



GENERAL INFORMATION

The RAYN Photo Sensor measures and reports photosynthetically active radiation (PAR 400–700) from 0–4000.0 photosynthetic photon flux density (PPFD) ($\mu\text{mol/s/m}^2$) to a RAYN Touch controller over a wireless link. Sensor reports are logged by RAYN Touch and displayed on a graph, with the possibility to export the logs to a file.

Batteries are not required for everyday use due to the advanced solar energy harvesting and power management features of the sensor. After installation, the sensor will operate with the exposure to light as little as 50 lux for 5 minutes. The RAYN Photo Sensor can operate over 48 hours in darkness from maximum charge levels. An optional battery can be fitted when the sensor will be in a dark environment for longer periods.

The RAYN Photo Sensor is provided mounted inside a watertight enclosure.

PRODUCT FEATURES

- Solar powered wireless photo sensor for monitoring of PPFD
- Works in conjunction with RAYN Touch controllers
- Measures 0–4000 PPFD ($\mu\text{mol/s/m}^2$)
- Reliable radio reception range of 24 m (80 ft) – free field, up to 100 m (330 ft) line of sight
- Up to 48 hours operation in complete darkness
- Quick start operation at low light level with minimal charging time
- Batteries not required, start assist battery optional
- Mounted inside an ingress protection IP67 rated enclosure

ORDERING INFORMATION

RAYN Photo Sensor

MODEL	DESCRIPTION
RPS 902	RAYN Photo Sensor 902 MHz (U) (North America)
RPS 868	RAYN Photo Sensor 868 MHz (Y) (Europe)

PRODUCT SPECIFICATIONS

EnOcean Radio Equipment Profile

EEP D2-14-56: Light Sensor	DB0 .. DB2.0 : 0–4000.0 $\mu\text{mol/s/m}^2$
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Hardware

Power supply	Integrated solar cell and optional battery
Measurement range (PPFD)	0–4,000 $\mu\text{mol/s/m}^2$ Resolution 0.01. Accuracy is $\pm 20\%$.
Operational light level	1 $\mu\text{mol/s/m}^2$ (50 lux) minimum
Minimum charge time to begin operation	5 minutes in 1 $\mu\text{mol/s/m}^2$ (50 lux)
Maintain charge time	3 hours per 24 hours at 10 $\mu\text{mol/s/m}^2$ (480lux)
Maximum charge time	7.5 hours at 20 $\mu\text{mol/s/m}^2$ (960 lux)
Operating life at full charge	48 hours in full darkness at 0 lux
Battery - start assist	CR1632 (optional - not included)
Input	Teach button for assignment to receiver
Outputs	Test mode LEDs - red, green, and blue

Communications

Radio frequency	902 MHz (U) (North America) 868 MHz (Y) (Europe)		
Antenna	Integrated antenna		
Transmission range	24 m (80 ft) – free field, up to 100 m (330 ft) line of sight		
	Light level	Heartbeat reporting interval	Direct reporting on changes
	> 500 Lux	2 minutes	> 5% of reading
	< 500 Lux	2 minutes	No change messages

Mechanical

Operating temperature	-10°C–50°C (14°F–122°F)
Relative humidity	5–100% (condensing)
Weight	563 g (1.24 lb) (sensor, enclosure, bracket)
Dimensions	148 mm x 120 mm x 98 mm (5.8 in x 4.7 in x 3.9 in) (with mounting bracket) 148 mm x 120 mm x 60 mm (5.8 in x 4.7 in x 2.4 in) (without mounting bracket)
Mounting	Sensor is mounted inside an IP67 rated enclosure providing an attached mounting bracket for mounting to user-provided structure or camera type tripod with standard 1/4"-20 UNC screw

Agency Listings

902 MHz models (North America)	FCC Part 15.231 - Remote Control Transmitter IC RSS-210
868 MHz models (Europe)	CE Radio Equipment Directive

Energy Code Compliance

Approved standards	California Energy Commission Title 24 Washington State Energy Code ASHRAE 90.1-2013 IECC 2015 RoHs Compliant
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PHYSICAL

Photo Sensor Dimensions

MODEL	LENGTH		WIDTH		HEIGHT	
	mm	in	mm	in	mm	in
Photo Sensor (with mounting bracket)	148	5.8	120	4.7	90	3.9
Photo Sensor (without mounting bracket)	148	5.8	120	4.7	60	2.4

