Rectifier & Inverter in one box

Built on HE technology from the Flatpack2 HE rectifier family the Rectiverter 230/1500 220/1200 provides backed up power for 230 V_{AC} loads with minimum losses and footprint.

It is a 3 port device capable of charging the 220V battery and simultaneously provides power for the AC and DC loads. During mains outage the Rectiverter feeds AC loads using energy stored in the battery.

Rectiverter 220V

230/1500 220/1200 & 115/750 220/600

Doc 241123.140.DS3 – v1

APPLICATIONS

POWER UTILITIES

- Switch tripping
- Control & protection systems
- Emergency lightning

RAIL & METRO

- Converter stations
- Power stations

Rectiverter 6kVA single phase power core

Rectiverter 54kVA A+B input system

KEY FEATURES

- UNIQUE 3-IN-1 OPERATION….
  - INVERTER
  - RECTIFIER
  - POWER SOURCE TRANSFER

  ….IN ONE BOX
- MODULAR DESIGN
- HIGH EFFICIENCY
- GLOBAL COMPLIANCE
- PATENTED TECHNOLOGY
- HOT PLUG-ABLE
- VOLTAGE KEYING

115 V_{AC} 750 VA version

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Models / ordering information	230/1500 220/1200	230/1500 220/150	230/1500 220/0	115/750 220/600	115/750 220/75	115/750 220/0
Part number	241123.140	241123.141	241123.142	241123.140L	241123.141L	241123.142L
AC OUTPUT DATA						
Voltage (default) / (adjustable range)[1]	230 V_{AC} / 200 - 240 V_{AC}			115 V_{AC} / 100 - 127 V_{AC}		
Frequency (default inverter mode)	50 Hz (adaptive)			60 Hz (adaptive)		
Frequency (set-able inverter mode)	50Hz, 60Hz or last synced 50/60Hz (adaptive)					
Power maximum (continuous / overload (<15s))	1200 W (1500 VA) / 2000 VA			600 W (750 VA) / 1000 VA		
Load sharing	±5% of active power from 10 to 100% load					
Current maximum (continuous / overload (<15s))	6.5 A_{RMS} / 8.7 A_{RMS}					
Current (maximum) Quick trip (20ms)	32 A (6 x nominal)					
Hold up (Voltage dips) (before switching to battery)	5 ms			5 ms		
THD	< 1.5 % at resistive load					
Protection	Fuse in L, Hot pluggable, Varistor					
DC OUTPUT DATA						
Voltage (default) / (adjustable range)	245 V_{DC} / 194 - 290 V_{DC}					
Power (maximum @nominal input)	1200 W [2]	150 W	0 W	600 W [2]	75 W	0 W
Current (maximum @V_{OUT} ≤ 216 V_{DC})	5.56 A [2]	0.69 A	-	2.78 A [2]	0.34 A	-
Hold up time, maximum output power	>10ms; V_{OUT} > 190 V_{DC} (only in rectifier mode)					
Current sharing (10 - 100% load)	±5% of maximum current from 10 to 100% load					
Static Voltage regulation (10 - 100% load)	±0.5%					
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms					
Ripple	< 1 V_{PP}, 30 MHz bandwidth					
Protection	Short circuit proof, Over voltage shutdown, Reversed polarity and Fuse					
INPUT DATA						
AC Mains Input Voltage (range / LV disconnect)	185 - 275 V_{AC} / 170 V_{AC}			95 - 140 V_{AC} / 85 V_{AC}		
AC Current (maximum)	11.5 A_{RMS}	9.1 A_{RMS} [4]	8.2 A_{RMS} [4]	11.3 A_{RMS}	10.1 A_{RMS} [4]	9.2 A_{RMS} [4]
Frequency (default: sync range)	47-53 & 57-63 Hz			47-53 & 57-63 Hz		
Frequency (set-able: sync range)	47-53 Hz, 57-63 Hz or both (adaptive)					
Power Factor / THD	> 0.99 at 50% load or more / < 3.5%					
AC Input Protection	Fuse in L and N, Hot pluggable, Varistor					
DC Voltage nominal / extended range[3]	204 - 290 V_{DC} / 180 - 204 V_{DC}					
DC Current (maximum)	6.67 A / 9 A during overload (15s)			3.2 A / 4.5 A during overload (15s)		
OTHER SPECIFICATION						
Efficiency	>96% (mains mode (AC/AC and AC/DC)), >94% (inverter mode (DC/AC))					
Isolation	3.85 kV_{DC} - $AC_{IN/OUT}$ to PE, 3.55 kV_{DC} - $AC_{IN/OUT}$ to DC, 4.25 kV_{DC} - $AC_{IN/OUT}$ to CAN/SYNC, 2.2 kV_{DC} - DC to PE, 3.5 kV_{DC} - DC to CAN/SYNC					
Alarms: Red LED Alarm relay [NO max 75 V_{DC} / 100 mA] (AC output **OR** DC output alarms)	Low and high mains input voltage shutdown, High and low temperature shutdown, Rectiverter Failure, Overvoltage shutdown on output, Fan failure, Low output voltage alarm, CAN bus failure, Sync bus lost and Sync fail					
Warnings: Yellow LED	Rectiverter in power de-rate mode or in power or current limit mode on DC or AC port, Remote output current limit activated, Loss of CAN communication with controller					
Normal operation: Green LED	AC output and/or DC output on and ok					
Operating temperature	-40 to +75°C (-40 to +167°F), humidity 5 - 95% RH non-condensing					
Temperature de-rating above 55°C (131°F)	1200W to 480W @ 75°C (167°F) for each, AC and DC, outputs (total power 2000W to 800W)					
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing					
Dimensions[WxHxD] / Weight	109 x 41.5 x 327mm (4.25 x 1.69 x 13") / 1.95 kg (4.3 lbs)					
DESIGN STANDARDS						
Electrical safety	UL 60950-1, UL1778, EN 60950-1, EN 62040-1					
EMC	EN 61000-6-1 /-2/-3/-4, IEC 61000-6-5, EN 50121-2 /-4/-5 [4], ETSI EN 300 386 V.2.1.1 EN 62040-2 (cat.C1 emissions, cat.C2/C3 immunity), FCC CFR 47 Part 15					
Environment	ETSI EN 300 019: 2-1 (Class 1.2) & 2-2 (Class 2.3) / 2011/65/EU (RoHS) & 2012/19/EU (WEEE) Normal operating conditions as per IEC/EN 62040-3:2011 clause 4.2. Other operating conditions as per IEC 62040-3:2011 clause 4.3, must be advised					

1) AC load has priority. Maximum available DC output power and current is dependent on instant AC load and AC input voltage; i.e maximum 800W/7.4A at full AC power and nominal input for 230VAC.
2) If DC port is overloaded pulling the voltage below 194V the input current may increase above this level.
3) Reduced performance - no over load support, and for 200 - 240 VAC output THD will increased and maximum output power de-rates (to 970W for 230 VAC @ 180 VDC)
4) to meet surge requirement of 4kV external surge protection is needed on AC input

Specifications are subject to change without notice