

Precipitation Sensor Young

S73100 / S73100H / S73000

Order-No: S73100 - Sensor without heating
 S73100H - Sensor with heating
 S73000 - Bird protection



Description

The YOUNG Tipping Bucket Rain Gauge meets the specifications of the World Meteorological Organization (WMO).

The design uses a proven tipping bucket mechanism for simple and effective rainfall measurement. The bucket geometry and material are specially selected for maximum water release, thereby reducing contamination and errors. Catchment area of 200 cm² and measurement resolution of 0.1 mm meet the recommendations of the WMO. Leveling screws and bulls-eye level are built in for easy and precise adjustment in the field. Measured precipitation is discharged through a collection tube for verification of total rainfall.

Model S73100H is heated for operation in cold temperatures. An unheated version, S73100, is available for use in moderate climates. To discourage birds from perching on the funnel rim, accessory bird wire assembly may be attached to the gauge.

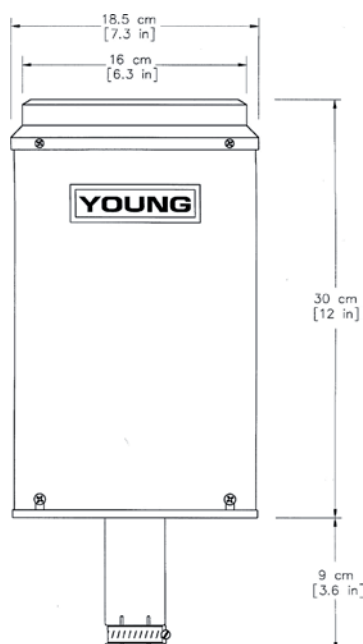


Location of rain gauge

Precipitation measurement is greatly affected by location of the rain gauge. Select a location that is naturally protected from gusts and crosswinds. Avoid a site prone to contamination from debris such as falling leaves, dirt, etc...



Dimensional drawing



Installation

The Model 52202H is fully calibrated at the factory. The movable bucket is retained to prevent damage during shipment. On installation, the following procedure should be followed.

1. Loosen 3 screws that retain housing to base assembly. Carefully lift housing free of base.
2. Remove shipping retainer from bucket. Verify that bucket tips freely.
3. Attach sensor wires and heater wires (when used) to terminals as shown in wiring diagram.
4. Adjust leveling screws until bulls-eye level is centered.
5. Replace housing. If heated, heater wires (gray) must be attached to terminals C & D before housing is fully engaged. Retighten screws.

Maintenance

The rain gauge should be inspected periodically. Accumulated dirt and debris should be cleaned from funnel, screen and bucket assembly. Electrical connections should be inspected and cleaned. Leveling screws may be readjusted at this time. Periodic recalibration may be desirable to ensure measurement accuracy.

Specifications

Charateristic	Description / Value
Collector surface	200 cm ²
Resolution	0.1 mm per tipping-bucket pulse
Accuracy	2 % up to 25 mm/hr
Measuring range	max. 11 mm/min.
Measuring principle	tipping-bucket
Electrical output	Magnetic reed switch (N.O.), rating 24 VAC/DC, 500 mA
Ambient temperature	-20 ... +50 °C (with heating)
Heating	18 W, 24 VAC
Mounting	Clamp for 1" iron pipe (o.d. 1.24") or 3 bolts on 160 mm dia. circle
Dimensions	Ø 180 x 300 mm (390 mm with mounting base)
Manufacturer	Young
Accessories	Module M83200 or M83570

Sensor connection to Ammonit Meteo-40 data logger

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Counter	Supply Sensor
Precipitation Pulse output	A	white	CNT, 6k8 (Switch: 5 V via 6k8 to CNT, Pull-up resistor)	Main Ground
	B	black		
Heating	C	orange, orange		24 VAC/DC
	D	violet, violet		

Cable type without heating: LiYCY 2 x 0.25 mm²

Connect the shield logger-sided to Ground (GND)

Sensor connection diagram to Ammonit Meteo-40 data logger

