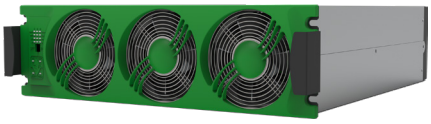
Hercules



Power Conversion System for Local Energy Management

AC
3 x 400 Vac
+ N

DC
408 Vdc

Power
20 kW

20-640 kW

Description

Hercules is a modular AC/DC Power Conversion System (PCS) suited for usage with low voltage batteries (400 Vdc). Its fundamental building block consists in a 20-kW 3-phase converter. It can reach power levels up to 640 kW when assembling 32 such converters. It involves a built-in Battery Management System (BMS) relevant for lead-acid batteries.

It is compatible with Li-Ion batteries providing appropriate software interface customization for specific BMS, e.g., relying on existing CANBUS capabilities. It is also intended to communicate with Energy Management Systems (EMS) providing appropriate software interface customization for specific EMS, e.g., relying on existing SNMP capabilities.

Applications

Hercules focus on the Smartgrid applications for the C&I market. Paired with batteries, the Energy Storage system can optimize your energy bills through:

- Peakshaving
- Increase Self Consumption
- Demand response

Main Features

- Modularity
- Versatile charging
- Battery sustainability
- Harshest AC conditions
- High efficiency, certified by SGS
- Control and monitoring capabilities

Illustrations are non-binding and may include customized fittings.

Hercules 20 kW 408 VDC / 230VAC

General	Hercules Module	Hercules 60	Hercules 200	Hercules 640
MTBF / Cooling	240 000 hrs / Forced			
Efficiency (Typical)	96% certfiied by SGS at 45% load			
True Redundant Systems – compliant	3 disconnection levels on AC out and DC in power ports / 4 disconnection levels on AC in port			
Vibration	GR63 office vibration 0 to 100 hz-0.1 g / transport vibration 5 to100 Hz - 0.5 g, 100 to 500 hz - 1.5 g / Drop test			
Operating conditions	Designed for installation in an IP20 or IP21 environment. When installed in a dusty or corrosive environment, appropriate measures (air filtering, …) must be taken.			
Altitude above sea without de-rating	1500m / Above 1500m : 0.8% de-rating per 100m			
Ambient / storage temperature / relative humidity	-10 to 40 °C / -40 to 70 °C / 95%, non-condensing			
Material (casing)	Coated steel-ALU ZINC-Front plate coated black RAL9005			
Power				
AC Specifications				
Nominal power (VA) / (W)	20 kVA / 20 kW	60 kVA / 60 kW	200 kVA / 200 kW	640 kVA / 640 kW
Short time overload capacity (@PF 0.9)	150% - 15s | 130% - 30s | 120% - 60s | 110% permanent			
Nominal voltage (AC)	3 x 380V / 400V / 415V + Neutral 5 wires			
Voltage range (AC)	150 Vac to 275 Vac line to neutral (derating 150 to 220 Vac)			
Conformity range before transfer to DC	Adjustable			
Power factor	> 99%			
Frequency range (selectable) / synchronization range	50 or 60 Hz / range 30 to 70 Hz adjustable			
DC Battery Specifications				
Nominal voltage (DC)	408 Vdc (204 cells VRLA) or 336 cells (NiCd)			
Voltage range (DC)	336 Vdc to 490 Vdc			
Nominal current (at 408 Vdc)	52 A	156 A	520 A	1664 A
Maximum input current (for 5 second) / voltage ripple	67 A / < 400 m V rms	201 A / < 400 m V rms	670 A / < 400 m V rms	2144 A / < 400 m V rms
Input voltage boundaries	User selectable			
Signaling & Supervision				
Display	Synoptic LED			
Alarms output / Supervision	Dry contacts on MODBUS, TCP-IP and SNMP			
Safety & EMC				
Safety	EN 62040-1-1			
EMC (immunity)	EN 61000-4-2 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-8			
EMC (emission) (class)	EN 55022 (A)			
EN62040-3 performance level	VFI-SS-111			
Cabinets				
Dimensions (W x H x D mm)*	19” x 3U x 515 mm	600 x 2100 x 800		1800 x 2100 x 800
Number of cabinets	N/A	1		3

* Other cabinet heights on demand.