm.
- Use 3x M6 stainless steel anchor studs (not supplied).
- Water Evacuation: Observe 40 mm min distance between the TBRG base and the ground.

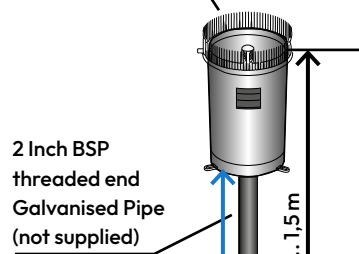


Mounting instructions 3

Mounting on 2" externally threaded pole:

- Optional pole mount bracket TB334/Series 2.
- Accompanied by Quick Installation for further details.
- **For WMO compliance:**
 - Chose a pole length above ground that will bring the upper edge of the TBRG catch to roughly 0.5 ... 1.5 m above ground.
 - **Please note:** Rain Gauges mounted higher than the WMO recommendations will be adversely affected by wind and lateral movement causing lower than expected rainfall results and premature tipping of the bucket.
- **Caution:** 2" poles significantly higher than 1 m tend to swing which may trigger false readings.

Optional Bird Guard
Part No. TB333



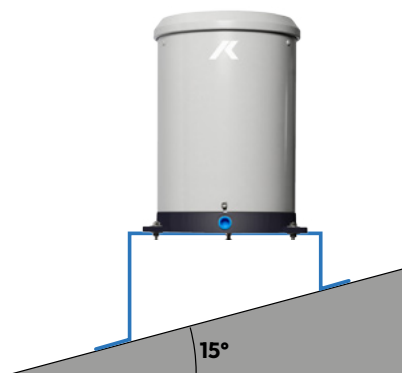
Approx.
1200 mm

0.5 ... 1.5 m

Approx.
600 mm

Mounting on pitched rooftop:

- Roof angle 10° ... 15°.
- Order TB/RM mounting bracket ensuring a horizontal mounting of the TBRG.



Safety instructions

1. Read this Installation Guide (IG) including all operating instructions prior to installing and connecting the KISTERS Tipping Bucket Rain Gauge.
2. For use by qualified personnel only! KISTERS Tipping Bucket Rain Gauges are intended to be used in professional hydrometeorological or environmental monitoring applications.
3. Keep the IG on hand for later reference!
4. If you encounter problems understanding the information in the IG (or part thereof), please consult the manufacturer or its appointed reseller for further support.
5. Do not install and deploy the sensor in hazardous areas, especially not in areas with a danger of explosion!
6. Electrical, technical and climatic specifications must be respected at all times.
7. Changes or retrofits to the KISTERS Tipping Bucket Rain Gauge will void the warranty.
8. Comply with electrical safety standards.
9. Comply with Health, Safety & Environment regulations and directives.

Calibration

All TB3/TB4 gauges are individually factory-calibrated by KISTERS, prior to dispatch.

TB7 are batch calibrated/buretted.

KISTERS offers the following products and services:

1. Field Calibration Device, Model FCD, for routine field check calibrations, supplied with operating instruction sheet refers to Field Calibration Device.
2. Laboratory Calibration Unit, Model TB340A, for calibration after servicing in workshops, supplied with operating manual.
3. Recalibration Service at KISTERS' factory.

Accessories

Bird Guard

Prevents wild birds from perching and roosting and thus increases accuracy by stopping bird feces from dropping into gauge funnel.

Mounting Bracket for externally threaded 2" pole

Pole mount bracket with stainless steel bolts, nuts and washers to suit TB3, TB4 or TB7 Model Tipping Bucket Rain gauge base. Suits 50 mm NB galvanised pipe with 2" BSP external thread.

Heater

KISTERS' tipping bucket heater TB3H is a thermostatically controlled heating element, that raises the temperature of the interior of the rain gauge, funnel and catch to avoid the freezing of the gauge in cold climates with subsequent loss of precipitation. Also available in a power-controlled version TB3H-LP.

Field Calibration Device

The FCD effectively enables field technicians to run functional tests and calibrations of any given rain gauge in the field avoiding dismantling of TBRGs, reducing TBRG downtime and thereby saving time and money.

More Information

