Rectifier & Inverter in one box

Built on HE technology from the Flatpack2 HE rectifier family the Rectiverter 230/1500 48/1200 provides backed up power for 230 V_{AC} loads with minimum losses and footprint.

It is a 3 port device capable of charging the 48V 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 48V

230/1500 48/1200 & 115/750 48/600

Doc 241123.100.DS3 – v1.1

APPLICATIONS

TELECOM

- LTE/4G/WiMAX
- Distributed antenna system
- Broadband

POWER UTILITIES

- Switch tripping and SCADA
- Low & High voltage switchgear
- Transformer & SUB stations
- Power Generation & Distribution
- Control & protection
- SCADA system

RAILWAY & METRO INFRASTRUCTURE

- Signaling and communications
- Control centers

MARINE

- Communication onboard ships

Rectiverter 6kVA single phase power core

Rectiverter 18kVA 3-phase power core

KEY FEATURES

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

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

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Models / ordering information	230/1500 48/1200	230/1500 48/150	230/1500 48/0	115/750 48/600	115/750 48/75	115/750 48/0
Part number	241123.100	241123.101	241123.102	241123.100L	241123.101L	241123.102L
AC OUTPUT DATA						
Voltage (default) / (adjustable range)	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 and N, Hot pluggable					
DC OUTPUT DATA						
Voltage (default) / (adjustable range)	53.5 V_{DC} / 43 - 58 V_{DC}					
Power (maximum @nominal input)	1200 W [1]	150 W	0 W	600 W [1]	75 W	0 W
Current (maximum @V_{OUT} ≤ 48 V_{DC})	25 A [1]	3.13 A	-	12.5 A [1]	1.56 A	-
Hold up time, maximum output power	>10ms; V_{OUT} > 41 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	< 200 mV_{PP} , 30 MHz bandwidth					
Protection	Short circuit proof, Over voltage Shutdown, ORing FET 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} [2]	8.2 A_{RMS} [2]	11.3 A_{RMS}	10.1 A_{RMS} [2]	9.2 A_{RMS} [2]
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	> 0.985 at 50% load or more / < 3.5%					
AC Input Protection	Fuse in L and N, Hot pluggable, Varistor					
DC Voltage nominal / extended range[3]	45 - 58 V_{DC} / 40 - 45 V_{DC}					
DC Current (maximum)	32 A / 45A during overload (15s)			16 A / 22.5A during overload (15s)		
OTHER SPECIFICATION						
Efficiency	>96% (mains mode (AC/AC and AC/DC)), >94% (inverter mode (DC/AC))					
Isolation	3 kV_{DC} - AC_{Ports} to PE, 3.6 kV_{AC} - AC_{Ports} to DC_{Port}, 710 V_{DC} - DC_{Port} to PE					
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, 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 ETSI EN 300 386 V.1.6.1, FCC CFR 47 Part 15					
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant					

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/16.6A at full AC power and nominal input for 230V_{AC}.

2) If DC port is overloaded pulling the voltage below 43V the input current may increase above this level

3) Reduced performance - no over load support, maximum output power de-rates to 970W (230 V_{AC}) and 470 W (115 V_{AC}) and increased voltage THD on AC output.

Specifications are subject to change without notice