

# 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<sub>AC</sub> or 115 V<sub>AC</sub> loads, and 48 V<sub>DC</sub> 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 CTOR0405.DS3 – rev1

### 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
- 

#### RAILWAY & METRO INFRASTRUCTURE

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

#### POWER UTILITIES

- Control & protection
- SCADA system

### KEY FEATURES

- 230 OR 115 V<sub>AC</sub> INPUT/OUTPUT
- SINGLE PHASE INPUT/OUTPUT
- 48 V<sub>DC</sub> 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<sub>DC</sub> 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 PARALELL WITH FLATPACK2 RECTIFIERS
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

# Rectifier Power Core 6kVA, 1ph ELTEK

A Delta Group Company

Doc CTOR0405.DS3 – rev1

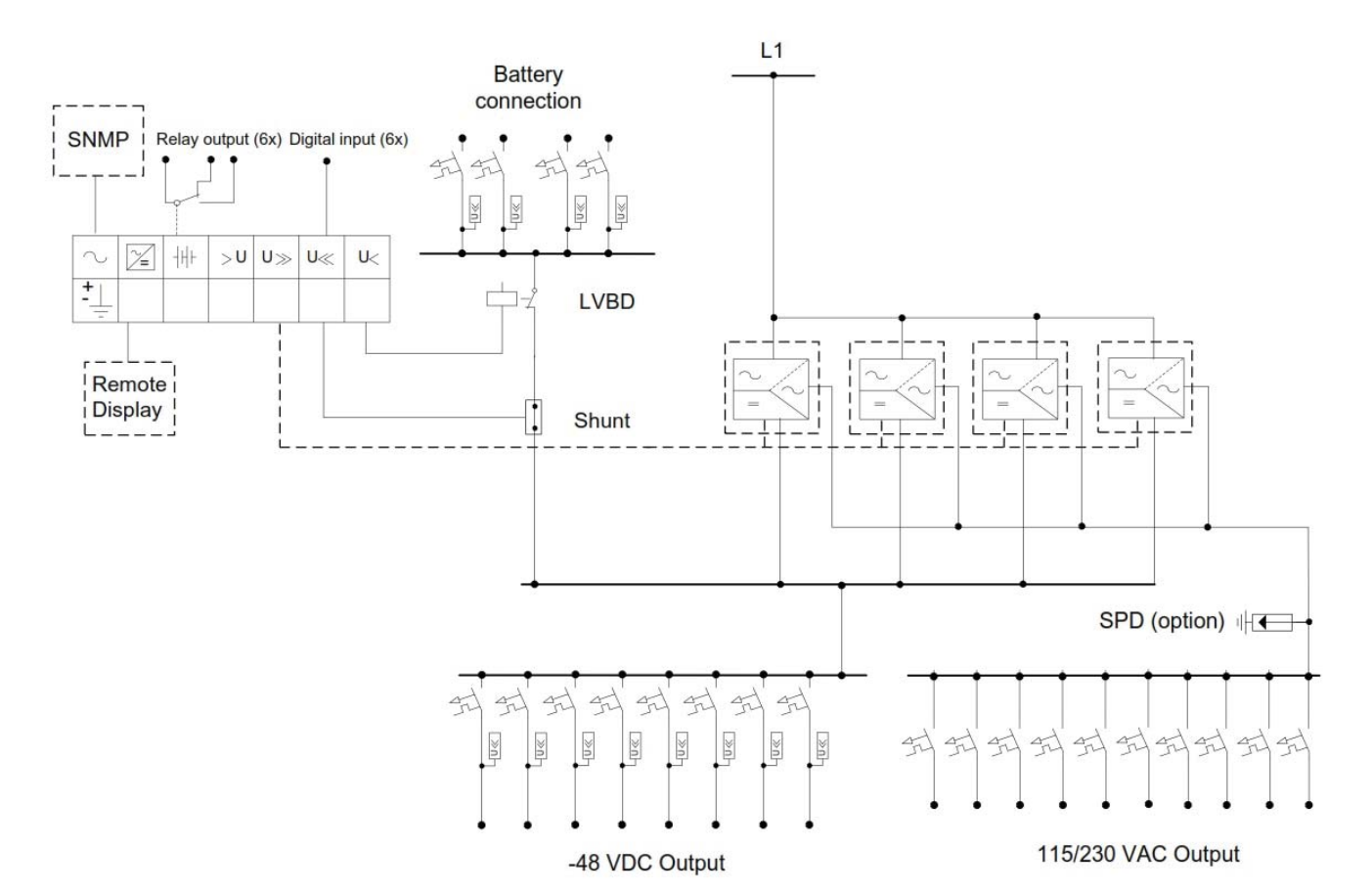
<b>MODEL</b>	8 kW / 4 kW
Part number	CTOR0405.4xxx
<b>INPUT DATA</b>	
Voltage range AC	185-275 / 95-140 V
Voltage range DC	40-58 V
Maximum current AC	28-48 A
Frequency	47-53 / 57-63 Hz
Power factor	> 0.99
<b>OUTPUT DATA</b>	
Adjustable range AC	200-240 / 100-127 V
Adjustable range DC	43-58 V
Max output power AC	6,0 / 3,0 kVA
Max output power DC	4,8 / 2,4 kW
Power factor	0,8
Frequency	50Hz, 60 Hz
<b>OTHER SPECIFICATIONS</b>	
1 pole AC distribution (option)	1-10 pc, 2-10 A, C
-48 V <sub>DC</sub> distribution (option)	1-8 pc, 2-63 A
SPD on AC output (option)	OVP class 2

Specifications are subject to change without notice



Rectifier 6 kVA single phase power core

## SINGLE LINE WITH DISTRIBUTION OPTION 1



# Rectifier Power Core 6kVA, 1ph ELTEK

A Delta Group Company

Doc CTOR0405.DS3 – rev1

<b>MODEL</b>	8 KW / 4 KW
Part number	CTOR0405.4xxx
<b>INPUT DATA</b>	
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
<b>OUTPUT DATA</b>	
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
<b>OTHER SPECIFICATIONS</b>	
1 pole AC distribution (option)	1-4 pc, 2-10 A, C
-48 V <sub>DC</sub> distribution (option)	1-14 pc, 2-63 A
SPD on AC output (option)	OVP class 2
LVL <sub>D</sub> on DC distribution (option)	On MCB 9-14

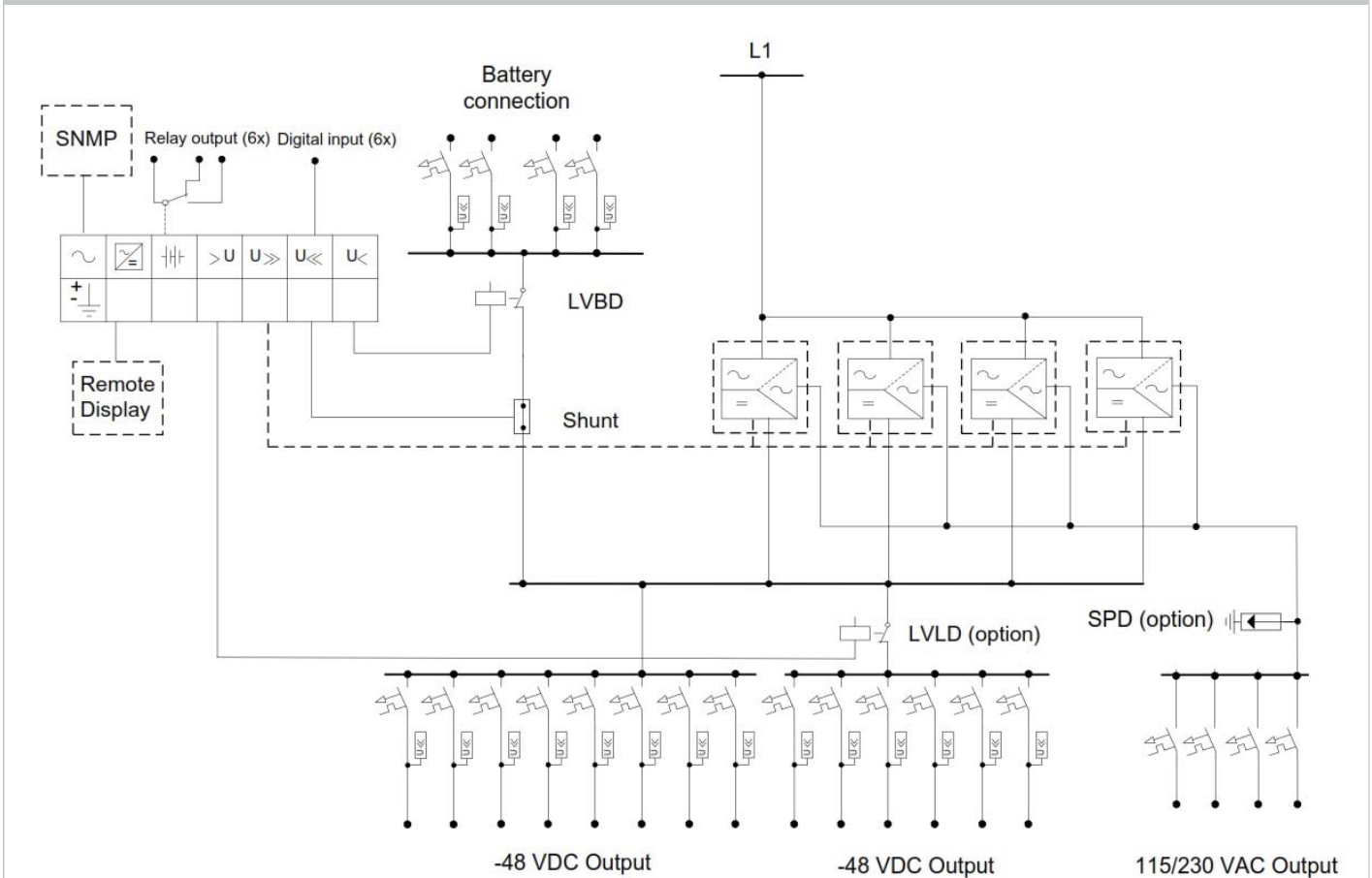
Specifications are subject to change without notice

FRONT VIEW WITH DISTRIBUTION OPTION 2



Rectifier 6 kVA single phase power core

SINGLE LINE WITH DISTRIBUTION OPTION 2



# Rectifier Power Core 6kVA, 1ph ELTEK

A Delta Group Company

Doc C TOR0405.DS3 – rev1

<b>MODEL</b>	8 kW / 4 kW
Part number	CTOR0405.4xxx
<b>INPUT DATA</b>	
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
<b>OUTPUT DATA</b>	
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
<b>OTHER SPECIFICATIONS</b>	
2 pole AC distribution (option)	1-5 pc, 2-10 A, C
-48 Vdc distribution (option)	1-8 pc, 2-63 A
SPD on AC output (option)	OVP class 2

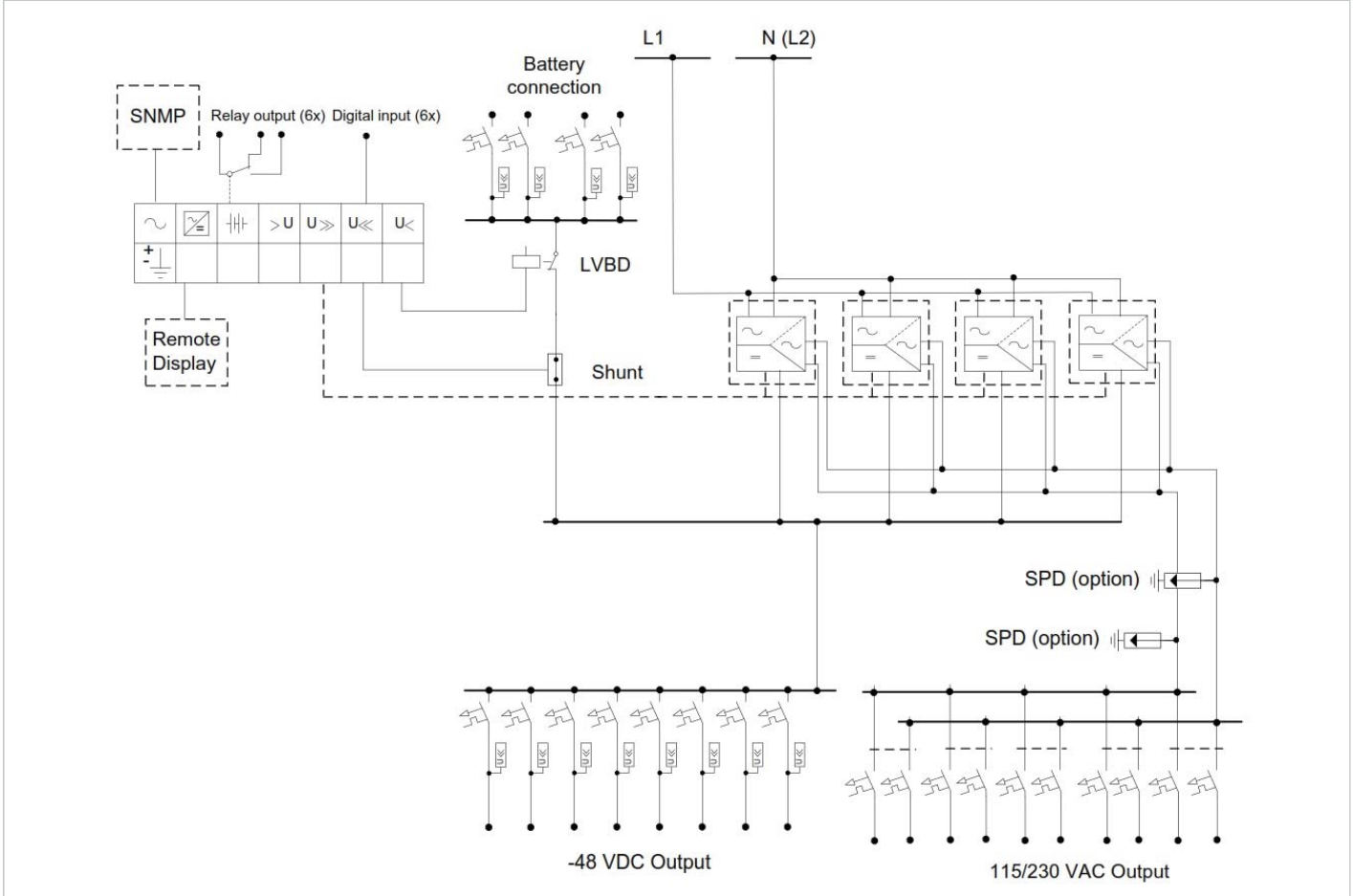
Specifications are subject to change without notice

## FRONT VIEW WITH DISTRIBUTION OPTION 3



Rectifier 6 kVA single phase power core

## SINGLE LINE WITH DISTRIBUTION OPTION 3



# Rectifier Power Core 6kVA, 1ph

Doc CTOR0405.DS3 – rev1

Models / ordering information	8 kW, 230 V	4 kW, 115 V
Product family	CTOR0405.4xxx	CTOR0405.4xxx
<b>AC OUTPUT DATA</b>		
Voltage (default) / (adjustable range) <sup>1)</sup>	230 V <sub>AC</sub> / 200 - 240 V <sub>AC</sub>	115 V <sub>AC</sub> / 100 - 127 V <sub>AC</sub>
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 <sub>RMS</sub> / 34,8A <sub>RMS</sub>	
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	
<b>DC OUTPUT DATA</b>		
Voltage (default) / (adjustable range)	53.5 V <sub>DC</sub> / 43 - 58 V <sub>DC</sub>	
Power (maximum @nominal input)	4800 W <sup>2)</sup>	2400 W <sup>2)</sup>
Current (maximum @V <sub>OUT</sub> ≤ 48 V <sub>DC</sub> )	100 A <sup>2)</sup>	50 A <sup>2)</sup>
Hold up time, maximum output power	>10ms; V <sub>OUT</sub> > 41 V <sub>DC</sub>	
Output features	Short circuit proof, Over voltage Shutdown	
<b>INPUT DATA</b>		
AC Mains Input Voltage (single phase)	185 - 275 V <sub>AC</sub>	95 - 140 V <sub>AC</sub>
AC Current (at nominal output voltage) (depending on module type)	28-48 A <sub>RMS</sub> <sup>4)</sup>	
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) <sup>3)</sup>	45 - 58 V <sub>DC</sub> / 40 - 45 V <sub>DC</sub>	
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 mm <sup>2</sup> for L, N & PE Battery breaker (plug-in type) 4*100 A positions LVBD default 300 A	
<b>OPTIONS</b>		
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 Vbc distribution (connection directly on MCB)	1-14pc, 2-63A, (depending on distribution option)	
<b>OTHER SPECIFICATION</b>		
Efficiency	>96% (mains mode (AC/AC and AC/DC)), >94% (inverter mode (DC/AC))	
Operating temperature	-10 to +45°C (+14 to +113°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)	
<b>DESIGN STANDARDS</b>		
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	
<p>1) Output voltage ranges configured in factory and have individual keying in top chassis</p> <p>3) 40 - 45 V<sub>DC</sub>: reduced performance - no power boost and increased voltage THD on AC output.</p> <p>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<sub>AC</sub>.</p> <p>4) If DC voltage is pulled below 43V the input current may increase above this level</p>		

Specifications are subject to change without notice