

Rectiverter 2U, 6kVA Integrated System

The Rectiverter 2U 19" Integrated System can be used as a standalone system with bulk AC & DC outputs in telecom applications where a 230/115 V_{AC} and 48 V_{DC} backup is needed.

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

As additional options, the measuring and signaling can be widely extended with the I/O Monitor CAN node.



Rectiverter 2U, 6kVA Integrated System

48 V_{DC} Systems with Smartpack2 Touch & Basic

DOC. NO: CIOR040248.DS3, rev1

MODULAR ARCHITECTURE

RECTIVERTER MODULE

The 3 port converter simultaneously provides power for AC and DC loads. During mains outage the Rectiverter 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

- COMPACT DESIGN AND SIMPLE INSTALLATION
- SINGLE PHASE 230 OR 115 V_{AC} INPUT/OUTPUT
- 48 V_{DC} INPUT/OUTPUT
- HOUSE UP TO 4 RECTIVERTER MODULES
- 8 KW TOTAL AC + DC OUTPUT
- MAX 6 kVA AC OUTPUT
- MAX 4,8 kW DC OUTPUT
- BULK FEED OUTPUTS AC + DC
- BUILT IN TRANSFER TECHNOLOGY
- 150 % OVERLOAD CAPABILITY, 15 s
- 600 % QUICK TRIP CURRENT, 20 ms
- HOT PLUGGABLE
- SMARTPACK2 TOUCH CONTROLLER
- PROGRAMMABLE MULTIPURPOSE INPUTS AND OUTPUTS

Rectifier Integrated 2U 19"

Doc CIOR040248.DS3 – rev1

MODEL 48 V_{DC} 8 kW / 4 kW

Product family CIOR0402.1xxx

INPUT DATA

Voltage range AC 185-275 / 95-140 V_{AC}

Voltage range DC 45-58 V_{DC}

Maximum current AC 32,8-46 A

Frequency 47-53 / 57-63 Hz

Power factor > 0,99

OUTPUT DATA

Adjustable range AC 200-240 / 100-127 V_{AC}

Adjustable range DC 43-58 V_{DC}

Max output power AC 6,0 / 3,0 kVA

Max output power DC 4,8 / 2,4 kW

Power factor 0,8

Frequency 50 Hz, 60 Hz

OTHER SPECIFICATIONS

Control unit (master) SP2 Touch

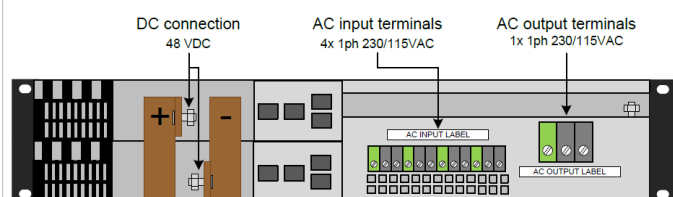
Control unit (basic) SP2 Basic

CAN node I/O Type 2

FRONT VIEW – RECTIFIER INTEGRATED 2U

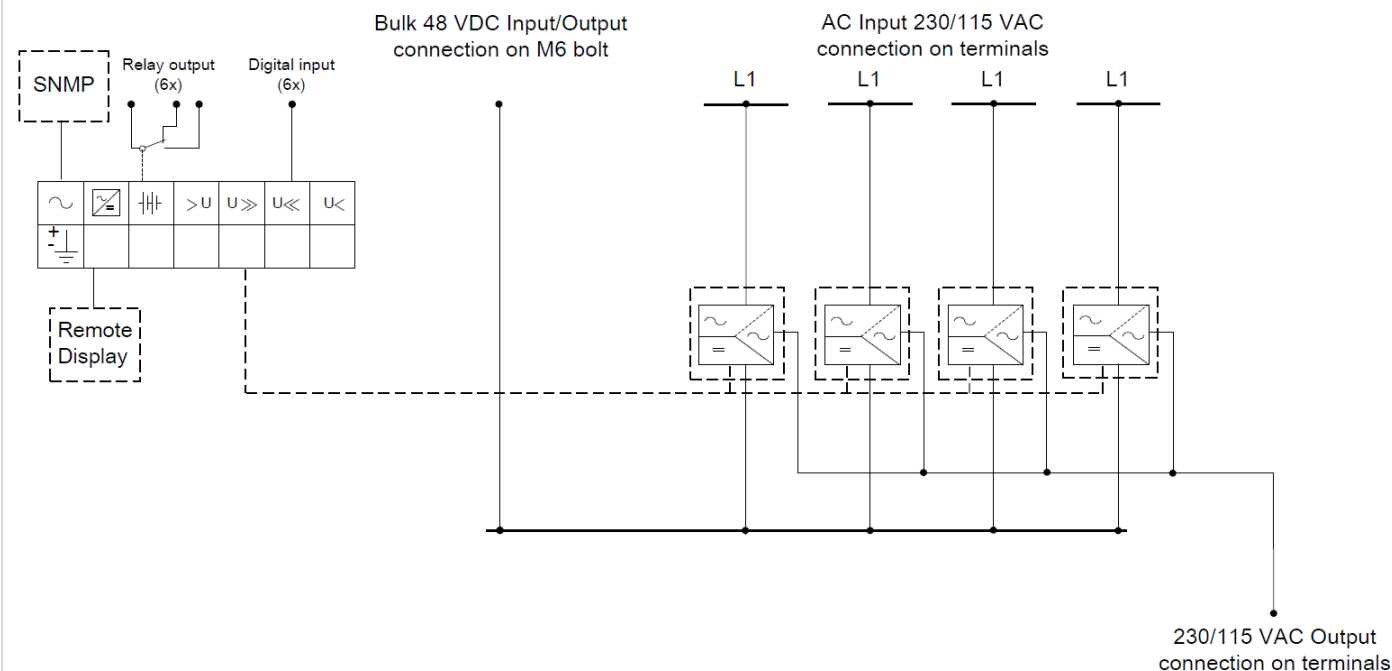


REAR VIEW – RECTIFIER INTEGRATED 2U



Specifications are subject to change without notice

SINGLE LINE FOR 48 V_{DC} WITH SMARTPACK2 TOUCH & BASIC



Rectifier Integrated 2U 19"

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Models	8 kW, 230 V _{AC}	4 kW, 115 V _{AC}
Product family	CIOR0402.1xxx	CIOR0402.1xxx
AC OUTPUT DATA		
Voltage (default) / (adjustable range) ¹⁾	230 V _{AC} / 200-240 V _{AC}	115 V _{AC} / 100-127 V _{AC}
Frequency (inverter mode – default)	50 Hz (adaptive)	60 Hz (adaptive)
Frequency (inverter mode – settable)	50 Hz, 60 Hz or last synced 50 / 60 Hz (adaptive)	
Power maximum (continuous / overload <15s)	4800 W (6000 VA) / 8000 VA	2400 W (3000 VA) / 4000 VA
Current maximum (continuous / overload <15s)	26 A _{RMS} / 34,8 A _{RMS}	
Current (maximum) quick trip (20ms)	128 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)	53,5 V _{DC} / 43-58 V _{DC}	
Power (maximum @nominal input)	4800 W ²⁾	2400 W ²⁾
Current (maximum @V _{OUT} ≤ 108 V _{DC})	100 A ²⁾	50 A ²⁾
Current sharing (10 - 100% load)	±5 % of maximum current from 10 to 100 % load	
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 - depends on module type)	32,8-46 A _{RMS} ³⁾	36,8-45,2 A _{RMS} ³⁾
Frequency (default: sync range)	47-53 & 57-63 Hz	57-63 & 47-53 Hz
Frequency (settable: 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 ⁴⁾	45-58 V _{DC} / 40-45 V _{DC}	
DC Current (maximum)	128 A / 180 A during overload (15 s)	64 A / 90 A during overload (15 s)
Input features	Fuse in L and N, Hot pluggable, Varistor AC input individual screw terminals 4 mm ² for L, N & PE (4x single phase)	
OPTIONS		
Control and Monitoring (master unit)	Smartpack2 Touch	
Control and Monitoring (basic unit)	Smartpack2 Basic	
Controller CAN node	I/O Monitor T2	
AC distribution	AC output individual screw terminals 10 mm ² for L, N & PE (1x single phase)	
DC distribution	DC bulk connection on 2x M6 bolt	
OTHER SPECIFICATION		
Efficiency	> 96 % (mains mode), > 94 % (inverter mode)	> 92 % (mains mode), > 91 % (inverter mode)
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 [W x D x H]	482 x 400 x 89 mm (2U) (19 x 15,7 x 3,5 inch)	
Weight	9,4 kg (20,7 lbs)	
DESIGN STANDARDS		
Electrical safety	EN 60950-1, EN 62040-1 UPS safety	
EMC	ETSI EN 300 386 V2.1.1, FCC CFR 47 Part 15	
	EN 62040-2 EN 61000-6-1/-2/-3/-4/-5	
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) Normal operating conditions as per IEC 62040-3:2011 clause 4.2. Other operating conditions as per IEC 62040-3:2011 clause 4.3, must be advised RoHS 3 (2015/863/EU) and WEEE (2008/98/EC) compliant	

1) Output voltage ranges configured in factory and have individual keying in top chassis

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 3200 W / 66,4 A at full AC power and nominal input for 230 V_{AC}.

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

4) Reduced performance - no over load support, and for 200-240 V_{AC} output THD will increased and maximum output power de-rates (to 970 W for 230 V_{AC} @ 40 V_{DC})

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