OPS

HPC

HYBRID POWER CONDITIONER (HPC SERIES)

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

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 PV 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.

COMMUNICATION, MONITORING AND CONTROL

Industry standard ethernet ports and modems 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 -10	HPC -15	HPC -20	HPC -25	HPC -50	HPC -75	HPC -100	HPC -150	HPC -200	HPC -250	HPC -350
→ Input Values															
Nominal AC power kW	7.5	10	12.5	15	10	15	20	25	50	75	100	150	200	250	350
Nominal DC volts	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	15	22.5	30	37.5	75	112.5	150	187.5	250	312.5	437.5
Max Genset kW	11.25	15	18.75	22.5	15	22.5	30	37.5	75	112.5	150	225	300	375	525
Genset Switching	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖	✖	✖	✖
Typical Peak Load kVA	15	20	25	30	20	30	40	50	100	150	200	300	400	500	700
MPPT kW	7.5	10	12.5	15	10	15	20	25	50	75	100	external	external	external	external
MPPT voltage range	150-225	150-225	150-225	150-225	150-225	150-225	150-225	300-500	300-500	300-500	300-500	0	0	0	0
Max DC Link Voltage	300	300	300	300	300	300	300	650	650	650	650	0	0	0	0
→ Output Values															
Phase	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3
Nominal AC Volts	230	230	230	230	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400	230/400
Frequency Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Inverter output breaker	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔
→ Other															
Digital Signal Processor	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Front panel analog meter	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔
Standard Data Logging	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Weight kg	150	200	250	300	300	350	400	700	800	900	1000	1000	1200	1600	2000
Dimensions H x W x D mm	1030 x 585 x 420	1030 x 585 x 420	1220 x 585 x 420	1220 x 585 x 420	1150 x 700 x 540	1150 x 700 x 540	1150 x 700 x 540	1150 x 700 x 540	1900 x 1000 x 800	1900 x 1200 x 800	1900 x 1300 x 900	1900 x 1600 x 900	1900 x 2000 x 900	1900 x 2000 x 900	1900 x 3000 x 900
Warranty years	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

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