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RG-15 Optical Rain Gauge

The RG-15 Optical Rain Gauge is a rainfall measuring device intended to replace conventional tipping buckets. It uses beams of infrared light within a plastic lens about the size of a tennis ball. The round surface of the lens discourages collection of debris, and the RG-15 has no moving parts to stick, and no water-pathways to clog. The device features an open-collector output that emulates a conventional tipping bucket, as well as serial communications that provide more detailed data and allow for configuration of the device.

The RG-15 may be configured through the serial port, or optionally via DIP switches. The device is lower power to begin with, and enters micropower mode in the absence of rain. Thus, the RG-15 is well suited to solar-powered applications.

Parameter	Value	Connection Pins
Nominal Accuracy	±10%[1]	J1 Terminal J1 - Out J1 - V+ J1 - GND
Input Voltage	Range 5- 15 VDC on J1 Reverse polarity protected to 50V or 3.3VDC through pin 8 on J2	
Current Drain (Not final)	110 µA nominal. (No outputs on, dry not raining) 2-4 mA when raining	J2 Header J2 - 1 GND J2 - 2 V+ (Same as J1 V+) J2 - 3 OUT (Same as J1 OUT) J2 - 4 Serial OUT J2 - 5 Serial IN J2 - 6 TB IN, Bridge to ground, normally open J2 - 7 MCLR J2 - 8 3.3V
Output	NPN Open Collector Output 100 mA / 80V Max	
Operating Temperature	-40°C to +60°C (Will not detect rain when freezing)	
Output Resolution	0.01in / 0.2mm or 0.001in / 0.02mm	
Two Way Communication	3.3V TTL Serial (RS232)	
Supported Baud Rates	1200, 2400, 4800, 9600, 19200, 38400, 57600	

[1] Field accuracy will vary