



**Controllis**  
Perpetual Power

## Quiet48

5,7&12KW 48VDC  
Quiet Integrated  
Power System



### Overview

Quiet48 is the Controllis range of ultra-quiet high-efficiency DC generators designed specifically for Telecom network and site operators.

Quiet48 DC Generators are designed to provide DC power for communications sites from dense urban environments to remote rural areas. Controllis Quiet48 DC Generators come in 5, 7 and 12kW outputs.

#### Key Benefits

- High efficiency DC design - reduces fuel consumption
- Ultra low noise - suitable for deployment anywhere
- Full remote monitoring and control – reduces maintenance and site visits to a minimum
- Aluminium and composite enclosure – resists corrosion even in harsh environments
- Industry leading maintenance periods and warranty – low total cost of ownership
- Integral battery bank – reduces site footprint
- Optional solar PV charger – simple integration of renewable energy
- Optional mains to DC rectifier – reduces number of cabinets on site
- Optional AC output for test and other equipment – eliminates need to carry inverters to site

#### Comprehensive Remote Monitoring and Control

All Controllis Quiet48 DC generators utilise the Controllis Remote System Controller (RSC). The RSC monitors and manages a wide range of critical engine and fuel system parameters as well as generator site security.

The RSC interfaces back to the Controllis Remote Management Server via its internal 9 Band UMTS/GPRS modem or via any IP interface available on site including microwave, fibre or satellite modem. For Mobile or rental environments the RSC also provides accurate GPS based position reporting for asset tracking.

The RSC undertakes multiple management functions in the Quiet48 DC generators including:

- Auto generator start management based on the 48V and 12V battery charge levels.
- Electronic generator throttle control based on demand from the load.
- Fuel system monitoring & reporting
- Lubrication system monitoring & reporting
- Cooling system monitoring & reporting
- Filter conditions monitoring & reporting
- Engine and environment temperature monitoring & reporting
- Recording engine hours
- Security monitoring & reporting
- Unauthorised system movement detection
- DC charging management
- Battery condition management
- Genset voltage control
- Geographic location reporting
- Video monitoring of genset site
- Remote communications and monitoring of solar PV and other renewable controllers

The flexible design of the RSC allows additional bespoke monitoring functionality to be easily added.

## Battery Protection

The Quiet48 DC generators have been specifically developed to provide a safe and controlled system for charging DC battery banks. The system monitors the battery voltage, the battery temperature and the load current and uses internal battery charging algorithms to provide the correct amount of voltage into the battery bank for the given conditions. The algorithms control the engine speed 50 times per second to vary the voltage to the appropriate level. Varying the engine speed according to load also has the advantage of saving fuel.

In addition to the software control there are built-in hardware protection circuits to ensure that the battery bank is not overcharged under any circumstances.

## Renewable Energy Integration

The Quiet48 DC generator integrate easily into a renewable energy solution. The Quiet48 DC generators can be supplied with an optional 48V solar PV charging controller with either a 3kW or 6kW solar capacity. This controller is integrated with the RSC to provide full remote visibility of the entire system including solar output and battery status. When the power demand is not met by the solar output or the energy stored in the battery bank the Quiet48 DC generator automatically starts and takes over the charging role until the renewable source again provides sufficient energy to meet the site needs. The Quiet48 DC generators are also able to be integrated with other renewable systems including wind power and micro hydro power.

## Durable and Ultra Quiet Construction

The Quiet 48 enclosure is constructed using a bespoke aluminium and composite outer skin with a strong and tough galvanised inner skin steel. Insulation between the panels is an ultra dense mineral fibre insulation. This unique construction provides extremely high levels of security, acoustic performance, thermal insulation, and corrosion resistance. The enclosure is secured by either vandal resistant high security puck locks, or by padlocks conforming to the operators own security program.

The engine exhaust is passed through two sequential silencers and the intake and exhaust air travel in and out of the enclosure via acoustic silencers. This attention to sound reduction ensures that the Quiet48 DC generators really do live up to their name.

## Warranty, Support and Finance

All Quiet48 DC generators systems are sold with a comprehensive multi year warranty on parts and labour and a 7 year corrosion warranty. At the end of the warranty period there is an option to purchase an extended warranty. Controllis provide comprehensive support and training during the installation and commissioning phase of new deployments. After installation we provide 3rd tier support to your system managers on an as required basis. For larger deployments we can provide a financing scheme to qualifying companies. Operators in developing countries can qualify for very attractive finance packages that bring the payback of deploying our generators or hybrid systems to day one.

## Quiet48 Specifications

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|--|---|
| <b>Power Output</b>                        | 5, 7 and 12KW DC 48-57V   |
| <b>Voltage Ripple</b>                      | <100 millivolts peak  |
| <b>Engine</b>                              | Perkins 3 Cylinder 1100cc or Lister Petter 2 900cc (customer choice)  |
| <b>Fuel</b>                                | Diesel, Indirect Injection, Up to B100 with Lister Engine Option  |
| <b>Built in Remote Power Controller</b>    | Auto Engine Start<br>Electronic Throttle Control<br>48V Intelligent Charging System<br>12V Intelligent Charging System<br>Battery Temperature Monitoring<br>Fuel Level<br>Oil Level<br>Oil Filter Pressure Drop<br>Fuel Filter Pressure Drop<br>Air Filter Pressure Drop<br>Coolant Temperature<br>Oil Temperature<br>Environmental Temperature<br>Exhaust Temperature<br>Oil Quality Sensor (Optional) |
| <b>Communications</b>                      | Ethernet with built-in UMTS/GSM (see Remote System Controller datasheet for full details)   |
| <b>Internal Fuel Tank</b>                  | 190 litres<br>Optional external fuel tank connection  |
| <b>Corrosion Protection</b>                | All external components are powder coated aluminium, composite or powder coated zinc plated steel   |
| <b>Paint</b>                               | Oven Baked Polyester Powder Coated  |
| <b>Colour</b>                              | Standard RAL7035 (Other colours optional)   |
| <b>Noise Level</b>                         | <50 dB(A) at 10m free field   |
| <b>Emissions</b>                           | EURO stage IV and EPA Tier4 Compliant   |
| <b>Environmental Operating Temperature</b> | -40C to +55C  |
| <b>Dimensions WxHxD</b>                    | 1510 x 1888 x 1100  |
| <b>Weight</b>                              | 690kg   |