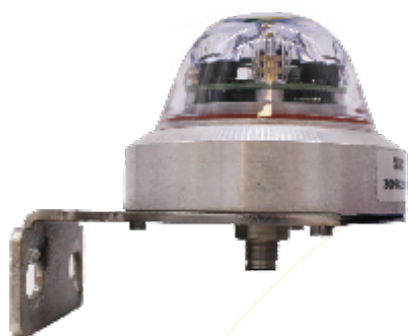


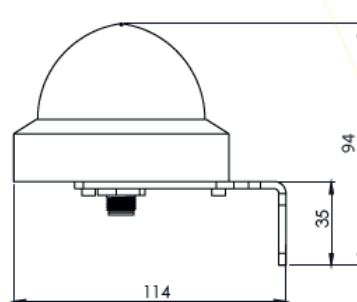
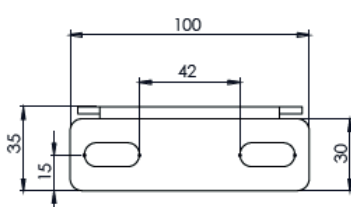
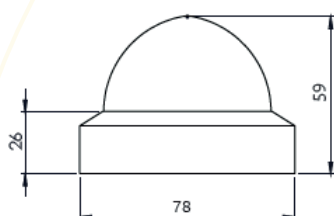
1. Description



The **Sycba Rain Gauge** is a rain sensor without moving parts, designed to emulate the function of tipping bucket rain gauges. It uses infrared light optical technology to detect rain impacting its surface, similar to the rain sensors found in vehicles.

The sensor projects infrared light beams through a special lens, and when raindrops hit the surface, they alter the refraction of the light. These changes in intensity correlate with the size of the drops, enabling precise measurements of drops smaller than 0.5 mm. The system automatically adjusts readings to compensate for condensation, ensuring consistent accuracy.

Thanks to its optical technology, the Sycba Rain overcomes the limitations of traditional tipping bucket rain gauges. With no moving parts or funnels that can become clogged, its curved design promotes self-cleaning, improving reliability and reducing maintenance.



2. Specifications

Model	SYCBA Rain
Product code	SYCRAINGAU
Supply	5 VDC - 15 VDC
Input protection	Reverse polarity protected to 50V
Consumption	110 μ A nominal (no raining) 2-4 mA with rain
Operating temperature range	-40°C a +60°C
Accuracy	$\pm 10\%$
Output resolution	0.2 mm
Installation	With metallic bracket
Weight	480 g with bracket

3. LED

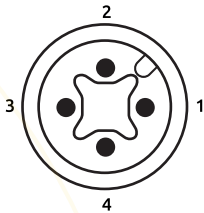
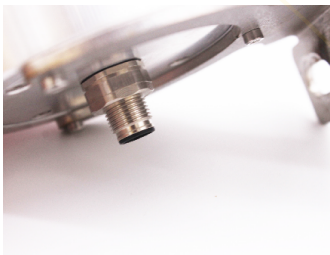
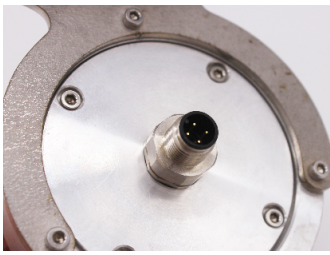
The device features a central **LED** that lights up when the unit is powered on and during signal transmission, facilitating verification of proper operation.

Upon powering the device:	3 Flashes:	Normal power up.
	4 Flashes:	Lens is less transmissive, but still functional with reduced accuracy.
	5 Flashes:	Lens cannot obtain enough light for reasonable readings, but the device will attempt to function with significantly reduced accuracy.

4. Connection

The sensor comes with a weatherproof four-pole connector, of which only three are used:

CONNECTOR			CONNECTION	
Pole 1	V+	+5V	Pole 1	Signal +5V
Pole 2	GND	Ground	Pole 2	GND
Pole 3	OUT	Sends 5V to 0V pulses simulating the tipping bucket discharge	Pole 3	Frequency Output



5. Installation

Only connect the device to a power source that complies with the specified nominal voltage parameters. Failure to do so may cause damage.

After installation, check the device's operation using the LED as described in the previous section. Under no circumstances should the sensor be opened or assembly screws removed, as improper handling can damage components and compromise the device's seal. Perform wiring and connections without applying voltage to avoid power spikes that could damage the equipment. Once connected, apply power and measure all voltages to ensure the device is functioning correctly.

6. Maintenance

The sensor is designed to require minimal maintenance. However, after several years of use (typically between 7 to 10 years), the lenses may lose effectiveness, and the sensor may need to be replaced.

7. Warranty

The warranty exclusively covers the rain gauge and does not extend to damage resulting from improper use of the device.

Any improper handling of the sensor, such as opening it or removing assembly screws, will void the warranty. It is important to note that the device is not infallible, and its readings are limited by its design and functionality. Suspended particles can influence rain measurement accuracy, though these deviations are generally very low.

Yellowing of the dome due to prolonged sun exposure is considered an aesthetic issue that does not affect the device's functionality and is not covered under the warranty. Small cracks or fractures in the lens are also considered aesthetic defects; only units with damage deemed functionally significant by SYCBA will be replaced.