

Rectifier Power Core 6 kVA 1ph

The Rectifier building block combines both AC and DC feed into one common unit. Simultaneously it provides AC backup power for 230 V_{AC} or 115 V_{AC} loads, and 48 V_{DC} 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



Rectifier Power Core 6 kVA 1ph

Up to 6 kVA AC & up to 4,8 kW 48 VDC output

Doc CTR0405.DS3 – rev2

MODULAR ARCHITECTURE

RECTIFIER MODULE

The 3 port converter simultaneously provides power for AC and DC loads. During mains outage the Rectifier 48/1200 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.



Rectifier Module

APPLICATIONS

TELECOM-MOBILE/WIRELESS

- LTE/4G/WiMAX
- Distributed antenna system
- Broadband
- Radio base stations/cell sites
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RAILWAY & METRO INFRASTRUCTURE

- Control & protection
- Signaling
- GSM-R
- Safety Systems
-

POWER UTILITIES

- Control & protection
- SCADA system

KEY FEATURES

- 230 OR 115 V_{AC} INPUT/OUTPUT
- SINGLE PHASE INPUT/OUTPUT
- 48 V_{DC} 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
- -48 V_{DC} DISTRIBUTION OPTION
- BUILT IN TRANSFER TECHNOLOGY
- 150% OVERLOAD CAPABILITY, 15S
- 600% QUICK TRIP CURRENT, 20MS
- HOT PLUGGABLE
- SMARTPACK 2 CONTROLLER
- SMARTPACK S CONTROLLER
- CAN OPERATE IN PARALLEL WITH FLATPACK2 RECTIFIERS
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

Rectifier Power Core 6kVA, 1ph

Doc CTOR0405.DS3 – rev2

MODEL	8 kW / 4 kW
Part number	CTOR0405.4xxx
INPUT DATA	
Voltage range AC	185-275 / 95-140 V
Voltage range DC	40-58 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	43-58 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	
1 pole AC distribution (option)	1-10 pc, 2-10 A, C
-48 V _{DC} distribution (option)	1-8 pc, 2-63 A
SPD on AC output (option)	OVP class 2

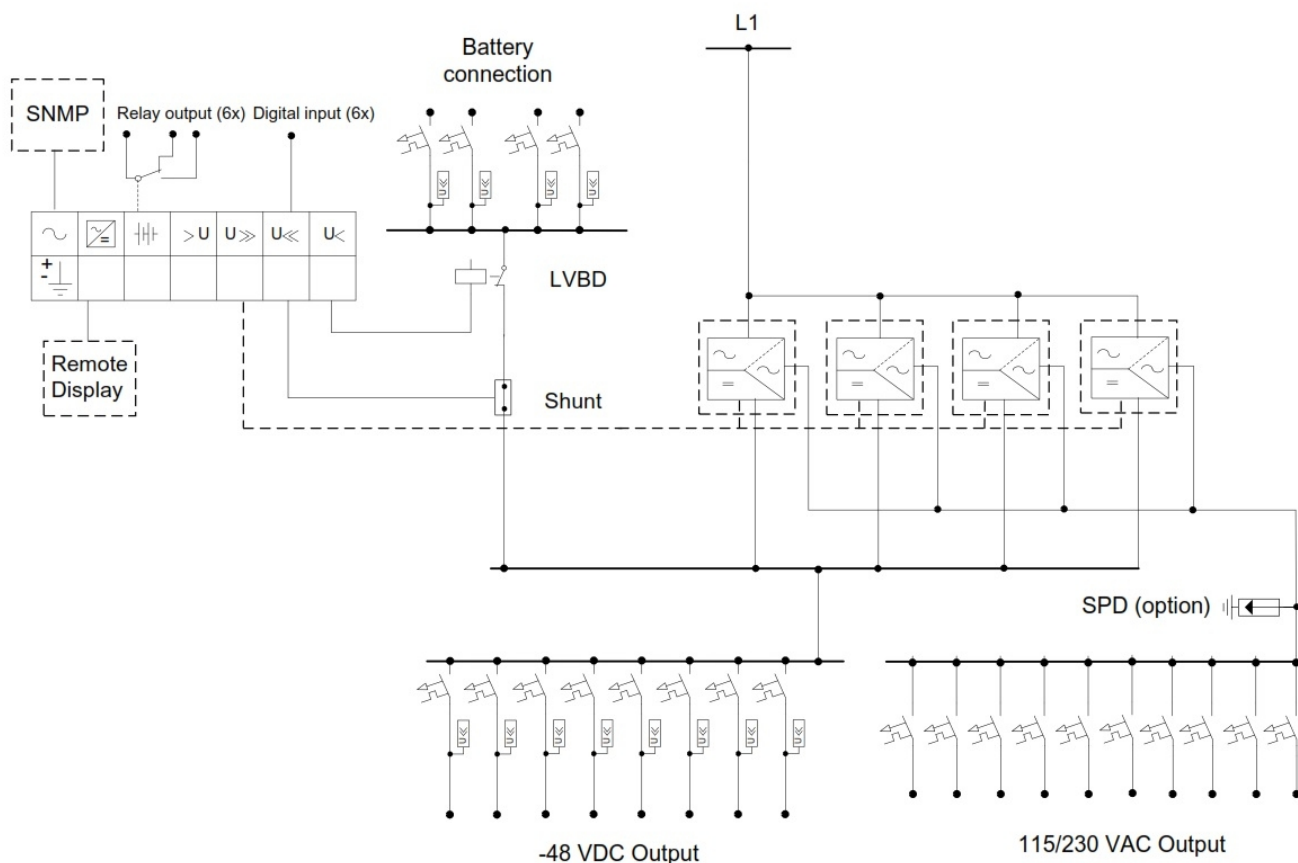
Specifications are subject to change without notice

FRONT VIEW WITH DISTRIBUTION OPTION 1



Rectifier 6 kVA single phase power core

SINGLE LINE WITH DISTRIBUTION OPTION 1



Rectifier Power Core 6kVA, 1ph

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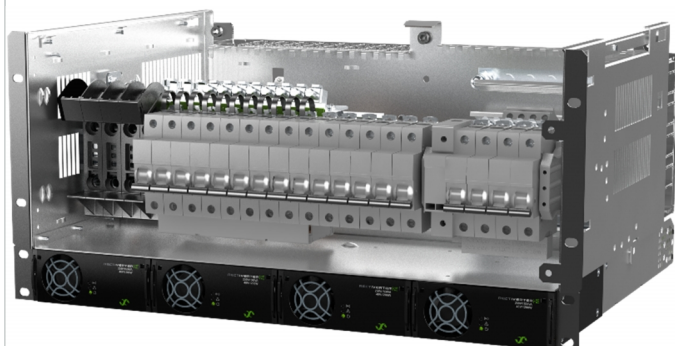
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Power factor	0,8
Frequency	50Hz, 60 Hz

OTHER SPECIFICATIONS

1 pole AC distribution (option)	1-4 pc, 2-10 A, C
-48 V _{DC} distribution (option)	1-14 pc, 2-63 A
SPD on AC output (option)	OVP class 2
LVLD on DC distribution (option)	On MCB 9-14

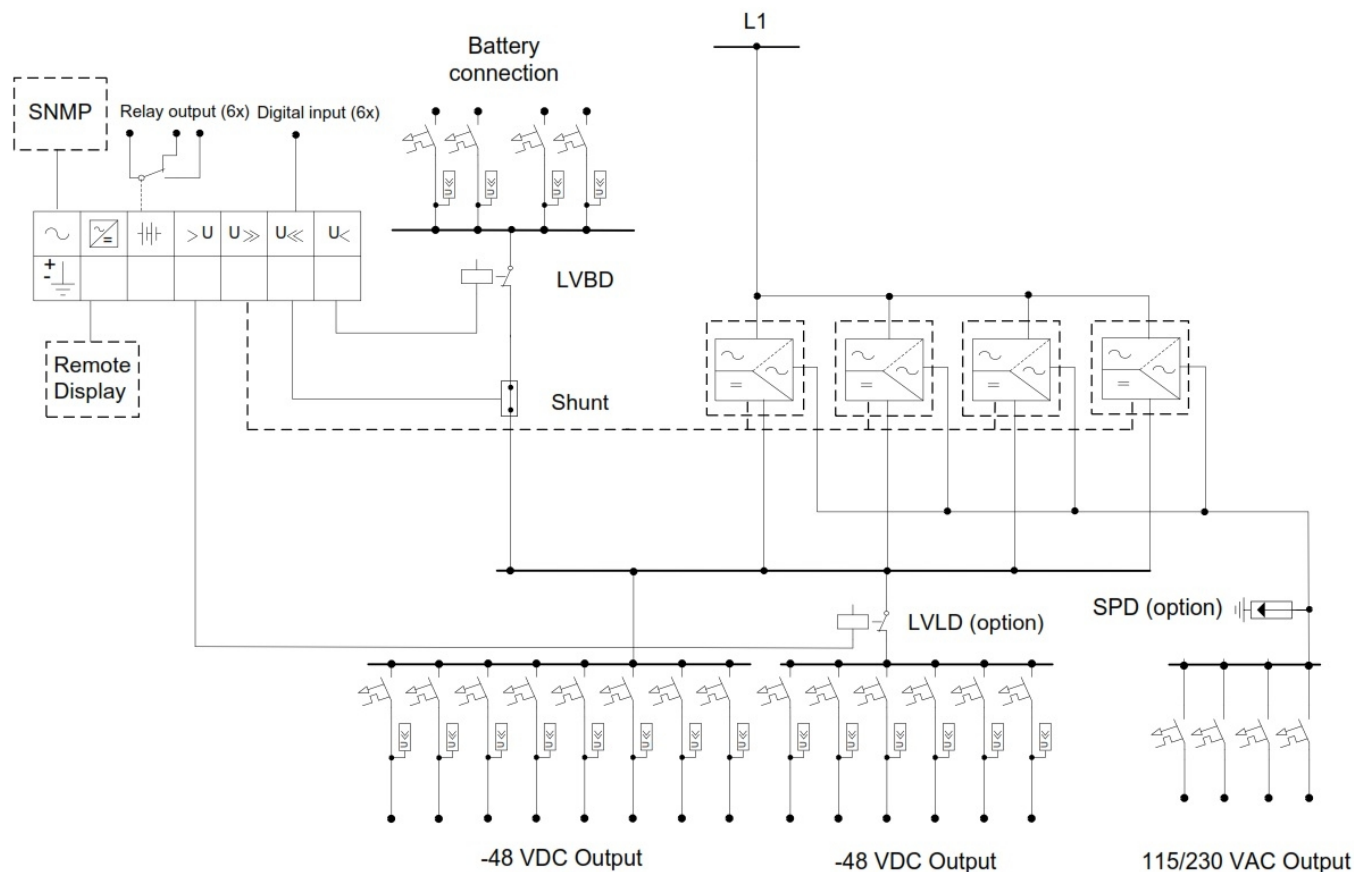
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FRONT VIEW WITH DISTRIBUTION OPTION 2



Rectifier 6 kVA single phase power core

SINGLE LINE WITH DISTRIBUTION OPTION 2



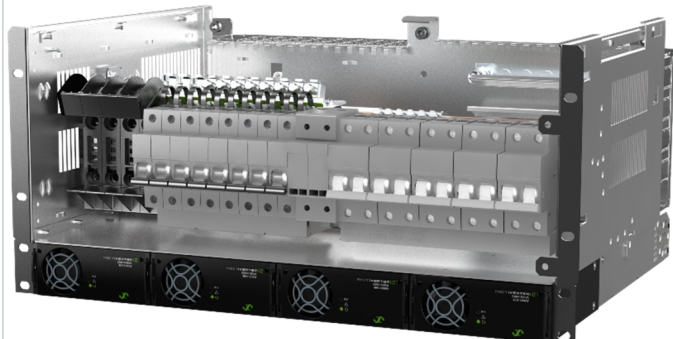
Rectifier Power Core 6kVA, 1ph

Doc C TOR0405.DS3 – rev2

MODEL	8 kW / 4 kW
Part number	CTOR0405.4xxx
INPUT DATA	
Voltage range AC	185-275 / 95-140 V
Voltage range DC	40-58 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	43-58 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	
2 pole AC distribution (option)	1-5 pc, 2-10 A, C
-48 V _{DC} distribution (option)	1-8 pc, 2-63 A
SPD on AC output (option)	OVP class 2

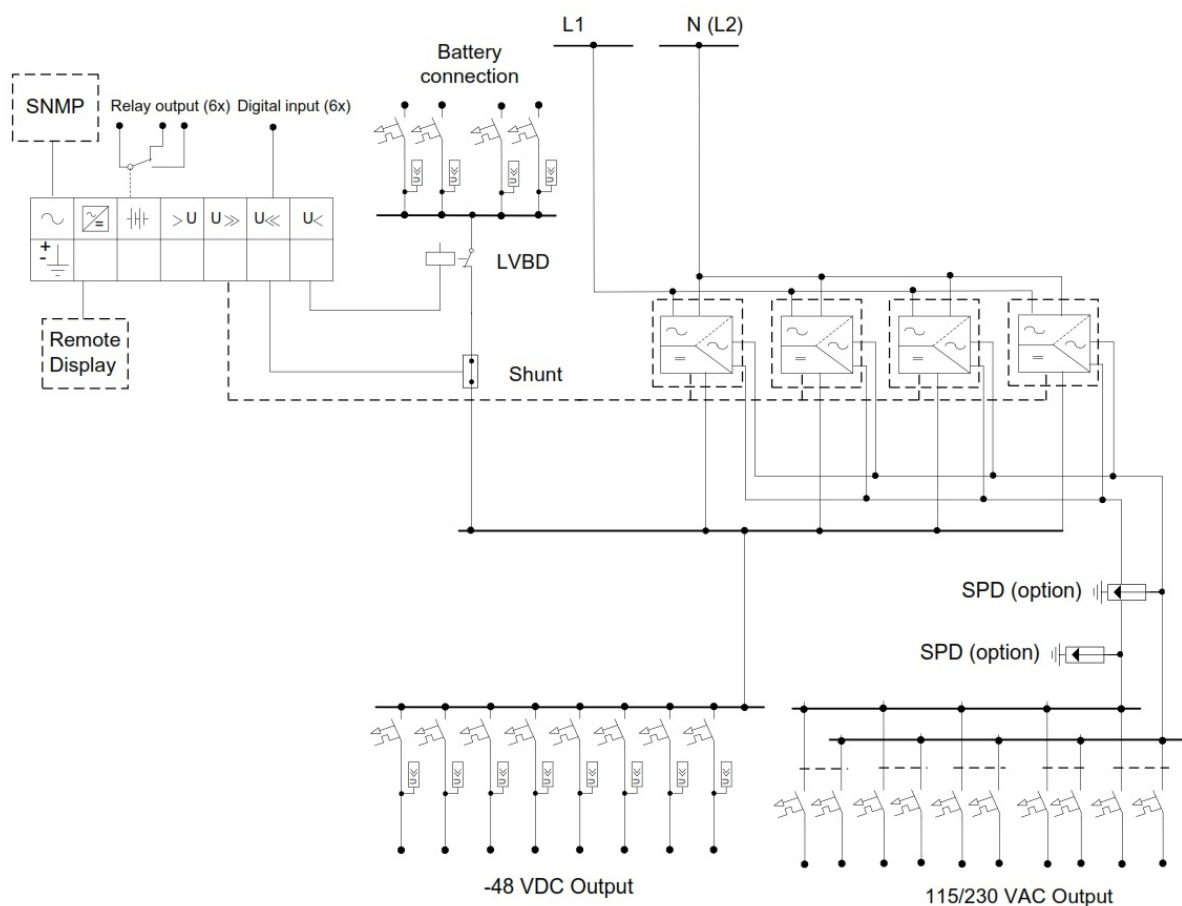
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FRONT VIEW WITH DISTRIBUTION OPTION 3



Rectifier 6 kVA single phase power core

SINGLE LINE WITH DISTRIBUTION OPTION 3



Rectifier Power Core 6kVA, 1ph

Doc CTR0405.DS3 – rev2

Models / ordering information		8 kW, 230 V	4 kW, 115 V
Product family		CTOR0405.4xxx	CTOR0405.4xxx
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
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)		53.5 V _{DC} / 43 - 58 V _{DC}	
Power (maximum @nominal input)		4800 W ²⁾	2400 W ²⁾
Current (maximum @V _{OUT} ≤ 48 V _{DC})		100 A ²⁾	50 A ²⁾
Hold up time, maximum output power		>10ms; V _{OUT} > 41 V _{DC}	
Output features		Short circuit proof, Over voltage Shutdown	
INPUT DATA			
AC Mains Input Voltage (single phase)		185 - 275 V _{AC} ,	95 - 140 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 50% load or more / < 3.5%	
DC Voltage nominal / extended range (no overload) ³⁾		45 - 58 V _{DC} / 40 - 45 V _{DC}	
DC Current (maximum)		128 A / 180A during overload (15s)	64 A / 90A 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 Battery breaker (plug-in type) 4*100 A positions LVBD default 300 A	
OPTIONS			
Control and monitoring (see Smartpack datasheet)		Smartpack2 or Smartpack S panel mount	
LVLD		300 A	
1 pole AC distribution (L connection directly on MCB)		1-10 pc, 2-10A, C characteristics (depending on distribution option)	
2 pole AC distribution (connection directly on MCB)		1-5pc, 2-10A, C characteristics (depending on distribution option)	
SPD on AC output		OVP class 2	
-48 V _{DC} distribution (connection directly on MCB)		1-14pc, 2-63A, (depending on distribution option)	
OTHER SPECIFICATION			
Efficiency		>96% (mains mode (AC/AC and AC/DC)), >94% (inverter mode (DC/AC))	
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 UPS safety	
EMC		ETSI EN 300 386 V.1.6.1, FCC CFR 47 Part 15 EN 61000-6-1 /-2/-3/-4	
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) Output voltage ranges configured in factory and have individual keying in top chassis
3) 40 - 45 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/65 A at full AC power and nominal input for 230V_{AC}.
4) If DC voltage is pulled below 43V the input current may increase above this level

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