Dragon Q Energy

The PowerPole

Mission

Empowering people and transforming lives in extreme climates with our robust and safe off-grid power solution to provide sustainable energy where it is needed most.

Engineered for Extreme Environments

The demand for robust and efficient off-grid energy storage solutions is surging across industries such as telecom, 5G infrastructure, commercial lighting, construction, and agriculture. These sectors often operate in remote or harsh environments where traditional energy systems struggle to perform reliably. Extreme temperatures can cause conventional batteries to overheat, reducing their lifespan and efficiency. Seasonal flooding, which is increasingly exacerbated by climate change, poses further risks, rendering systems inoperable and exposing businesses to costly repairs and operational downtime.

Dragon Q Energy's PowerPole is purpose-built to address these challenges, delivering a reliable, safe, and scalable energy solution for the most demanding commercial applications. By burying our advanced battery system just beneath the surface, the PowerPole leverages geothermal cooling to maintain optimal performance even in extreme heat. The pressurized, oxygen-free argon environment mitigates thermal runaway risks to ensure safety and reliability across all operating conditions, including flood-prone areas where other systems may fail.

Key Differentiators:

- **Safe:** Designed with safety in mind by incorporating an oxygen-free, pressurized Argon environment to mitigate risk of thermal runaway in combination with a multi-tiered safety system
- **Robust:** Designed to handle the most extreme weather and conditions
- **Underground Installations:** Affording geothermal cooling, space optimization, and enhanced security.
- **Scaleable:** to meet diverse energy needs with a 2- 8kWh battery pack
- **Connectivity:** Can be outfitted with satellite internet to enable real time system monitoring and serve as a Wi-Fi hub for data transfer

Applications:

- 5G infrastructure
- Telecommunications
- Commercial Lighiting
- Public Utilities
- Construction & Development
- Agriculture
- Marine

PowerPole

Specifications & Configurations

Configurations

Battery	Solar Array	DC-AC* Inverter (Cont/Peak)	DC Power (Main)	DC Power (Aux)	USB/USB-C (Aux)	Exandalbe Solar
Li-ion 3.75 kWh 24V	460W	200W/400W	24V/25A	12V/15A	5V/10A	Yes
Li-ion 3.75 kWh 24V	690W	300W/700W	24V/25A	12V/ 15A	5V/10A	Yes
Li-ion 3.75 kWh 24V	920W	400W/900W	24V/ 25A	12V/ 15A	5V/10A	Yes
Li-Ion 7.5 kWh 48v	460W	400W/900W	48V/60A	12V/30A	5V/10A	Yes
Li-Ion 7.5 kWh 48v	920W	650W/1500W	48V/60A	12V/30A	5V/10A	Yes
Li-Ion 7.5 kWh 48v	920W	1000W/2200W	48V/60A	12V/30A	5V/10A	Yes

Environmental Information- Direct Burial

Pack Operating Temperature (Max Permissiable)	-20°C to 55°C (-4°F to 131°F) Discharge 0°C to 45°C (32°F to 113°F) Charge
Pack Operating Temperature (Max Cycle Life)	0°C to 30°C (32°F to 86°F) Charge/Discharge
Recommended Tempurature (Air)	-73°C to 76°C (-100°F to 170°F)
Recommended Tempurature (Soil)	0°C to 37°C (32°F to 100°F)
Humidity	Up to 100%, condensing, standing water
Storage Conditions	0°C to 30°C (32°F to 86°F) 0% to 100% Relative Humidity, condensing State of Charge (SoC): 20% - 30% (Initial)
Maximum Elevation	18,288 M(60,000 ft)* Max Civial Aviation Altitude (Space, lunar and mars specs avaliable)
Environment	Underground, (Indoor & outdoor cooled)
Pack Enclosure Type	C1D2/ATEX (Anticipated)
Ingress Rating	IP68 (Pack and BMS Enclosure)*
Wet Location Rating	Yes

Safety Specifications

Pack Thermal Runaway (TR) Mitigation	Positive Argon pressure keeps TR in cell casing Hermetic environment starves initial fire of oxygen
Pack TR Propagation Prevention	Pressurized Argon extinguish flames from ruptures cells
Primary TR Control (Retention)	Pack can retain smoke, gases, chemicals of cell TR while venting the pressures to prevent pack explosion and deflageration
Secondary TR Control (Retention)	Pack can retain smoke, gases, chemicals of 2nd ce runway, while venting the pressures to prevent pac explosion and deflageration
Tirtiary TR Control (Release)	Pack can release smoke, gases, chemicals of cell T overboard though a port and customer conduit, t prevent container explosion and deflageration

Installation

Dig

Insert

Bury

Power