

Solar Repeater

Model PRGEN-SOLREP

SMARTREK Datasheet Solar Repeater

Why use the Solar Repeater?

The PRGEN-SOLREP is used to extend or solidify a pre-existing SpiderMesh network by repeating every message that transits in it. The Solar Repeater is especially useful for its very low maintenance requirements, thanks to its integrated solar energy harvesting module. Combined with the Atrax ecosystem and Smartrek's vast range of sensors, here are a few examples of what you can do:

- Live insights into equipment status and operations.
- Combine it with other nodes and automate equipment based on parameters.
- Historical logs of equipment run times.

Applications

- General Industrial Process/Monitoring
- Power Options (EDLC)
- Temperature Monitoring
- Solar Panel Monitoring
- Up to 10 km/7 mi Range
- 1.2 W Solar Panel
- 1200 mWh Storage Capacity
- High Efficiency Energy Harvesting System
- Up to 600 Hours Autonomy Without Recharge
- Works Up to 5% Duty Cycle

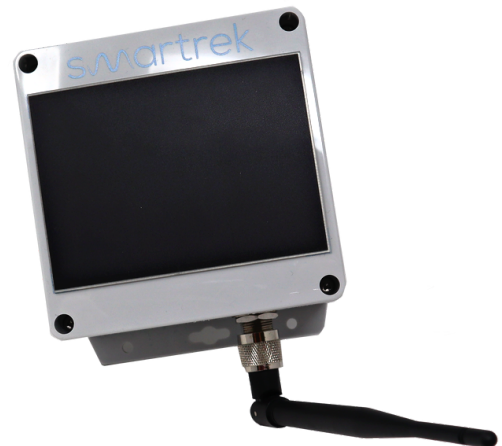


Figure 1: Solar Repeater

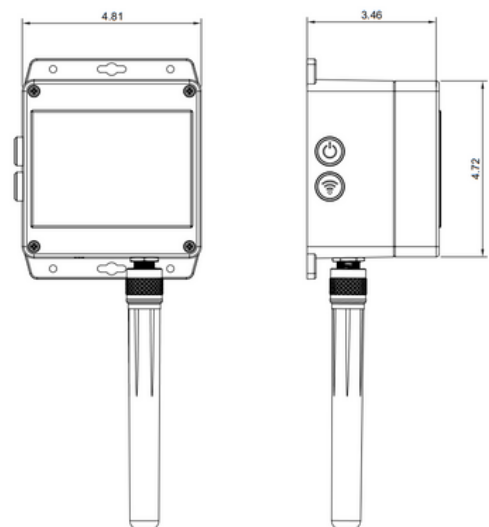
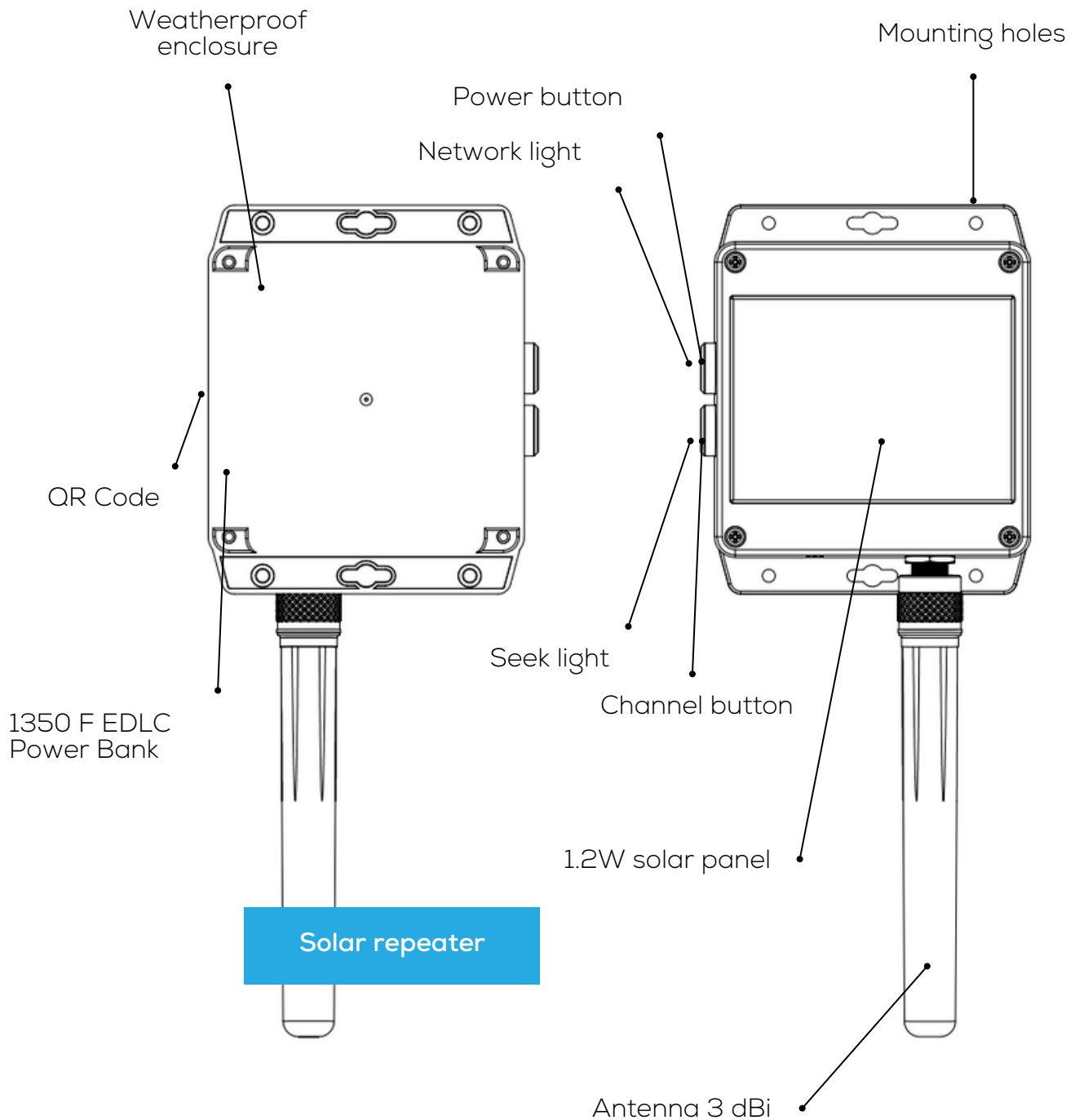


Figure 2: Technical drawing



General specifications

Specifications	Performance
Frequency Band	North America: 902-928MHz Europe, Australia/ NZ: 860MHz Japan: 925MHz
Wireless technology	SpiderMesh
Encryption	AES-128
Range	Up to 10km/7Miles (LOS*) 500m average (NOLS**) 300m (decidious forest)
Max hop count	30 (total range is 30x node-to-node range)
Max number of A-Link on network	Unlimited

*LOS: line of sight **NLOS: near line of sight

Technical specifications

Specifications	Unit	Performance
Maximum charge current	mA	400
Charge current resolution	mA	1.6
Temperature measurement range	°C °F	-25 to +100 -10 to 210
Operating temperature	°C °F	-40 to 75 -40 to 165
Solar panel nominal power output	W	1.2
EDLC power bank capacity	F	1350
Power bank nominal voltage	V	2.8

Power consumption

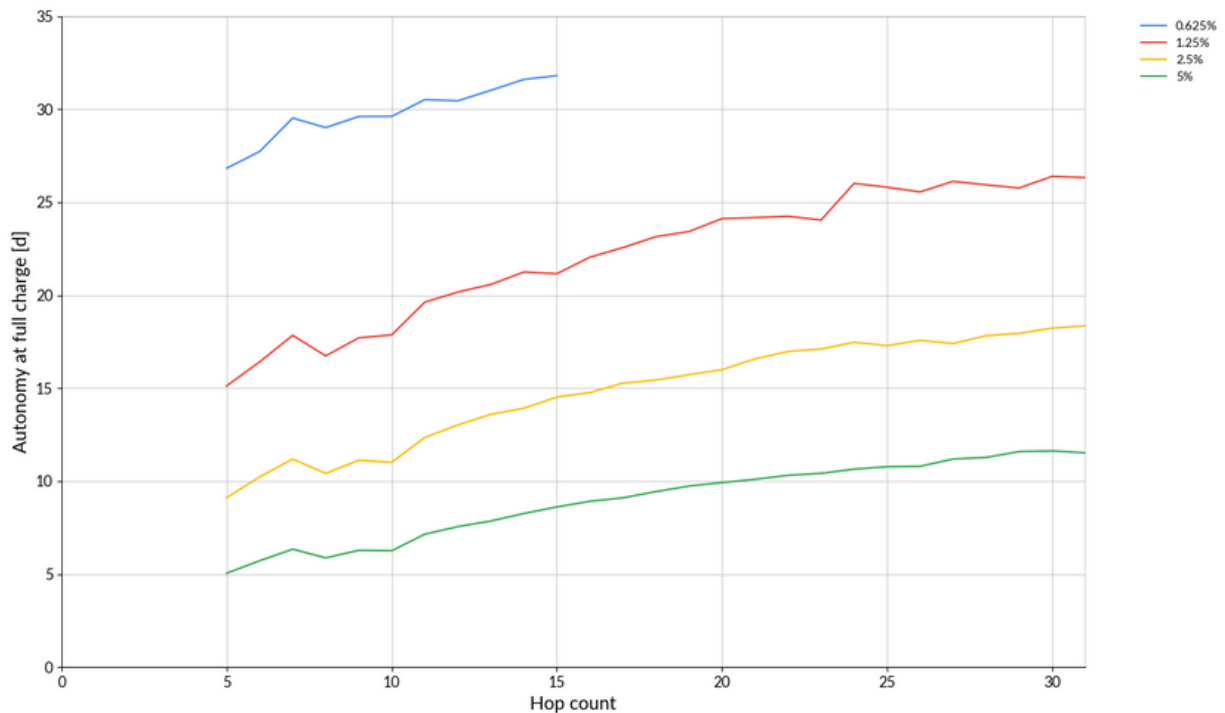


Figure 3: Autonomie vs. hop count

Ordering information

