Rectiverter Power Core 110 VDC 6 kVA 1ph MB

The Rectiverter power core combines both AC and DC feed into one common unit. Simultaneously it provides AC backup power for 230 VAC or 115 VAC loads, and 110 VDC power for DC loads and battery charging.

The total output power for both AC and DC output is limited to max 8 kW. AC and DC output limits can be set according to the attached load, where the limitation for AC load is set to max 6 kVA and for DC load to max 4,8 kW

Rectiverter Power Core 110VDC 6 kVA 1ph MB

Up to 6 kVA AC & up to 4,8 kW 110 VDC output

Doc CIOR0405110.DS3 – rev1

MODULAR ARCHITECTURE

RECTIVERTER MODULE

The 3 port converter simultaneously provides power for AC and DC loads. During mains outage the Rectiverter 110/1200 HE feeds AC loads using energy stored in the battery.

The modular architecture, industry-leading efficiency, compact size, innovative design and comprehensive monitoring and control features provide significant benefits over the current industry standard.

Rectiverter Module

APPLICATIONS

POWER UTILITIES

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

OFFSHORE AND PROCESS INDUSTRY

- Safety and Automation Systems (SAS)

MARINE

- Communication onboard ships

RAILWAY & METRO INFRASTRUCTURE

- Control & protection
- Signaling

TELECOM-MOBILE/WIRELESS

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

KEY FEATURES

- 230 OR 115 VAC INPUT/OUTPUT
- SINGLE PHASE INPUT/OUTPUT
- 110 VDC INPUT/OUTPUT
- 8 KW TOTAL AC + DC OUTPUT
- MAX 6 KVA AC OUTPUT
- MAX 4,8 KW DC OUTPUT
- 1 POLE AC DISTRIBUTION OPTION
- 2 POLE AC DISTRIBUTION OPTION
- BUILT IN MANUAL BYPASS SWITCH
- BUILT IN TRANSFER TECHNOLOGY
- 150% OVERLOAD CAPABILITY, 15S
- 600% QUICK TRIP CURRENT, 20MS
- HOT PLUGGABLE
- SMARTPACK 2 CONTROLLER
- CAN OPERATE IN PARALELL WITH FLATPACK2 RECTIFIERS
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

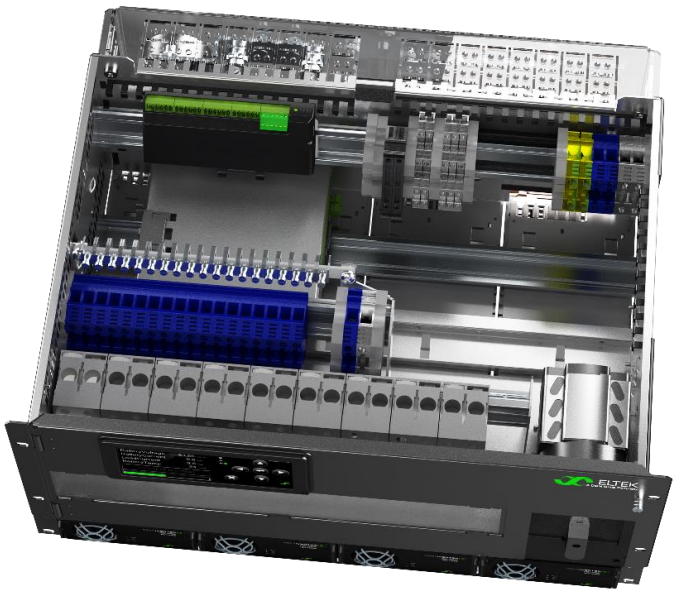
Rectiverter Power Core 110 VDC 6kVA 1ph MB

Doc CIOR0405110.DS3 – rev1

MODEL	8 KW / 4 KW
Product family	CIOR0405.1xxx
INPUT DATA	
Voltage range AC	185-275 / 95-140 V
Voltage range DC	90-145 V
Maximum current AC	28-48 A
Frequency	47-53/57-63 Hz
Power factor	> 0.99
OUTPUT DATA	
Adjustable range AC	200-240 / 100-127 V
Adjustable range DC	97-145 V
Max output power AC	6,0 / 3,0 kVA
Max output power DC	4,8 / 2,4 kW
Power factor	0,8
Frequency	50Hz, 60 Hz
OTHER SPECIFICATIONS	
Manual bypass switch	63 A
1 pole AC distribution (option)	1-18 pc, 2-10 A, C

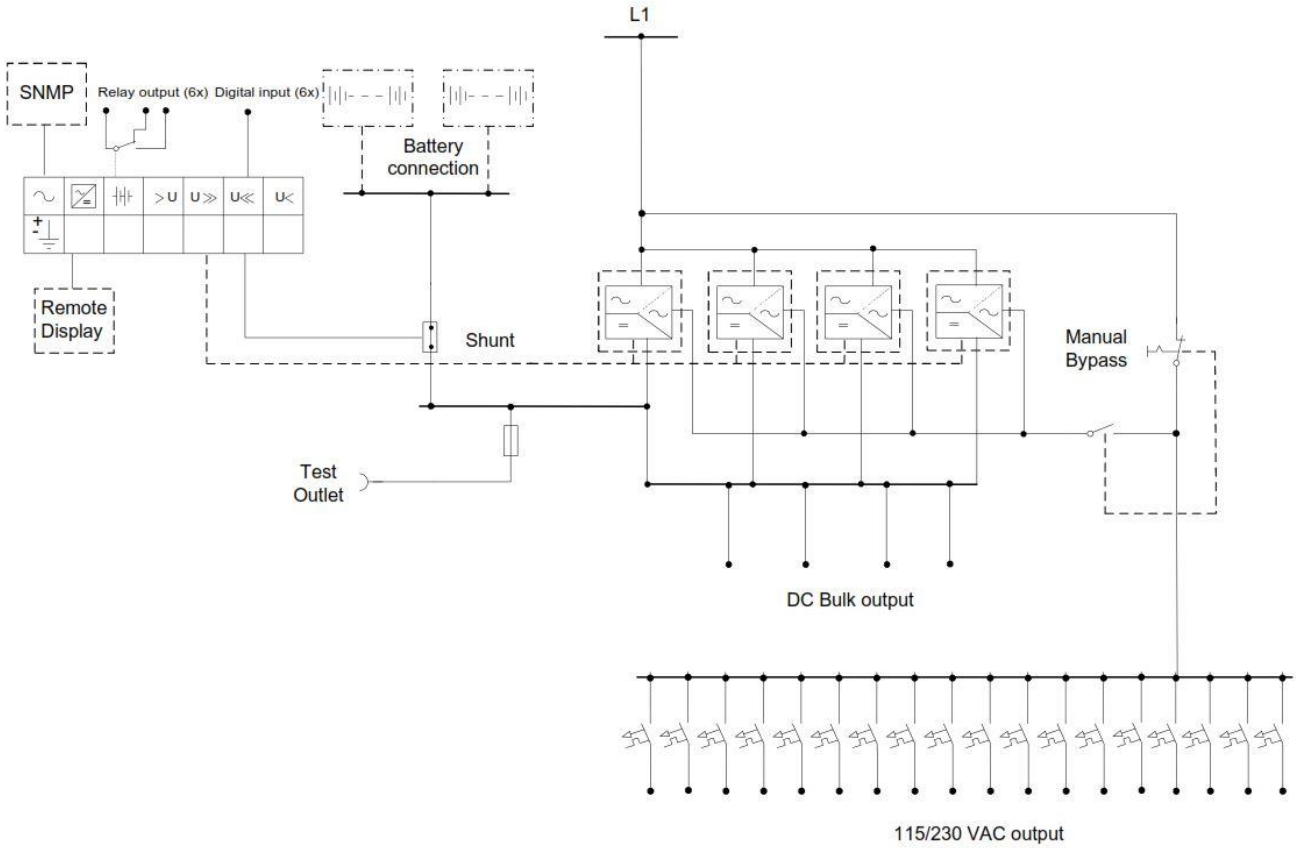
Specifications are subject to change without notice

TOP VIEW WITH OPTIONAL 1 POLE DISTRIBUTION



Rectiverter 6 kVA single phase power core

SINGLE LINE WITH OPTIONAL 1 POLE DISTRIBUTION



Rectiverter Power Core 110 VDC 6kVA 1ph MB

Doc CIOR0405110.DS3 – rev1

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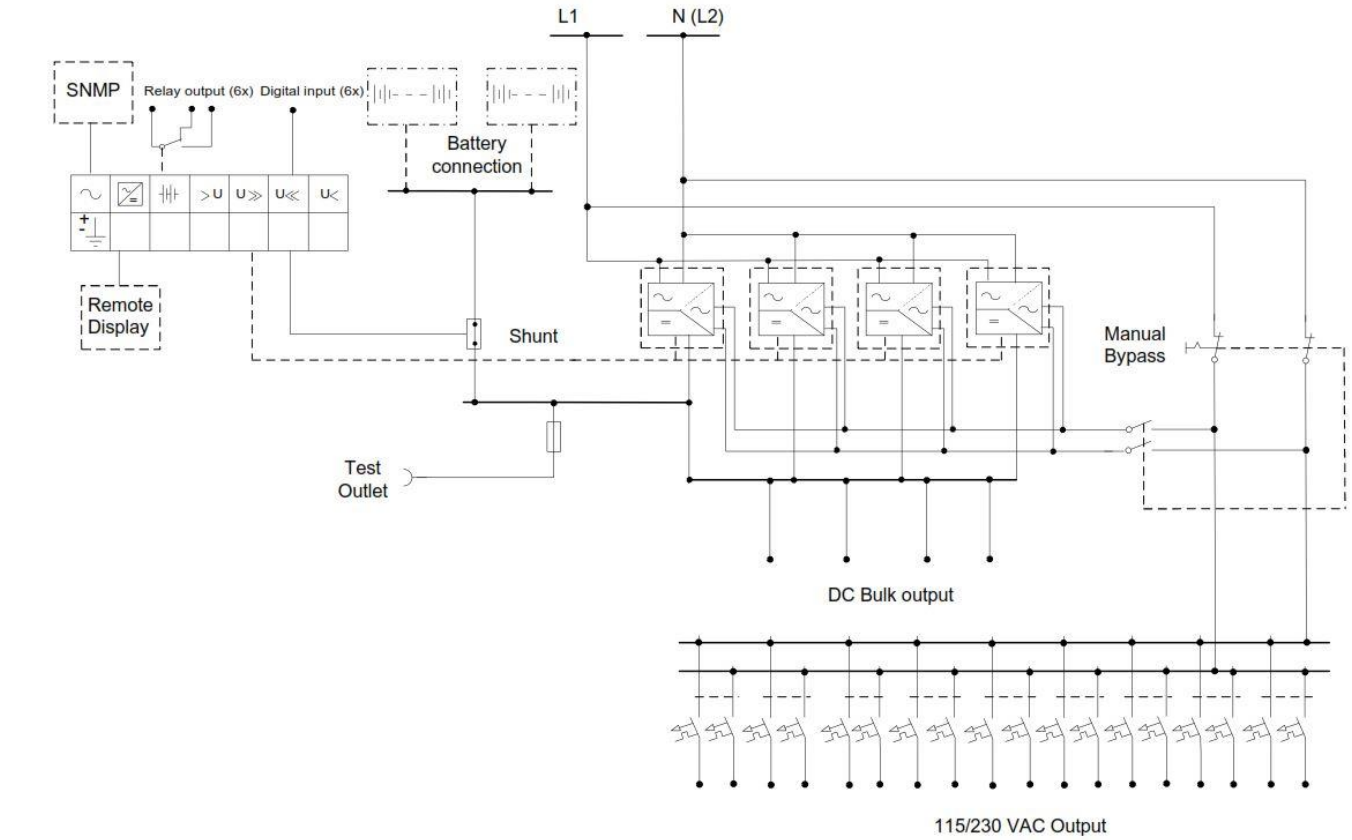
Voltage range DC	90-145 V
Maximum current AC	28-48 A
Frequency	47-53/57-63 Hz
Power factor	> 0.99
OUTPUT DATA	
Adjustable range AC	200-240 / 100-127 V
Adjustable range DC	97-145 V
Max output power AC	6,0 / 3,0 kVA
Max output power DC	4,8 / 2,4 kW
Power factor	0,8
Frequency	50Hz, 60 Hz
OTHER SPECIFICATIONS	
Manual bypass switch	63 A
2 pole AC distribution (option)	1-9 pc, 2-10 A, C

Specifications are subject to change without notice

TOP VIEW WITH OPTIONAL 2 POLE DISTRIBUTION

Rectiverter 6 kVA single phase power core

SINGLE LINE WITH OPTIONAL 2 POLE DISTRIBUTION



Rectiverter Power Core 110 VDC 6kVA 1ph MB

Doc CIOR0405110.DS3 – rev1

Models / ordering information	8 kW, 230 V	4 kW, 115 V
Product family	CIOR0405.1xxx	CIOR0405.1xxx
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))	4800 W (6000 VA) / 8000 VA	2400 W (3000VA) / 4000 VA
Load sharing	±5% of active power from 10 to 100% load	
Current maximum (continuous / overload (<15s))	26A_{RMS} / 34,8A_{RMS}	
Current (maximum) Quick trip (20ms)	120A (6 x nominal)	
Hold up (Voltage dips) (before switching to battery)	> 5 ms @ 4800W load	> 5 ms @ 2400W load
THD	< 1.5 % at resistive load	
Output features	Fuse in L and N, Hot pluggable	
DC OUTPUT DATA		
Voltage (default) / (adjustable range)	122,5 V_{DC} / 97 - 145 V_{DC}	
Power (maximum @nominal input)	4800 W [2]	2400 W [2]
Current (maximum @V_{OUT} ≤ 108 V_{DC})	44,5 A [2]	22,2 A [2]
Hold up time, maximum output power	>10ms; V_{OUT} > 97 V_{DC}	
Static Voltage regulation (10-100% load)	±0.5%	
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms	
Output features	Short circuit proof, Over voltage Shutdown, Bulk DC output connection to M8 bolt	
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 (at nominal output voltage) (depending on module type)	28-48 A_{RMS} [4]	
Frequency (default: sync range)	47-53 & 57-63 Hz	57-63 & 47-53 Hz
Frequency (set-able: sync range)	47-53 Hz, 57-63 Hz or both (adaptive)	
Power Factor / THD	> 0.99 at 70% load or more / < 3.5%	
DC Voltage nominal / extended range (no overload)[3]	102 - 145 V_{DC} / 90 - 102 V_{DC}	
DC Current (maximum)	50 A / 72 A during overload (15s)	25 A / 36 A during overload (15s)
Input features	Fuse in L and N, Hot pluggable, Varistor, Hot pluggable AC input individual screw terminals 10 mm2 for L, N & PE Bulk DC input connection to M8 bolt Bulk DC battery connection to M8 bolt	
OPTIONS		
Control and monitoring (see Smartpack2 datasheet)	Smartpack2, including industrial basic & I/O monitor type 2	
1 pole AC distribution (connection directly on MCB)	1-18 pc, 2-10A, C characteristics	
2 pole AC distribution (connection directly on MCB)	1-9pc, 2-10A, C characteristics	
OTHER SPECIFICATION		
Efficiency	>96% (mains mode), >95% (inverter mode)	>93% (mains mode), >92% (inverter mode)
Manual bypass switch	63 A (make before break)	
Protection Class	IP 20	
Operating temperature	-40 to +55°C (-40 to +131°F), humidity 5 - 95% RH non-condensing	
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing	
Dimensions[WxDxH] / Weight	482 x 432 x 222mm (5U) (19 x 17 x 8,8") / 16kg (35 lbs)	
DESIGN STANDARDS		
Electrical safety	EN 60950-1, EN 62040-1	
EMC	ETSI EN 300 386 V.1.6.1, FCC CFR 47 Part 15 EN 61000-6-1/-2/-4/-5 EN62040-2 (Cat C1 emmisions, cat C2/C3 immunity)	
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.2) & 2-3 (Class 3.2) RoHS (2011/65/EU) and WEEE (2012/96/EC) compliant	

1) Output voltage ranges configured in factory and have individual keying in top chassis
3) 90-102 V_{DC}: reduced performance - no power boost and increased voltage THD on AC output.
2) AC load has priority. Maximum **available** DC output power and current is dependent on instant AC load and AC input voltage; i.e maximum 3200W/29 A at full AC power and nominal input for 230V_{AC}.
4) If DC voltage is pulled below 97 V the input current may increase above this level

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