

SXR Optical Rain Sensor



Specifications

Power	5 - 24 Vdc
Current	15mA nominal, 55mA max
Operating Temperature	-40°C to +60°C

Contents

Specifications	1
Installation Instructions	2
Sensor Mounting	2
Sensor Assembly	3
Wiring to SXW Weather Station	3
Sensor Mode Configuration	4
Warranty	4

WARNING

Rain sensors must not be used in life-critical systems or any application where the failure, false indication of water, or a missed valid detection of water could cause damage to life or property.

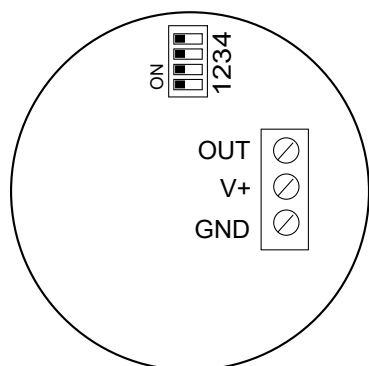
Installation Instructions

SXR Rain sensors are designed for detecting rain in outdoor applications and are available integrated into Agrowtek's SXW outdoor weather station. Featuring a wide voltage range and open drain collector output that sinks to ground when it is raining. DIP switches allow the sensor to be configured for several standard modes.

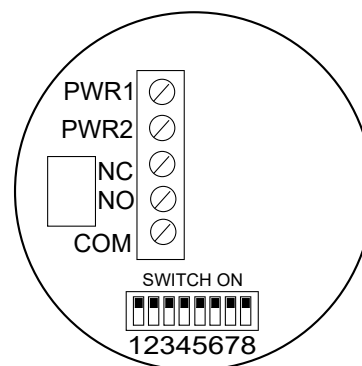
When ordered with an SXW weather station, the SXR rain sensor is pre-configured and pre-wired to the weather station. There is nothing to do unless the rain sensor has been ordered separately or at a later date.

Sensor Models

These instructions apply to two different models of rain sensor; the model can be determined by the number of screw terminals on the sensor board:



3 - Terminal
"Open Collector" Type
(new)

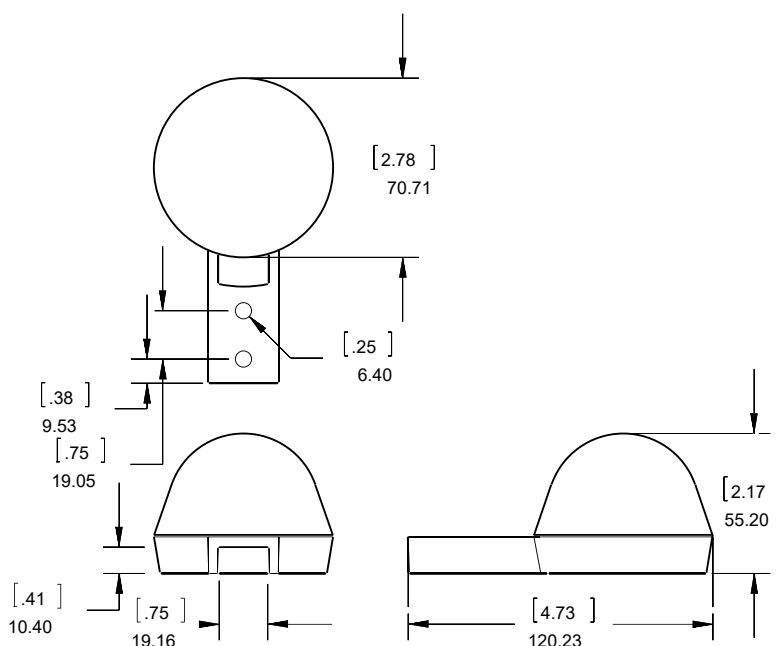


5 - Terminal
"Relay" Type
(old)

Sensor Mounting

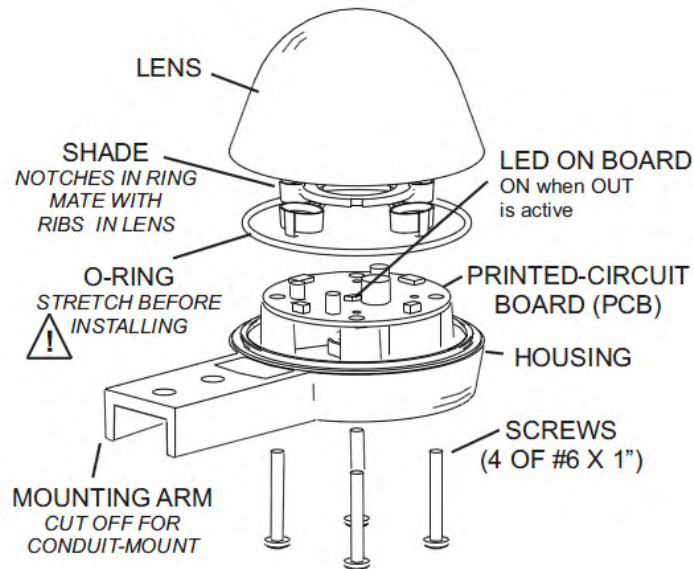
Mount the rain gage where it gets a clear measurement of precipitation—away from overhangs, etc. The mounting arm is designed to fit over a strap 0.75" (19 mm) wide. Two 0.25" (holes 6.35 mm) are placed 0.75" (19 mm) part.

The gland style connector goes in the bottom hole. Be sure to use wire rated for outdoor (high-UV) use. For conduit applications, the mounting arm may be removed, and the wiring hole drilled out using a step drill to accommodate a 1/2" EMT compression connector or similar style of conduit connector.



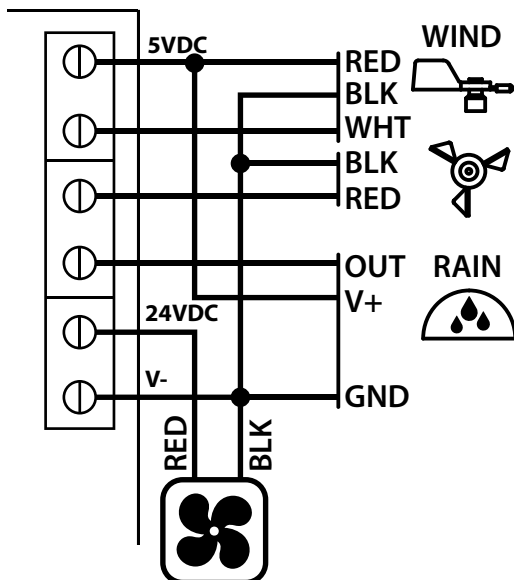
Sensor Assembly

Stretch and release the silicone o-ring (size -036) a few times, so it fits easily in the groove. Optionally, you may coat the O-ring and screws with silicone grease. The Rain Gage must be assembled when dry. Any water trapped inside can condense and cause corrosion. You may optionally add extra desiccant packets (not supplied.) If the Rain Gage is not subject to splashing or sprayed water, you may optionally vent the enclosure by drilling a 1/8" (3 mm) hole in the bottom of the case.

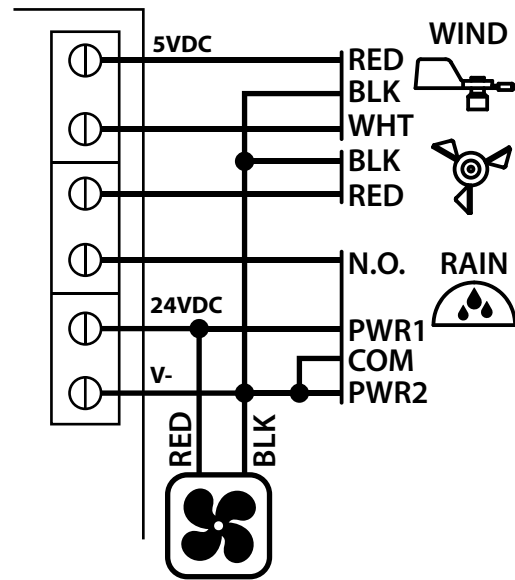


Wiring to SXW Weather Station

Adding a rain sensor to an SXW weather station is straight forward; follow the appropriate wiring diagram below for connection details.



3 - Terminal
"Open Collector" Type
(new)



5 - Terminal
"Relay" Type
(old)

Sensor Mode Configuration

The installer must set the DIP switches so that the sensor behaves the right way for intended application. The charts that follow describe each of the possible modes, and how to set the DIP switches.

Note: DIP Switches are pre-set on SXW weather station sensors.

"Collector Outout" Type (new)

Switch				Description
1	2	3	4	
0	0			First detection of a rain drop.
0	1			Light rain fall (0.1" per hour.)
1	0			Medium rain fall (0.25" per hour.)
1	1			Heavy rain fall (1"+ per hour.)
		0	0	Sensor Off when rain stops.
		0	1	Monostable 5 minute delay.
		1	0	Monostable 10 minute delay.
		1	1	Monostable 15 minute delay.

"Relay" Type (old)

Switch							Sensitivity	Description
7	6	5	4	3	2	1		
0	0	1	0		0	0	High	First detection of a rain drop.
					0	1	Normal	Light rain fall (0.1" per hour.)
					1	0	Medium	Medium rain fall (0.25" per hour.)
					1	1	Low	Heavy rain fall (1"+ per hour.)
				0				Sensor Off when rain stops.
				1				Monostable 15 minute delay.

Warranty

Agrowtek Inc. warrants that all manufactured products are, to the best of its knowledge, free of defective material and workmanship and warrants this product from the date of purchase. for the term specified in the specifications table. This warranty is extended to the original purchaser from the date of receipt. This warranty does not cover damages from abuse, accidental breakage, or units that have been modified, altered, or installed in a manner other than that which is specified in the installation instructions. Agrowtek Inc. must be contacted prior to return shipment for a return authorization. No returns will be accepted without a return authorization. This warranty is applicable only to products that have been properly stored, installed, and maintained per the installation and operation manual and used for their intended purpose. This limited warranty does not cover products installed in or operated under unusual conditions or environments including, but not limited to, high humidity or high temperature conditions. The products which have been claimed and comply with the aforementioned restrictions shall be replaced or repaired at the sole discretion of the Agrowtek Inc. at no charge. This warranty is provided in lieu of all other warranty provisions, express or implied. It is including but not limited to any implied warranty of fitness or merchantability for a particular purpose and is limited to the Warranty Period. In no event or circumstance shall Agrowtek Inc. be liable to any third party or the claimant for damages in excess of the price paid for the product, or for any loss of use, inconvenience, commercial loss, loss of time, lost profits or savings or any other incidental, consequential or special damages arising out of the use of, or inability to use, the product. This disclaimer is made to the fullest extent allowed by law or regulation and is specifically made to specify that the liability of Agrowtek Inc. under this limited warranty, or any claimed extension thereof, shall be to replace or repair the Product or refund the price paid for the Product.