



Controllis

Better Power
Anywhere

Controllis Smart48-HPU Hybrid Power Unit



Overview

The Controllis Smart48-HPU is a flexible energy storage and power system for telecommunications sites. Designed to work either with the Controllis' DC generator technology or to supplement an existing deployed AC generator, the Smart48-HPU provides reliable and consistent power delivery when the primary power source (mains or generator) is not available.

The Smart48-HPU allows communications systems operators to introduce renewable technology onto existing sites or to build new sites with the lowest operating costs and carbon footprint. Existing sites which already have AC generators deployed can be reliably supplemented with the Smart48-HPU system.

Smart48 Specifications

Remote System Controller

The Smart48-HPU is controlled by the Controllis Remote System Controller – Hybrid Management Unit (RSC-HMU). This has been at the heart of all Controllis hybrid systems for many years and has been constantly updated. The RSC-HMU manages and monitors the power from different sources and optimises the system to prioritise renewable energy sources. The RSC-HMU also starts and stops the generators and controls the voltage on the DC Generators and AC Rectifiers when mains is present or an operator's existing AC generator is used. The RSC-HMU can also be programmed to monitor almost anything else on an operator's site.

Integration into the Controllis Remote Management System (RMS)

The Smart48-HPU is integrated into the Controllis RMS which provides cloud based dedicated remote management and control. In a single dashboard view the RMS monitors the Smart48-HPU along with the Controllis DC generator product family.

Total flexibility and combined functionality

The Smart48-HPU combines a number of functions into a single secure enclosure including:

- Up to 1500 amp hours (75 kWh) of 48V Lithium Ion energy storage
- Up to 20kW of solar charging capacity
- Up to 20kW of wind power capacity
- Up to 30kW of mains rectifier capacity
- 60U of ETSI 19" rack space for power and communications equipment
- Temperature controlled environment with free cooling and air conditioning
- Automated generator control and monitoring
- Automated fuel level monitoring of existing fuel tanks
- Site surveillance using POE CCTV
- Site security lighting and alarming
- Site security monitoring and access control



The Smart48-HPU ensures continuity of service when mains or AC generators are off line, and also reduces the operating hours and fuel consumption of an AC generator used as the primary or back-up power source .

With integrated Lithium Ion battery bank, renewable inputs, rectification, remote monitoring and control functionality, the Smart48-HPU integrates seamlessly with all types of renewable energy sources. On-board control and optimisation automatically prioritise the lowest cost source.

The Smart48-HPU can be deployed in a number of different configurations depending on requirements. It can typically be combined with:

1. A Controllis DC generator and renewables in a combined Modular48 system.
2. An operator's existing AC generator and renewables.
3. A mains input but optimizing and prioritising the renewable power source.

The flexible configuration options harvest more energy from solar and wind to reduce both the carbon footprint and energy usage dramatically. Payback from using a Smart48-HPU can often be measured in months compared to years with other systems.