



SolarPak

Solar Charger for RAE PowerPak



The SolarPak is an intrinsically safe way to extend the operating time of the RAE PowerPak. The SolarPak is certified for class I, division 1 (ATEX Zone 0) hazardous locations. An integrated solar panel and charge controller harness the sun's energy to charge the RAE PowerPak. Sensors, such as the industry-standard LEL catalytic bead, have significant power requirements that now can be met 24/7 with the RAE Systems SolarPak.

The RAE Systems MeshGuard gas detection system is a battery-operated, rapidly deployable, hazardous-area monitoring system that uses wireless mesh radio technology to create a self-forming, self-healing mesh network. A complete MeshGuard gas detection system can be deployed in minutes and operate in remote locations indefinitely with the use of a RAE PowerPak and SolarPak.

KEY FEATURES

- Class 1, Division 1 (ATEX Zone 0) intrinsically safe remote power solution
- Uses the sun's energy to charge the RAE PowerPak external battery
- Compatible with all RAE Systems MeshGuard wireless gas detectors and Mesh Routers
- Standard pole and wall mount adjusts easily to maximize energy production at different geographic locations
- Stainless-steel construction designed for harsh, outdoor environments

APPLICATIONS

- Oil and gas exploration
- Oil and gas production
- Plant maintenance turnarounds
- Tank farms
- Facility fenceline monitoring

- **Remote, stand-alone power solution eliminates the need for expensive trenching and power cabling**
- **Reduces maintenance requirements by eliminating the need to periodically change batteries**
- **Simple to install and operate**
- **For continuous operation even in cloudy conditions, the RAE PowerPak provides up to 20 days of battery backup**



The SolarPak is a remote power solution for MeshGuard and RAE Mesh Routers and is certified for use in hazardous environments (CID1 and ATEX Zone 0).

SPECIFICATIONS

Detector Specifications

Size	25.6" L x 13.2" W x 1.6" H (65 x 33.5 x 4 cm)
Weight	Panel only: 10.14 lbs (4.6 kg) Panel + adjustable pole mount: 16.75 lbs (7.6 kg)
Cable length	16' (5m)
Maximum Voltage (full sun)	9.60V
Maximum Current (full sun)	700mA
IP-Rating	IP-65
Certification Markings	US and Canada: Class I, Division 1, Groups A, B, C, D T4 Europe: ATEX II 1 G Ex ia IIC T4 Ga -40 °C ≤ Ta ≤ +60 °C IECEx: Ex ia IIC T4 Ga -40 °C ≤ Ta ≤ +60 °C
Electrical Data	Pin 1: Uo: 9.96V, Io: 3.23A, Po: 9.03 W, Co: 3μF, Lo 3.2μH Pin 2: Uo: 9.56V, Io: 23mA, Po: 12mW, Co: 3μF, Lo 66μH

*Specifications are subject to change

RUN-TIME EXAMPLES

Country	City	Average Summer Run-time days	Average Winter Run-time days
Brazil	Sao Paulo	Indefinite	Indefinite
Canada	Calgary	Indefinite	35.6
China	Beijing	Indefinite	142.3
England	London	Indefinite	28.6
France	Paris	Indefinite	31.7
Germany	Munich	Indefinite	35.2
Russia	Moscow	Indefinite	28.5
United Arab Emirates	Dubai	Indefinite	Indefinite
United States	Denver, CO	Indefinite	140.4
United States	Fargo, ND	Indefinite	48.3
United States	Houston, TX	Indefinite	Indefinite
United States	Pittsburgh, PA	Indefinite	51.3

1. Average run times are calculated using historic 30-year averages for solar radiation levels. Individual years may vary due to yearly variations in weather and temperature.
2. All run times assume an average summer temperature of 68° F (20° C), and an average winter temperature of 32° F (0° C).
3. All run times assume an optimized tilt angle and orientation for the SolarPak as described in the manual.
4. Additional cities are listed in the manual, as well as instructions for calculating expected runtimes for any location.

Source: NASA Langley Research Center Atmospheric Science Data Center; New et al. 2002

ORDERING OPTIONS

The SolarPak can be ordered individually or as part of a complete MeshGuard LEL system kit.

Individual SolarPak includes:

- Solar Panel with the pole/wall mounting assembly
- 16' (5m) extension cable

The SolarPak MeshGuard LEL kit includes:

- Solar Panel with the pole/wall mounting assembly
- 16' (5m) extension cable
- RAE PowerPak external battery
- MeshGuard LEL detector with stainless-steel housing
- Stainless-steel mounting plate for PowerPak and LEL detector
- Backup 110/220V AC charger for PowerPak
- Ruggedized transportation case with custom foam padding



The SolarPak MeshGuard LEL Kit

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