



Controllis
Perpetual Power

Controllis DCPrimePower[®] Generators



Overview

Controllis DCPrimePower[®] generators provide clean DC output directly without the need for external filters or voltage conditioning. Controllis designed its DCPrimePower[®] generators for 24V and 48V Telecoms applications to a maximum continuous power output range from 5kW to 12kW. All DCPrimePower[®] generators have over 30 individual phases providing a near ripple free output. Each individual phase has redundant rectification providing an extremely high level of reliability.

Integrated Design

DCPrimePower[®] generators have been developed from the ground up for the needs of Telecom sites. The integrated high phase, high redundancy design results in a very low level of ripple critical for telecoms systems and hybrid battery systems. Unlike traditional systems that rely on an AC Generator and external rectifier the output from the DCPrimePower[®] generators is already DC: this simplifies site design, saves space and reduces overall capital cost.

Clean DC Output

Controllis understands the importance of reducing ripple in telecoms systems. Excess ripple can lead to noise in telecoms equipment and also reduction in battery lifespan. The output from the DCPrimePower[®] generators is very clean and has a ripple of less than 10mV rms.

High Efficiency Permanent Magnet Design

Controllis uses high strength, high efficiency Neodymium magnets in its DCPrimePower® generators. Using permanent magnets to generate the magnet field in a generator has a significant energy saving as there is no energy lost to an exciter coil. The magnets are never in physical contact with the stator and are cooled by the integral fan. Because of this benign operating condition the magnets have an extremely long operating life.

Variable Speed Operation

DCPrimePower® generators are designed for variable speed operation. Different charging scenarios - such as low site-loads or completion of battery-charging - require lower power consumption. The ability to lower engine speeds to match such power-scenarios results in higher fuel-savings.

Frictionless Mounting

DCPrimePower® generators are mounted onto the engine flywheel and bell-housing unit. The rotor is directly attached to the engine flywheel while the stator is mounted into the body of the DCPrimePower® generator, so that a small but constant air-gap is maintained between the stator and rotor. There are no bearings or couplings in DCPrimePower® generators (unlike AC generators): the resulting improvements in efficiency eliminates maintenance requirements associated with expensive bearings replacements.

Tailoring for Different Engines

Controllis can tailor the DCPrimePower® generators to match customer specific engine and environmental requirements. Each engine type has a unique torque curve. To achieve a high level of efficiency the PMG needs to match the torque curve as close as possible while allowing power headroom for higher temperature and/or higher altitude operation. By altering key parameters Controllis matches the PMG to the engine and the application. In low-altitude countries, lower head room can be designed to ensure the engine operates at maximum efficiency for each power level.

Ultra Long Service Life

Controllis designs all its products for an ultra long service life. All Controllis products come with warranties for a minimum of 5 years, and the magnets in our DCPrimePower® generators carry an unlimited 10 year warranty against loss of performance.

Specifications

Power Output (Maximum Continuous) 48V	5kW, 7kW, 12kW
Power Output (Maximum Continuous) 24V	5kW, 7kW
-48V Voltage Output (Programmable from controller)	-45.0V to -57.0V
24V Voltage Output (Programmable from controller)	22.5V to 28.5V
On Board Temperature Monitoring	Yes
Voltage ripple	<10mV rms
Controller Interface	CANBus SAE J1939
Standard Engine Flywheel Mounting*	SAE J620 6 1/2
Standard Engine Bell-housing Mounting*	SAE 5
Height	350 mm
Width	410 mm
Depth	130 mm
Weight	18 kg
Operating Temperature	-10 C to +55 C
Operating Humidity	5% RH to 95% RH

* Call to discuss other options