



Rugged, Accurate

Ideal for high-intensity precipitation, even in freezing conditions

Overview

The CS700H, manufactured by HS Hyquest Solutions, is a high-end heated tipping bucket rain gage with an 8 in. orifice and a heavy duty cast aluminum base. It measures precipitation in 0.01 in. increments at temperatures down to -20°C. This heated

rain gage is ideal for locations where intense rainfall events may occur, and it is used in environmental monitoring applications.

Benefits and Features

- › Extra-heavy metal construction for durability and long life
- › Low power consumption
- › More accurate measurement of high-intensity precipitation
- › High precision—tips at 0.01-in. increments
- › Accuracy is ± 3 percent at high precipitation rates of 500 mm/hr
- › Heater elements can run on either batteries or ac power

Detailed Description

The CS700H funnels precipitation into a bucket mechanism that tips when filled to its calibrated level. Each tip is marked by a dual reed switch closure that is recorded by a data logger pulse count channel. After measurement, the water drains through two orifices (accepts 12 mm tubing) in the base, allowing the measured water to be collected in a separate container.

The CS700H contains an internal siphon mechanism that causes precipitation to flow at a steady rate to the tipping bucket mechanism (regardless of intensity). The siphon allows

the sensor to make accurate measurements over a range of 0 to 50 cm per hour.

The CS700H includes an internal snow sensor that is activated when the air temperature drops below 4°C. If the snow sensor detects snow in the catch area (funnel), the heating elements automatically turn on and keep the funnel temperature at +10°C. To conserve power, the heater goes into a wait mode when snow has not been detected for 18 minutes. The heating element is also automatically deactivated when the air temperature drops below -20°C.

Specifications

Sensor Type	Tipping bucket with siphon and dual reed switch
Measurement Uncertainty	<ul style="list-style-type: none"> › ±2% @ < 250 mm/h (9.8 in./h) › ±3% @ 250 to 500 mm/h (9.8 to 19.7 in./h)
Measurement Uncertainty	700 mm/h (27.6 in./h) maximum rate per hour
Rainfall per Tip	0.01 in. (0.254 mm)
Measurement Range	0 to 700 mm/h (0 to 27.6 in./h)
Humidity Range	0 to 100%
Cable Type	Two-conductor shielded
Operating Temperature Range	<ul style="list-style-type: none"> › -40° to +70°C › -20° to +5°C (for snow sensor and heater)
Output	SDI-12
Total Current Consumption	<ul style="list-style-type: none"> › 6 mA @ 12 V, 0.072 W (snow sensor off, heater off) › 12 mA @ 12 V, 0.144 W (snow sensor on, heater off) › 5.8 A @ 12 V, 70 W (snow sensor on, heater on)
Main Power Voltage Requirements	10 to 30 Vdc or 12 to 28 Vac

SDI-12 Power Voltage Requirements	9.6 to 16 Vdc
Drain Tube Size	Both filters accept 12 mm (0.47 in.) ID tubing.
Orifice Diameter	20 cm (7.9 in.)
Height	34.2 cm (13.5 in.)
Weight	3.3 kg (7.4 lb) with 7.62-m (25-ft) cable

CS700H-AC Option Only

-NOTE-	<i>Additional specifications are provided in Phoenix Contact's manual for the Quint-PS/1AC/24DC/10.</i>
Model Name	Quint-PS/1AC/24DC/10
AC Input Voltage Range	100 to 240 Vac
Power Consumption	<ul style="list-style-type: none"> › ~2.77 A (120 Vac) › ~1.24 A (230 Vac)
Protective Circuitry	Transient Surge Protection Varistor
Integrated Input Fuse	6.3 A (slow blow, internal)
Normal Output Voltage	24 Vdc ±1%

For comprehensive details, visit: www.campbellsci.com/cs700h 