INDRATEL

PRODUCTS | INTEGRATION | SOLUTIONS | SERVICE

Indratel Australia Power Packages

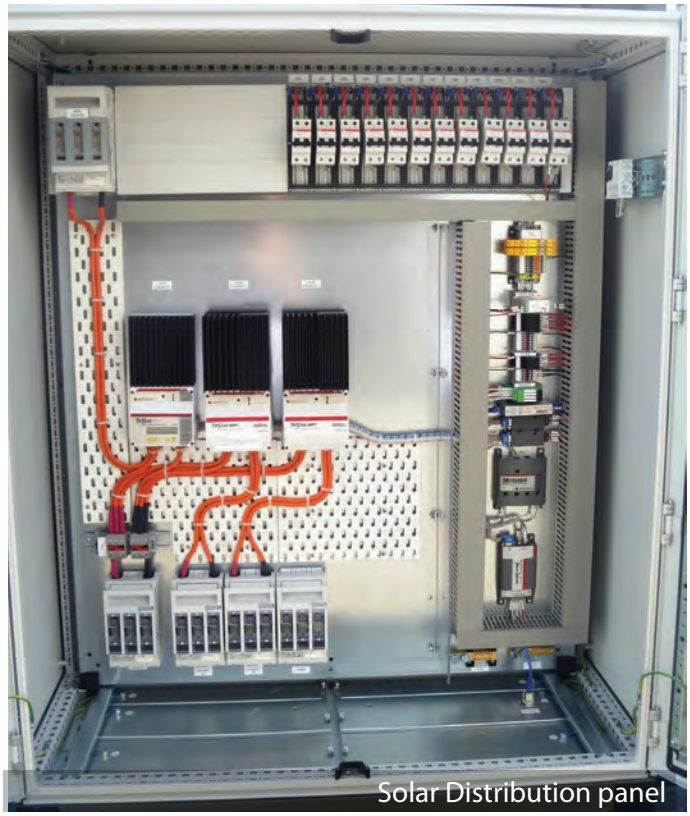
Solar Skids – Standalone Power

Indratel can supply solar power systems specifically designed for your remote site's requirements; and mounted on a skid for ease of delivery and installation at site. We have supplied skid mounted solar systems for a wide range of loads including but not limited to, wellhead control, agriculture & irrigation, cathodic protection systems; with solar arrays from 5W to KW in size, and battery capacities more than 1000Ahr depending on the application.

Our systems are typically designed for a minimum of 7-10 sunless days operation to maximise operational reliability under all typical weather conditions, and we can provide advice on appropriate sizing and equipment selection. Skid mounting of solar supply equipment allows complete system to be fully assembled, configured and pre-commissioned before it leaves our premises minimising site installation and commissioning time and effort.

Solar Array Frame Angle

Solar Skid CSG Dams



Solar Distribution panel

Remote Power

INDRATEL

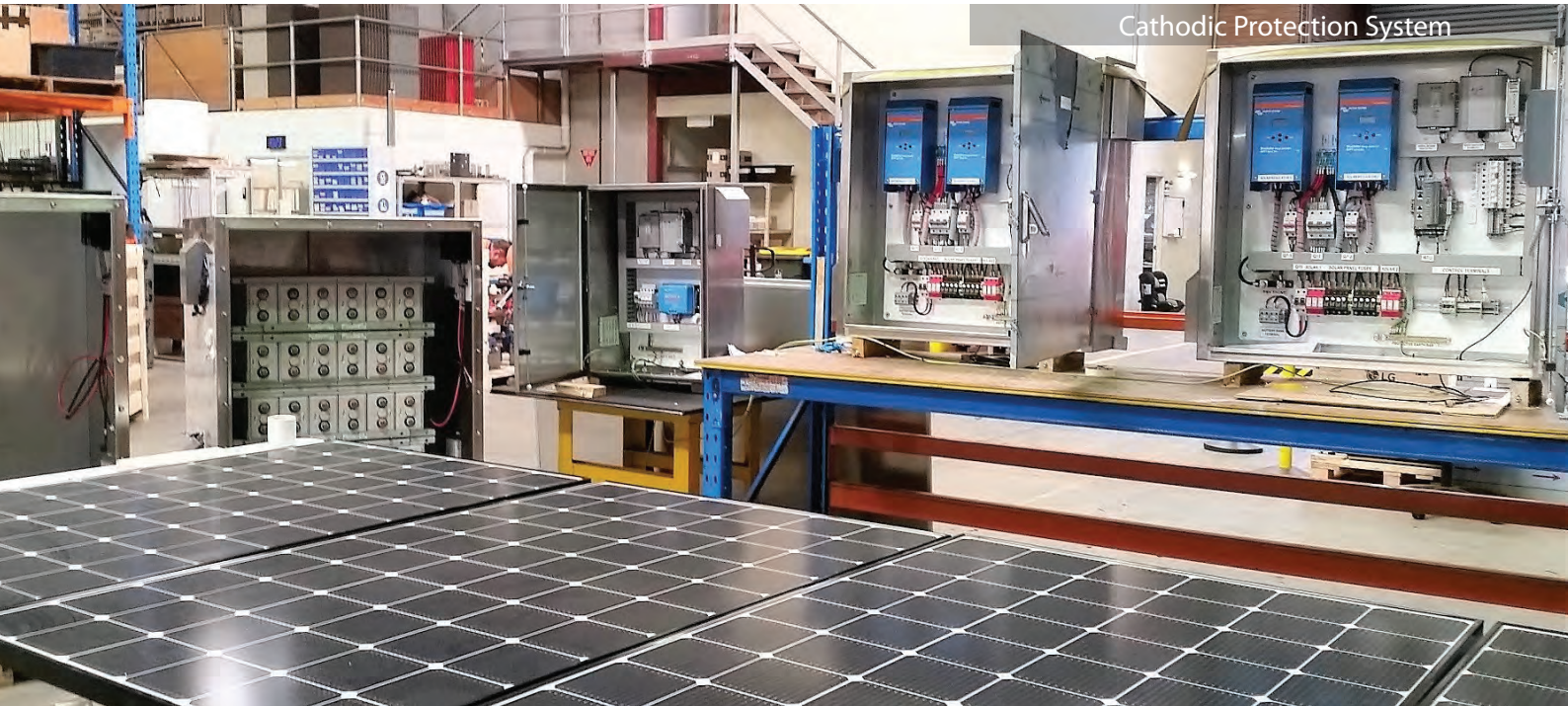
PRODUCTS | INTEGRATION | SOLUTIONS | SERVICE

Solar Skids/Frames - Remote Monitoring and Control

Travelling to remote sites/locations to monitor or control necessary operational functions in any industry costs time and money. As part of its packaged solutions offering, Indratel Australia supplies its packages from entry-level remote monitoring and to higher capacity control packages built onto frame based or skid based Solar Systems.

Remote Wellhead Solar Cube

Remote Site Automation



Cathodic Protection System

QNERGY – Reliable Remote Power

Designed for rugged and remote operation, the PowerGen remote power generator provides reliable electrical power supply to the most demanding and mission-critical loads. Based on Qnergy's no-maintenance and highly reliable PCK series Stirling engines, the generator package can work seamlessly with a variety of fuel supplies, including natural gas, propane, ethane, biogas, and multiple associated gas streams. By means of its flexible and modular design, this generator package can be tailored to provide a broad range of power output architectures to meet the electrical requirements of each specific site load.

Remote Power with Comms

Remote Power Hot Climate

PowerGen Remote Power Series

Qnergy
Reliable Remote Power

PowerGen Series

Designed for rugged and remote operation, the PowerGen remote power generator provides reliable electrical power supply to the most demanding and mission-critical loads. Based on Qnergy's no-maintenance and highly reliable PCK series Stirling engines, the generator package can work seamlessly with a variety of fuel supplies, including: natural gas, propane, ethane, biogas, and multiple associated gas streams. By means of its flexible and modular design, this generator package can be tailored to provide a broad range of power output architectures to meet the electrical requirements of each specific site load.

Assembled using lean manufacturing processes, the PowerGen is built to meet strict quality standards. The integrated components and controls are all designed to maximize the customer's ability to control and monitor their power-generation asset while minimizing servicing of any kind.

Benefits

- Prime Power Solution
- Low Cost of Ownership
- Unprecedented Reliability
- Suitable for Rugged Applications
- Load Following
- High Efficiency
- Multiple Fuel Options
- Plug and Play Installation
- Small Footprint
- Hybrid Capabilities

What Makes Qnergy PowerGen Your Remote Power Solution?

QNERGY STIRLING ENGINE

No Maintenance · Zero Lubrication · Frictionless Piston · Enclosed System · Multiple Fuel Sources · High Efficiency

Heat Source

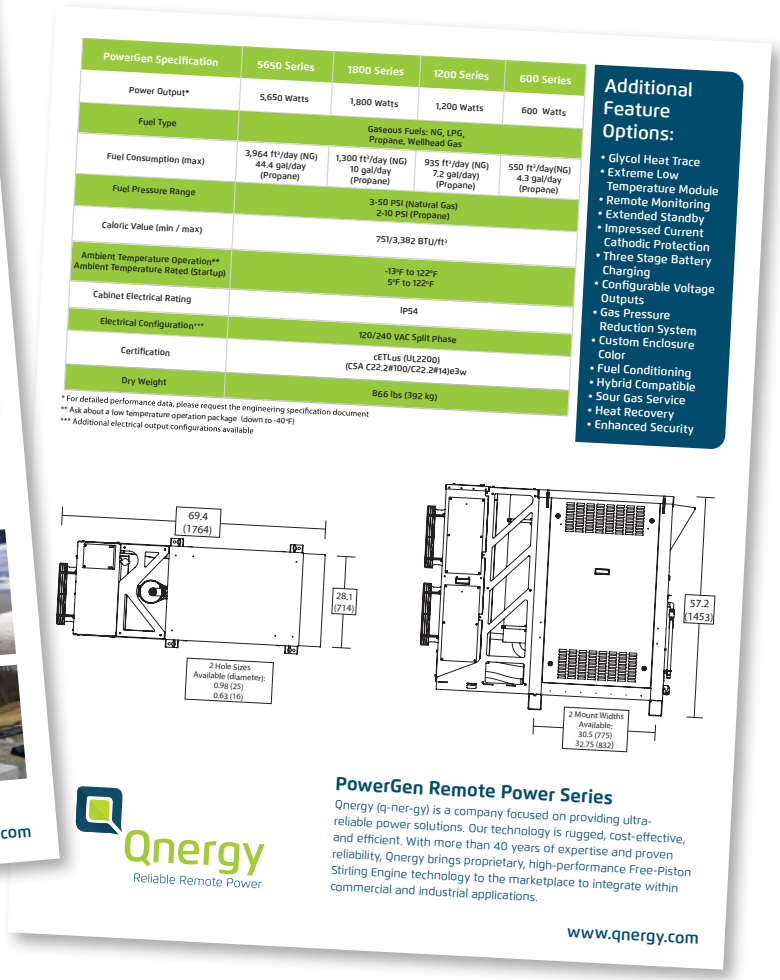
Each PowerGen Remote Power System utilizes Qnergy's unique PCK80 Stirling Generator

APPLICATIONS

- Artificial Lift
- Communication & SCADA
- Monitoring, Security & Safety
- Prime Power
- Renewable Hybrid
- Well Pad Automation
- Cathodic Protection (ICCP)

Qnergy has an experienced design and integration team that works to meet customer specific power needs!

www.qnergy.com



PowerGen Specification	5650 Series	1800 Series	1200 Series	600 Series
Power Output*	5,650 Watts	1,800 Watts	1,200 Watts	600 Watts
Fuel Type	Gaseous Fuels: NG, LPG, Propane, Wellhead Gas			
Fuel Consumption (max)	3,964 ft³/day (NG) 44.4 gal/day (Propane)	1,300 ft³/day (NG) 10 gal/day (Propane)	935 ft³/day (NG) 7.2 gal/day) (Propane)	550 ft³/day(NG) 4.3 gal/day (Propane)
Fuel Pressure Range	3-50 PSI (Natural Gas) 2-10 PSI (Propane)			
Caloric Value (min / max)	751/3,382 BTU/ft³			
Ambient Temperature Operation** Ambient Temperature Rated (Startup)	-13°F to 122°F 5°F to 122°F			
Cabinet Electrical Rating	IP54			
Electrical Configuration***	120/240 VAC Split Phase			
Certification	cETLus (UL2200) (CSA C22.2#100/C22.2#14)e3w			
Dry Weight	866 lbs (392 kg)			

* For detailed performance data, please request the engineering specification document
** Ask about a low temperature operation package (down to -40°F)
*** Additional electrical output configurations available

Additional Feature Options:

- Glycol Heat Trace
- Extreme Low Temperature Module
- Remote Monitoring
- Extended Standby
- Impressed Current Cathodic Protection
- Three Stage Battery Charging
- Configurable Voltage Outputs
- Gas Pressure Reduction System
- Custom Enclosure Color
- Fuel Conditioning
- Hybrid Compatible
- Sour Gas Service
- Heat Recovery
- Enhanced Security

69.4 (1764) · 28.1 (714) · 2 Hole Sizes Available (diameter): 0.98 (25) 0.63 (16) · 57.2 (1453) · 2 Mount Widths Available: 30.5 (775) 32.75 (832)

Qnergy
Reliable Remote Power

PowerGen Remote Power Series

Qnergy (q-ner-gy) is a company focused on providing ultra-reliable power solutions. Our technology is rugged, cost-effective, and efficient. With more than 40 years of expertise and proven reliability, Qnergy brings proprietary, high-performance Free-Piston Stirling Engine technology to the marketplace to integrate within commercial and industrial applications.

www.qnergy.com

Hybrid Skids

In conjunction with Standalone solar skids is the option to have an alternate source available. Indratel Australia has options for a traditional diesel generator based hybrid power package but more recently has the QNERGY Gas generator hybrid power skids on the market. Under normal conditions the PV array supplies power through the system's battery bank.

The PowerGen engine sits in standby, monitoring the battery health. In extended durations of poor solar availability, the PowerGen intelligent control system will start the engine and charge the batteries. Pairing a more reasonably sized off-grid solar system with the PowerGen 5650 increased the reliability and value of the system.

The generator eliminates deep discharge cycles on the battery, preventing accelerated aging. Using fewer batteries that last longer not only saves capital but reduces the environmental waste associated with disposal. With the intelligent control system, the engine only runs when required, optimizing fuel consumption. This system adapts to changing weather conditions ensuring efficient power production, while the maintenance-free engine drives operational savings.

Qnergy
Reliable Remote Power

PowerGen Solar Hybrid

Qnergy's solar hybrid system leverages the PowerGen Stirling engine to supplement photovoltaic power creating the most reliable off-grid power system.

BENEFITS

- Hybrid design blends the advantages of solar energy with those of Stirling power
- 24/7, year-round off-grid power
- Smaller PV panel footprint
- Smaller battery bank with longer life (no deep cycling)
- Reduced engine fuel consumption
- Decreased operating costs (less maintenance and downtime)

POWERGEN STIRLING ADVANTAGE

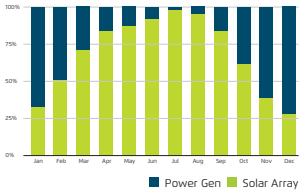
- Maintenance free 80,000h engine life (no oil changes, no field rebuilds)
- Efficient, low-emission combustion (100x lower than EPA CO and NOx limits)
- Wide operating temperature range (-40˚C to 40˚C)
- 5.65kW load-following engine (no load banks or wet-stacking issues)
- SmartView web-based monitoring system

Cold Weather Advantage

Under normal conditions the PV array supplies power through the system's battery bank. The PowerGen engine sits in standby, monitoring the battery health. In extended durations of poor solar availability, the PowerGen intelligent control system will start the engine and charge the batteries. In cold northern climates, the waste heat of the PowerGen system is harvested to maximize system performance:

- Heat Propane tanks to keep fuel flowing in frigid temperatures
- De-ice communications towers
- Increase battery efficiency and prevent freezing

HYBRID POWER PRODUCTION



PACIFIC NORTHWEST CASE STUDY

A pipeline operator was tasked with installing a cathodic protection station in a remote area. Although high voltage utility lines were available nearby, the cost to extend and transform the power for this small station was prohibitive. Due to the challenging weather conditions in this region, an off-grid solar system itself would be costly due to the size of the PV array and large battery bank needed to provide reliable power in the cold, dark winter months.

Pairing a more reasonably sized off-grid solar system with the PowerGen 5650 increased the reliability and value of the system. The generator eliminates deep discharge cycles on the battery, preventing accelerated aging. Using fewer batteries that last longer not only saves capital but reduces the environmental waste associated with disposal. With the intelligent control system, the engine only runs when required, optimizing fuel consumption. This system adapts to changing weather conditions ensuring efficient power production, while the maintenance-free engine drives operational savings.

Qnergy
Reliable Remote Power

300 West 12th Street, Ogden, UT 84404
+1.801.752.0100 | info@qnergy.com | qnergy.com