

# **RD01 Rain Detector**

# **Features**

Can be used with all Campbell Scientific dataloggers

External windshield to protect and improve sensitivity

Integral heater keeps instrument free from frost and condensation

## 3 outputs

Rain/No Rain:

- open-collector
- Rainfall Intensity:
- analogue voltage (0-1V)
- 1.5-6KHz frequency output

The RD01 is a rain detector based on the principle of measuring the capacitance of the material present on a sensing element. The capacitance of the sensor element, set at an angle, changes according to the accumulation of raindrops on the

An integral heater keeps it free of frost and condensation, and helps speed drying to detect the end of a rain event. The heater will also activate at low temperatures to detect snow fall by melting it. An external circular windshield, protects the element from damage and improves its sensitivity to light rain.

sensor surface.

The instrument has three different outputs:

1. "Rain ON/OFF" output, which detects whether it is raining/ snowing (ON) or not (OFF),

which can be used to control a relay coil or similar devices. This is an open-collector output.

2. Analogue voltage output (calibrated, 0-1V) which indicates the precipitation rate.

3. A 1,5...6KHz frequency output (not calibrated), which provide an indication of current precipitation intensity.

The ON/OFF output has a delay circuit that indicates the "end of a rain" event with a 5 minute delay, so that the "end of rain" condition is not indicated too soon in the event of light or intermittent rain.

The heater can be disabled when power consumption is critical. To do it, set the Heater OFF input on 0V. The sensor will still detect rain in this state but will not melt ice nor detect the end of a rain event so quickly.

CSL 802

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### Sensor

Sensor sensing area:6.6cm²Angle of element:30°Sensitivity:Min. wet area 0.05 cm²ON delay/Trip delay (OFF>>ON):<0.1 msOFF delay/Shut-off delay (ON>>OFF):<5 minDimensions:Diam. x height φ107 x 70 mmWeight:450gCable length:5 mMaterial:BASF LURAN S777K	
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#### **Electrical Features**

Supply Voltage:	12Vdc ± 10%
Current Consumption:	130mA (typical) 230mA (max)
	10mA (with heater disabled)

Sensor Power Consumption:

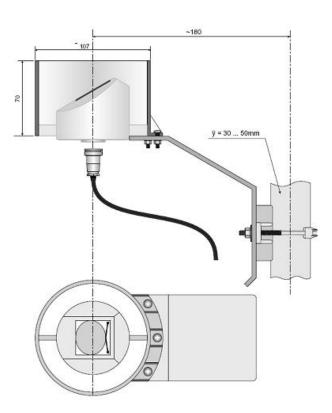
#### Outputs

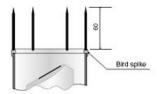
Rain ON/OFF:

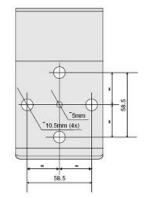
Analogue Output: Frequency Output:

## **Operating Conditions**

Operating Temperature -15 . . . +55°C Storage Temperature -40 . . . +65°C







Max. Voltage 15V Max. Current 50mA 0 . . . 1V (0V = rain, 1V = dry sensor) 1500 . . . 6000Hz (wet . . . dry) Not calibrated

0.1 . . . 2.3W

Open by default, closed in case of rain.