

OPS

HPC

HYBRID POWER CONDITIONER (HPC SERIES)

Providing 24 hour utility grade power in
a fully integrated off-grid power converter

OPTIMAL
POWER SOLUTIONS



The OPS Hybrid Power Conditioner (HPC) is a comprehensive power conversion system that integrates and optimises remote area power sources such as solar photovoltaic arrays, wind turbines, battery banks and diesel generator sets. As a bidirectional power converter the HPC can seamlessly act, phase by phase, in parallel power sharing mode or as an independent battery charger in reverse power mode.

The HPC system provides an optimal approach in delivery of continuous 24-hour power, utility level voltage and frequency quality. The system maximises the use of the renewable resources in combination with the battery storage unit. When diesel generators are required the HPC intelligently loads the generator to reach greatest fuel efficiency operation. Life-cycle cost (LCOE) analyses predict an average of 60 per cent fuel savings.

Our HPC technology sets new benchmarks in the pursuit of cost-effective power supply for remote regions. Unique OPS features include internal PV maximum power point tracking, diesel generator phase control and balancing as well as sophisticated battery management features. With solar photovoltaic cost reductions, the HPC is ideally positioned to continue its focus on reducing fuel consumption where possible.

The HPC systems are available in single and three phase versions and can enable automated synchronisation of multiple diesel generator sets.

HIGH EFFICIENCY POWER CONVERSION

The internal power topology uses a high performance IGBT based converter with inherently high efficiency. The onboard digital signal processor technology provides ultra fast control of all system functions. The HPC and its derivative products can operate in parallel with similar capacity inverters.

ONBOARD MPPT

The standard HPC includes an internal MPPT which is rated at the inverter power capacity. This ensures that the solar PV energy is fully available to the system for the external load and battery management.

GENSET MANAGEMENT

The HPC can typically manage single or dual generator sets. The generator is used only when the battery is low in storage or the load is becoming too high. Its operational time each day can be controlled in order to achieve quiet times as well as the number of stop / starts. Generator loading is kept within the most efficient ranges to increase fuel efficiency.

BATTERY MANAGEMENT

Lead acid batteries are the common choice of energy storage and the HPC includes a sophisticated multiple stage charging regime for this technology. The charging management will optimise the battery life and ensure cost effective deployment of the available energy reserves.

MONITORING AND CONTROL

Industry standard ethernet ports are provided which allow connection both locally or remotely via RS232 or RS485. OPS provide a range of user-friendly SCADA packages which enable local and remote monitoring and control. Please refer to our OPS-Coms, Site Connect and Site Link for useful software applications.

TYPICAL APPLICATIONS

- Island electrification.
- Remote area power supply.
- Rural banks and offices.
- Rural educational facilities.
- Remote petrol stations.
- Remote commercial buildings.

| | HPC -7.5 | HPC -10 | HPC -12.5 | HPC -15 | HPC -17.5 | HPC -10 | HPC -15 | HPC -20 | HPC -25 | HPC -50 | HPC -75 | HPC -100 | HPC -150 | HPC -200 | HPC -250 | HPC -350 | |
|--------------------------|--------------|------------|--------------|----------------------|----------------------|----------------------|----------------------|---------------|------------|------------|----------------|-------------|--------------------------------------|------------------------|----------------|-------------|------------------------|
| → Output Values | | | | | | | | | | | | | | | | | |
| Phase | 1 | | | | | | 3 | | | | | | | | | | |
| Nominal AC volts | 230 | | | | | | 230/400 | | | | | | | | | | |
| Frequency Hz | 50/60 | | | | | | | | | | | | | | | | |
| → Input Values | | | | | | | | | | | | | | | | | |
| Nominal AC power kW | 7.5 | 10 | 12.5 | 15 | 17.5 | 10 | 15 | 20 | 25 | 50 | 75 | 100 | 150 | 200 | 250 | 350 | |
| Nominal DC volts | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 240 | 240 | 240 | 240 | 360 | 360 | 360 | 360 | |
| Surge 30seconds kW | 11.25 | 15 | 18.75 | 22.5 | 26.25 | 15 | 22.5 | 30 | 37.5 | 75 | 112.5 | 150 | 187.5 | 250 | 312.5 | 437.5 | |
| Inbuilt genset switching | ✓ | | | | | | | | | | | | Genset switching supplied externally | | | | |
| Max genset kW | 11.25 | 15 | 18.75 | 22.5 | 26.25 | 15 | 22.5 | 30 | 37.5 | 75 | 112.5 | 150 | 225 | 300 | 375 | 525 | |
| Typical peak load kVA | 15 | 20 | 25 | 30 | 35 | 20 | 30 | 40 | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 700 | |
| MPPT kW | 7.5 | 10 | 12.5 | 15 | 17.5 | 10 | 15 | 20 | 25 | 50 | 75 | 100 | MPPT supplied externally | | | | |
| MPPT operating range VDC | 150-300 | | | | | | | | 300-600 | | | | MPPT supplied externally | | | | |
| Max PV array volts VDC | 400 | | | | | | | | 750 | | | | MPPT supplied externally | | | | |
| → Standard Features | | | | | | | | | | | | | | | | | |
| Front panel analog meter | - | | | | | | | | ✓ | | | | | | | | |
| Data logging | ✓ | | | | | | | | | | | | | | | | |
| Weight kg | 150 | 200 | 250 | 300 | 300 | 300 | 350 | 400 | 700 | 800 | 900 | 1000 | 1000 | 1200 | 1600 | 2000 | |
| Dimensions H x W x D mm | 1050x585x450 | | | 1250x 585x 450 | 1300x 600x 500 | 1150x 700x 540 | 1200x 800x 600 | 1700x900x1050 | | | 1900x1200x1050 | | 1900x 1300x 1150 | 1900x 1600x 1150 | 1900x2000x1150 | | 1900x 3000x 1150 |
| Warranty years | 5 | | | | | | | | | | | | | | | | |

Contact us today for more information

Email info@optimal-power-solutions.com

www.optimal-power-solutions.com

