

PRODUCT CATALOGUE



DC/DC CONVERTERS

DC/AC INVERTERS

AC/DC UPS

AC/AC VFD

AC/DC MODULAR SIC
RECTIFIER SYSTEM

CUSTOM MADE SOLUTIONS

DC/DC CONVERTERS

High efficiency and high reliability in a compact size

Power range from 50W to 10kW

Wide variety of input/output combinations

Series specifically designed according
EN50155, EN45455, and EN61373

Temperature range from -40°C to +85°C (OT6 class)

Easy install options

CRS-120

100 - 140W DC/DC CONVERTERS



Power [W] 100 - 140
 Input Voltage Range [V] 9 - 275
 Output Voltage Range [V] 4.5 - 55.2
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 100 x 160 x 38,5



Key Features

MTBF >1Mh @ 40°C
 Extreme reliability
 Easy install: wall mount, DIN rail, rack mount

	12 Vin 9V ... 15V	24 Vin 18V ... 30V	48 Vin 36V ... 72V	72 Vin 50.4V ... 90V	110 Vin 77V.. 144V	220 Vin 165V.. 275V
5Vout	CRS-120-6761 100W	CRS-120-6765 100W	CRS-120-6769 100W	CRS-120-6773 100W	CRS-120-6777 100W	CRS-120-6781 100W
12Vout	CRS-120-6762 100W	CRS-120-6766 120W	CRS-120-6770 120W	CRS-120-6774 120W	CRS-120-6778 120W	CRS-120-6782 120W
24Vout	CRS-120-6763 120W	CRS-120-6767 120W	CRS-120-6771 140W	CRS-120-6775 140W	CRS-120-6779 140W	CRS-120-6783 140W
48Vout	CRS-120-6764 120W	CRS-120-6768 120W	CRS-120-6772 140W	CRS-120-6776 140W	CRS-120-6780 140W	CRS-120-6784 140W

CTS-120

RAILWAY 100 -140W DC/DC CONVERTERS



Power [W] 100 - 140
 Input Voltage Range [V] 14.4 - 144
 Output Voltage Range [V] 4.5 - 55.2
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 100 x 160 x 38,5



Key Features

MTBF >1Mh @ 40°C
 Extreme reliability
 Easy install: wall mount, DIN rail, rack mount

	24 Vin 14.4V ... 30V	36 Vin 21.6V ... 47V	48 Vin 28.8V ... 60V	72 Vin 43.2V... 90V	110 Vin 66V... 144V
5Vout	CTS-120-6865 100W	CTS-120-6885 100W	CTS-120-6869 100W	CTS-120-6873 100W	CTS-120-6877 100W
12Vout	CTS-120-6866 120W	CTS-120-6886 120W	CTS-120-6870 120W	CTS-120-6874 120W	CTS-120-6878 120W
24Vout	CTS-120-6867 120W	CTS-120-6887 140W	CTS-120-6871 140W	CTS-120-6875 140W	CTS-120-6879 140W
48Vout	CTS-120-6868 120W	CTS-120-6888 140W	CTS-120-6872 140W	CTS-120-6876 140W	CTS-120-6880 140W

CLS-120

120W WIDE INPUT RANGE DC/DC CONVERTERS

Under request



Power [W] 120

Input Voltage Range [V] 14.4 - 154

Output Voltage Range [V] 10.8 - 69.6

Cooling: Natural convection

Dimensions [LxWxH in mm]: 100 x 160 x 40



Key Features

Ultra wide input range

Efficiency up to 91%

Easy install: wall mount, DIN rail, rack mount

NEW

CLS-120	Universal Railway Input 14.4V ... 154V
12Vout	CLS-120-6512 120W
24Vout	CLS-120-6513 120W
48Vout	CLS-120-6514 120W

CRS-240

180 - 280W DC/DC CONVERTERS



Power [W] 180 - 280

Input Voltage Range [V] 9 - 275

Output Voltage Range [V] 4.5 - 55.2

Cooling: Natural convection

Dimensions [LxWxH in mm]: 100 x 200 x 38,5



Key Features

MTBF >1Mh @ 40°C

Extreme reliability

Easy install: wall mount, DIN rail, rack mount

	12 Vin 9V ... 15V	24 Vin 18V ... 30V	48 Vin 36V ... 72V	72 Vin 50.4V ... 90V	110 Vin 77V... 144V	220 Vin 165V... 275V
5Vout	CRS-240-6351 180W	CRS-240-6355 180W	CRS-240-6359 180W	CRS-240-6363 180W	CRS-240-6367 180W	CRS-240-6371 180W
12Vout	CRS-240-6352 180W	CRS-240-6356 240W	CRS-240-6360 240W	CRS-240-6364 240W	CRS-240-6368 240W	CRS-240-6372 240W
24Vout	CRS-240-6353 200W	CRS-240-6357 240W	CRS-240-6361 280W	CRS-240-6365 280W	CRS-240-6369 280W	CRS-240-6373 280W
48Vout	CRS-240-6354 200W	CRS-240-6358 240W	CRS-240-6362 280W	CRS-240-6366 280W	CRS-240-6370 280W	CRS-240-6374 280W

CTS-240

RAILWAY 180 - 240W DC/DC CONVERTERS



Power [W] 180 - 280
 Input Voltage Range [V] 14.4 - 275
 Output Voltage Range [V] 4.5 - 55.2
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 100 x 220 x 38,5



Key Features

- MTBF >1Mh @ 40°C
- Extreme reliability
- Easy install: wall mount, DIN rail, rack mount

	24 Vin 14,4V ... 30V	36 Vin 21,6V ... 47V	48 Vin 28,8V ... 60V	72 Vin 43,2V ... 90V	110 Vin 66V.. 144V	220 Vin 132V.. 275V
5Vout	CTS-240-6655 180W	CTS-240-6672 180W	CTS-240-6659 180W	CTS-240-6663 180W	CTS-240-6667 180W	Available under request
12Vout	CTS-240-6656 240W	CTS-240-6673 240W	CTS-240-6660 240W	CTS-240-6664 240W	CTS-240-6668 240W	Available under request
24Vout	CTS-240-6657 240W	CTS-240-6674 280W	CTS-240-6661 280W	CTS-240-6665 280W	CTS-240-6669 280W	CTS-240-6678 280W
48Vout	CTS-240-6658 240W	CTS-240-6675 280W	CTS-240-6662 280W	CTS-240-6671 280W	CTS-240-6670 280W	Available under request

CKR-2000

1960W REDUNDANT DC/DC CONVERTERS



Key Features

- Configurable input and output redundancy
- Railway version available

		B - Sub-rack		A - Módulos / Modules	
		Total power	Redun. N+1	48 Vin (36V + 60V)	110 Vin (77V + 144V)
12Vout	NP-9176	1920W	1680W	NP-9179 240W	NP-9182 280W
24Vout	NP-9177	2240W	1960W	NP-9180 280W	NP-9183 280W
48Vout	NP-9178	2240W	1960W	NP-9181 280W	NP-9184 280W

CRS-500

500W DC/DC CONVERTERS



Power [W] 500

Input Voltage Range [V] 14.4 - 144

Output Voltage Range [V] 21.6 - 55.2

Cooling: Natural convection

Dimensions [LxWxH in mm]: 266 x 180 x 54,8



Key Features

Extreme reliability

Oring FET

Current sharing & hold-up time options

Railway version available

	24Vin 14.4V ... 30V	36 Vin 21.6V ... 47V	48Vin 28.8V ... 60V	72Vin 43.2V ... 90V	110Vin 66V ... 144V
24Vout	CRS-500-6455 500W	CRS-500-6467 500W	CRS-500-6458 500W	CRS-500-6461 500W	CRS-500-6464 500W
48Vout	CRS-500-6456 500W	CRS-500-6468 500W	CRS-500-6459 500W	CRS-500-6462 500W	CRS-500-6465 500W
110Vout	CRS-500-6457 500W	Available under request	Available under request	Available under request	CRS-500-6466 500W

CRS-1000

1000W DC/DC CONVERTERS



Power [W] 1000

Input Voltage Range [V] 14.4 - 144

Output Voltage Range [V] 21.6 - 126.4

Cooling: Natural convection, Conduction, Internal forced air

Dimensions [LxWxH in mm]: 266 x 180 x 54,8



Key Features

Extreme reliability

Oring FET

Current sharing & hold-up time options

Railway version available

	24 Vin 14.4V ... 30V	36 Vin 21.6V ... 47V	48 Vin 28.8V ... 60V	72 Vin 43.2V... 90V	110 Vin 66V... 144V
24Vout	CRS-1000-6475 1000W	CRS-1000-6487 1000W	CRS-1000-6478 1000W	CRS-1000-6481 1000W	CRS-1000-6484 1000W
48Vout	CRS-1000-6476 1000W	CRS-1000-6488 1000W	CRS-1000-6479 1000W	CRS-1000-6482 1000W	CRS-1000-6485 1000W
72Vout	CRS-1000-6490 1000W	CRS-1000-6491 1000W	Available under request	Available under request	CRS-1000-6494 1000W
110Vout	CRS-1000-6492 1000W	Available under request	Available under request	Available under request	CRS-1000-6493 1000W

CRS-2000

2000W DC/DC CONVERTERS



Power [W] 2000

Input Voltage Range [V] 14.4 - 154

Output Voltage Range [V] 21.6 - 126.5

Cooling: Internal forced air, natural convection

Dimensions [LxWxH in mm]: 314,6 x 220 x 79



NEW

Key Features

SiC Technology: high power density

Wide input/output range combinations

	24Vin 16.8V ... 30V 14.4V ... 33.6V (1)	36Vin 25.2V ... 45V 21.6V ... 50.4V (1)	48Vin 33.6V ... 60V 28.8V ... 67.2V (1)	72Vin 50.4V ... 90V 43.2V ... 100.8V (1)	110Vin 77V ... 137.5V 66V ... 154V (1)
24Vout	CRS-2000-6951 2000W	CRS-2000-6955 2000W	CRS-2000-6959 2000W	CRS-2000-6963 2000W	CRS-2000-6967 2000W
48Vout	CRS-2000-6952 2000W	CRS-2000-6956 2000W	CRS-2000-6960 2000W	CRS-2000-6964 2000W	CRS-2000-6968 2000W
72Vout	CRS-2000-6953 2000W	CRS-2000-6957 2000W	Available under request	Available under request	Available under request
110Vout	CRS-2000-6954 2000W	Available under request	Available under request	Available under request	CRS-2000-6970 2000W

Note: (1) Input voltage range for 100ms.

CVS-280

280W DC/DC



Power [W] 280

Input Voltage Range [V] 400 - 1100

Output Voltage Range [V] 21.6 - 121

Cooling: Natural convection

Dimensions [LxWxH in mm]: 65 x 162 x 230



NEW

Key Features

Parallelizable units by ORing

Active catenary surges filter

Input voltage according to EN50163:2006 and EN50124-2:2017

CVS-280	600 & 750 Vin 400 ... 1100V (4,5kV pk)
24Vout	CVS-280-6973 280W / 400W pk
48Vout	CVS-280-6975 280W / 400W pk
72Vout	CVS-280-6976 280W / 400W pk
110Vout	CVS-280-6977 280W / 400W pk

CBS-10K

10kW PEAK SINGLE OUTPUT
DC/DC CONVERTER



Power [W] 6000 average

Input Voltage Range [V] 16.8 - 138 (14.4 - 154Vdc 0.1s)

Output Voltage Range [V] 500

Cooling: Internal forced air

Dimensions [LxWxH in mm]: 477,2 x 257,4 x 84,8



Key Features

Up to 10 kW during 40s

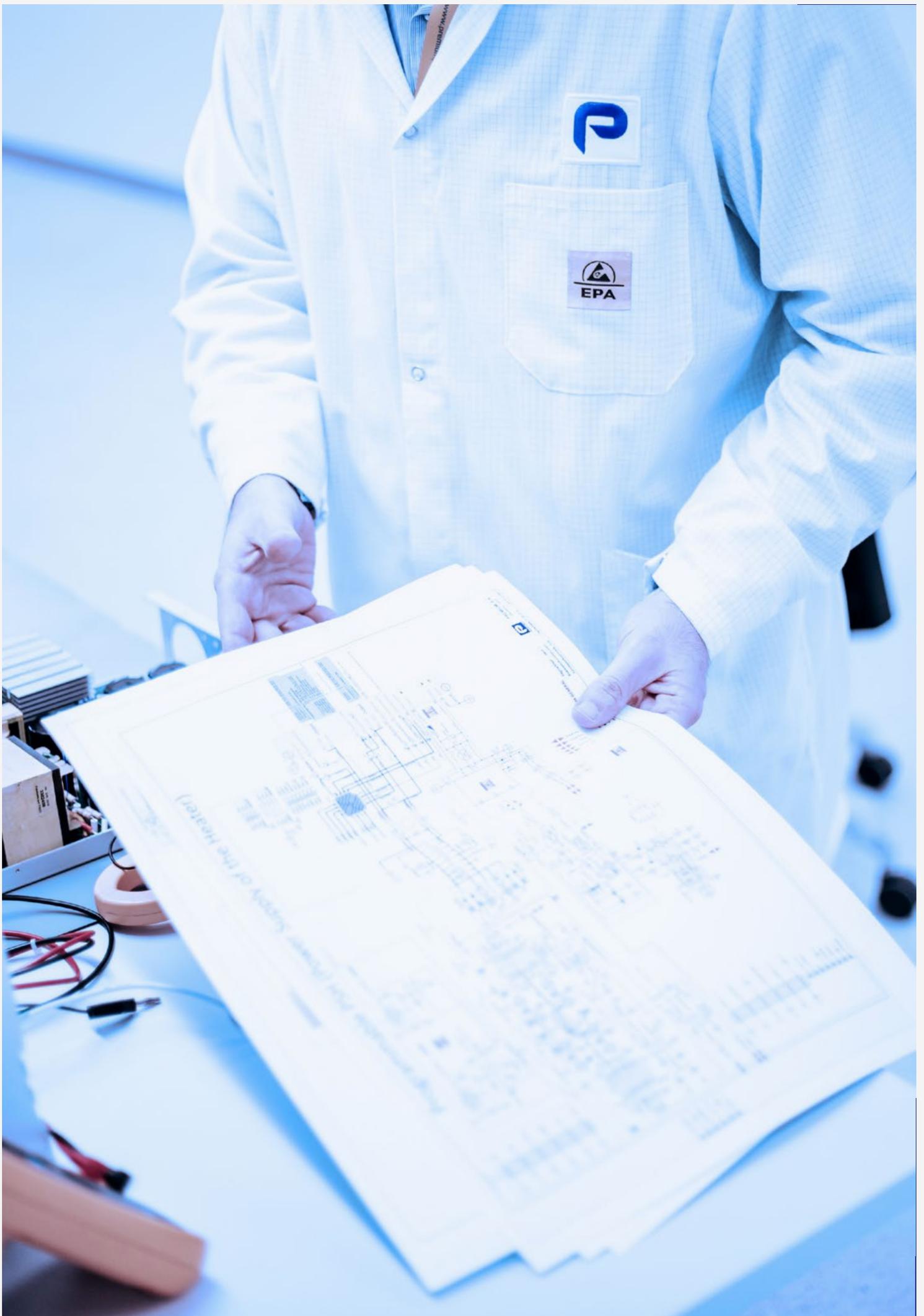
500Vdc output (up to 700V under request)

ORing diode at the output for decoupling from 2kW lines

SiC Technology: high power density

NEW

	24 VDC 16.8 ... 30 V	48 VDC 33.6 ... 60 V	72 VDC 50.4 ... 90 V	110 VDC 77 ... 138 V
500 Vdc	CBS-10K-6001 5200 Wpk Available under request	CBS-10K-6003 10000 Wpk Available under request	CBS-10K-6004 10000 Wpk Available under request	CBS-10K-6005 10000 Wpk Coming Soon



DC/AC INVERTERS

Compact design, very high power density

Sine wave output voltage

Power range from 220V to 24kW

Up to 94% efficiency

In compliance with EN50155 and EN45545

Widest range in the market for railway applications

#WEAREPREMIUMPSU

OCS-260

INDUSTRIAL & RAILWAY 260VA DC/AC INVERTERS



Power [W] 180 - 220
 Input Voltage Range [V] 9.5 - 138
 Output Voltage Range [V] 144 - 241.5
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 100 x 220 x 40



Key Features

- Extreme reliability
- Sine wave output voltage
- Railway version available



	12Vdc 9.5 ... 15V (1)	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
120Vac	OCS-260-7041 180W	OCS-260-7043 200W	OCS-260-7044 220W	OCS-260-7045 220W	OCS-260-7046 220W	OCS-260-7047 220W
230Vac	OCS-260-7031 180W	OCS-260-7033 200W	OCS-260-7034 220W	OCS-260-7035 220W	OCS-260-7036 220W	OCS-260-7037 220W

Note (1): Startup voltage ≤10.2V. Under-voltage shutdown ≤ 9.1V

OPS-260

1PH IP66 260VA DC/AC INVERTER



Power [W] 180 - 220
 Input Voltage Range [V] 9.5 - 138
 Output Voltage Range [V] 114 - 241.5
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 67 x 249 x 135



Key Features

- Extreme reliability
- Sine wave output voltage
- IP66



	12Vdc 9.5 ... 15V (1)	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
120Vac	OPS-260-7741 180W	OPS-260-7743 200W	OPS-260-7744 220W	OPS-260-7745 220W	OPS-260-7746 220W	OPS-260-7747 220W
230Vac	OPS-260-7731 180W	OPS-260-7733 200W	OPS-260-7734 220W	OPS-260-7735 220W	OPS-260-7736 220W	OPS-260-7737 220W

Note (1): Startup voltage ≤10.2V. Under-voltage shutdown ≤ 9.1V

ODS-750

INDUSTRIAL & RAILWAY 450-750W
DC/AC INVERTERS



Power [W] 450 - 750
Input Voltage Range [V] 9.5 - 138
Output Voltage Range [V] 110 - 230
Cooling: Internal forced air
Dimensions [LxWxH in mm]: 130 x 270 x 50



Key Features

- High power density
- Sine wave output voltage
- Railway version available



	12Vdc 9.5 ... 15V	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
120Vac	ODS-750-7281 450W	ODS-750-7283 750W	ODS-750-7284 750W	ODS-750-7285 750W	ODS-750-7286 750W	ODS-750-7287 750W
230Vac	ODS-750-7271 450W	ODS-750-7273 750W	ODS-750-7274 750W	ODS-750-7275 750W	ODS-750-7276 750W	ODS-750-277 750W

ODS-1500

INDUSTRIAL & RAILWAY 1500VA DC/
AC INVERTERS



Power [W] 1200 - 1500
Input Voltage Range [V] 10 - 138
Output Voltage Range [V] 120 - 230
Cooling: Internal forced air
Dimensions [LxWxH in mm]: 360,48 x 161,6 x 65,6



Key Features

- Very high power density
- Configurable power
- Sine wave output voltage
- Railway version available



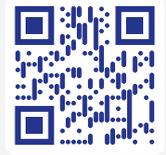
	12Vdc 10 ... 15V	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
120Vac	ODS-1500-7121 1200W	ODS-1500-7123 1500W	ODS-1500-7124 1500W	ODS-1500-7125 1500W	ODS-1500-7126 1500W	ODS-1500-7127 1500W
230Vac	ODS-1500-7111 1200W	ODS-1500-7113 1500W	ODS-1500-7114 1500W	ODS-1500-7115 1500W	ODS-1500-7116 1500W	ODS-1500-7117 1500W

ODS-3000

INDUSTRIAL & RAILWAY 3000VA
DC/AC INVERTERS



Power [W] 2400 - 4000
 Input Voltage Range [V] 16.8 - 138
 Output Voltage Range [V] 120 - 230
 Cooling: Internal forced air
 Dimensions [LxWxH in mm]: 386,9 x 193,9 x 78,5



Key Features

- Very high power density
- Configurable power
- Sine wave output voltage
- Railway version available



	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V	120Vdc 84 ... 150V	300Vdc 290 ... 330V
120Vac	ODS-3000-7163 2400W	ODS-3000-7164 2500W	ODS-3000-7165 2500W	ODS-3000-7166 2500W	ODS-3000-7167 2500W	Available under request	Available under request
	ODS-3000-7153 2400W	ODS-3000-7154 3000W	ODS-3000-7155 3000W	ODS-3000-7156 3000W	ODS-3000-7157 3000W	Available under request	Available under request
230Vac	Available under request	Available under request	Available under request	Available under request	ODS-3000-7177 4000W	ODS-3000-7178 4000W	ODS-3000-7179 4000W

ODX-1300

3PH 1300VA DC/AC INVERTERS
Under request



Power [W] 1100
 Input Voltage Range [V] 16.8 - 138
 Output Voltage Range [V] 250 - 400
 Cooling: Internal forced air
 Dimensions [LxWxH in mm]: 315 x 178 x 66,5



Key Features

- Very high power density
- Configurable power & soft start
- Sine wave output voltage
- Railway version available



	24Vdc 16.8 ... 30V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
250Vac	ODX-1300-7442 1100W	ODX-1300-7445 1100W	ODX-1300-7447 1100W
400Vac	ODX-1300-7452 1100W	ODX-1300-7455 1100W	ODX-1300-7457 1100W

ODX-3000

3PH 3000VA DC/AC INVERTERS



Power [W] 2400 - 3000

Input Voltage Range [V] 16.8 - 138

Output Voltage Range [V] 230 - 400

Cooling: Internal forced air

Dimensions [LxWxH in mm]: 392,87 x 220 x 80,5



Key Features

- Very high power density
- Configurable power & soft start
- Sine wave output voltage
- Railway version available



	24Vdc 16.8 ... 30V	36Vdc 25.2 ... 45V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
230Vac	ODX-3000-7413 2400W	Available under request	Available under request	Available under request	ODX-3000-7417 3000W
400Vac	ODX-3000-7403 2400W	ODX-3000-7404 3000W	ODX-3000-7405 3000W	ODX-3000-7406 3000W	ODX-3000-7407 3000W

ODX-4500

3PH 4500VA DC/AC INVERTERS

Under request



Power [W] 4000

Input Voltage Range [V] 50.4 - 138

Output Voltage Range [V] 50 - 400

Cooling: Internal forced air

Dimensions [LxWxH in mm]: 392,87 x 220 x 80,5



Key Features

- Very high power density
- Configurable power & soft start
- Railway version available
- Sine wave output voltage



	72Vdc 50.4 ... 90V	110Vdc 70 ... 125V	110Vdc 77 ... 138V
400Vac	ODX-4500-7425 4000W	ODX-4500-7426 4000W	ODX-4500-7427 4000W

ODX-6000

3PH 6000VA DC/AC INVERTERS



Power [W] 3500 - 6000
 Input Voltage Range [V] 16.8 - 138
 Output Voltage Range [V] 80 - 400
 Cooling: Internal forced air
 Dimensions [LxWxH in mm]: 455,44 x 260 x 84,8



Key Features

- Very high power density
- Sine wave output voltage
- Railway version available
- Up to 5 units in parallel
- Configurable power & soft start



	24Vdc 16.8 ... 30V	48Vdc 33.6 ... 60V	72Vdc 50.4 ... 90V	110Vdc 77 ... 138V
400Vac	ODX-6000-7502 3500W	ODX-6000-7505 6000W	ODX-6000-7506 6000W	ODX-6000-7507 6000W

OVX-6400

6400VA 3PH CATENARY DC/AC INVERTER (600/750 VIN)



Power [W] 6400
 Input Voltage Range [V] 400-1000
 Output Voltage Range [V] 80 - 400
 Cooling: Internal forced air
 Dimensions [LxWxH in mm]: 85,8 x 372 x 455,3



KEY FEATURES

- SiC Technology: high power density
- Active catenary surges filter
- Sine wave output voltage
- Configurable power & soft start
- Input voltage according to EN50163:2006 and EN50124-2:2017



NEW

Input Voltage	Output Voltage	Output Power
---------------	----------------	--------------

400...900 Vdc 400 V 3ph 6kW | 6.4 KVA | 8 kWpk

COMPLEMENTARY SOLUTIONS FOR DC/AC INVERTERS

ACI-3000

INRUSH CURRENT LIMITER



KEY FEATURES

- Suitable for DC/AC series: ODS-1500 ODS-3000 ODX-3000
- Remote ON/OFF with low standby current
- Active polarity reversal protection
- According to EN-50155 and EN-45545



NEW

Suitable for series	24Vdc	36Vdc	48Vdc	72Vdc	110Vdc
ODS-1500 ODS-3000 ODX-3000	ACI-3000-9333	ACI-3000-9334	ACI-3000-9335	ACI-3000-9336	ACI-3000-9337

ACB-3000

REDUNDANCY STATIC TRANSFER SWITCH

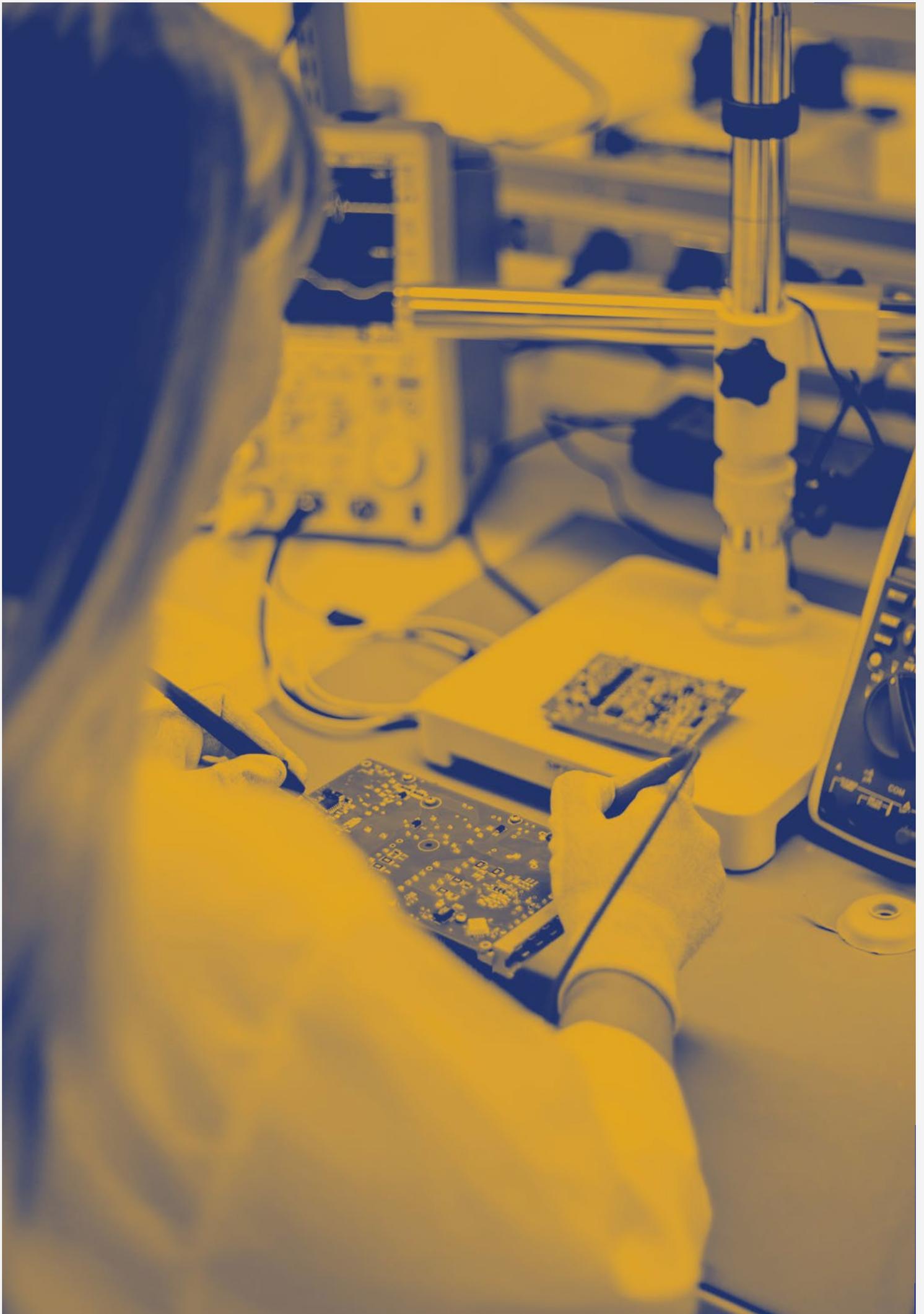


KEY FEATURES

- Suitable for DC/AC series: ODS-750, ODS-1500 and ODS-3000
- Compatible with any 120/230V mains line
- 2ms high speed failure detection and transfer time
- Does not require a synchronised network



MODEL	ACB 3000-9431			ACB 3000 9576		
Voltage lines	230 Vac			120 Vac		
Suitable for inverters	ODS-750	ODS-1500	ODS-3000	ODS-750	ODS-1500	ODS-3000



AC/AC VARIABLE FREQUENCY DRIVES

IN COMPLIANCE WITH EN50155 AND EN45545 VFD FOR RAILWAY APPLICATIONS

Capabilities for AC/AC VFD development

- Up to 40kW
- Isolated or non-isolated versions
- Sine wave output voltage
- Combinations as required: 1ph-3ph / 3ph-1ph / 3ph-3ph
- Ability to maintain stable output voltage over the entire input range
- Adjustable output frequency and voltage
- Communication through CAN BUS
- Rolling stock standards according to project needs

Benefits of using an AC/AC Variable Frequency Drives:

- Save energy and improve network, systems, and HVAC efficiency
- Easy control of motor speed, flow and pressure in electric pumps and fans
- Soft start of motors
- Reduction of temperature and less maintenance of connected devices
- Match the speed and power of the drive to the process requirements

VDX - 10K

10KVA AC/AC VARIABLE
FREQUENCY DRIVE



Power [W] 10.000W

Input Voltage Range [V] 360-440

Output Voltage Range [V] 80-400

Cooling: Internal controlled fan

Dimensions [LxWxH in mm]: 454,39 x 260,4 x 84,8



1ph



3ph

Key Features

- Suitable for motors control
- Sine wave output voltage
- Adjustable output frequency & voltage
- Remote ON/OFF opto-coupled
- Alarm by isolated relay contacts
- Configurable input: Reverse or Mid power
- Remote control via RS232 or CAN Bus
- Railway according to EN50155
- Fire and smoke: EN45545-2

TDS-3300

3300 VA AC/AC FREQUENCY
CONVERTER



Power [W] 3300W

Input Voltage Range [V] 360-528

Output Voltage Range [V] 230Vac

Cooling: Internal forced air with fan speed control

Dimensions [LxWxH in mm]: 434,7 x 245,4 x 84,8



3ph

Key Features

- Suitable for socket AC power
- Designed according to EN50155
- Fire and smoke: EN45545-2
- High input-output isolation
- Remote start signal
- Output failure alarm
- Output short circuit protection
- Over temperature shutdown
- Inrush limit
- 94% efficiency

AC/DC UPS - BATTERY CHARGERS

Power from 100W to 500W

Limitless communication possibilities

SMART functionalities

#WEAREPREMIUMPSU

ECS-200

200W AC/DC UPS BATTERY CHARGER



Power [W] 200 - 230
 Input Voltage Range [V] ±20%
 Output Voltage Range [V] 12 - 57.6
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 100 x 220 x 45



Key Features

- High reliability
- Discharged battery cut off

ECS-200	Nominal Voltage	Maximum Rectifier Power	Maximum Rectifier Current	Maximum Battery Current	Battery Floating Voltage	Battery Cut off Voltage	Charging current selection 1	Charging current selection 2	Charging current selection 3	Charging current selection 4
ECS-200-5183	12V	200W	14.7A	20A	13.6V	10V	2.0A	2.4A	4.8A	9.6A
ECS-200-5187	24V	225W	8.30A	15A	27.2V	20V	1.0A	1.2A	2.4A	4.8A
ECS-200-5189	48V	230W	4.20A	6A	54.4V	40V	0.44A	0.6A	1.2A	2.4A

EPS-120

120W SMART UPS BATTERY CHARGER

Under request



Power [W] 120
 Input Voltage Range [V] 184 - 265
 Output Voltage Range [V] 0 - 57.6
 Cooling: Natural convection
 Dimensions [LxWxH in mm]: 247 x 115 x 115



Key Features

- Ethernet network controlled (Web services & SNMP)
- Battery test, temperature sensor, 10kV I/O isolation
- Especially designed for IoT applications

EPS-120	OUT-1	Total power	Peak power	Battery	Input isolation	Housing
EPS-120-5192	48V / 3A 4.6 Apk	120W	180W	48V	10000Vrms	Plastic case

EPS-200

200W SMART UPS BATTERY CHARGER

Under request



Power [W] 200

Input Voltage Range [V] 184 - 265

Output Voltage Range [V] 0 - 57.6

Cooling: Natural convection

Dimensions [LxWxH in mm]: 247 x 115 x 115



Key Features

Ethernet network controlled (Web services & SNMP)

Battery test, temperature sensor, 10kV I/O isolation

Especially designed for IoT applications

	OUT-1	Total power	Peak power	Battery	Input isolation	Housing
EPS-200-5193	48V / 5.2A 10.3 Apk	200W	400W	48V	10000Vrms	Plastic case

EDT-150

150W 3 OUTPUTS SMART UPS BATTERY CHARGER



Power [W] 150

Input Voltage Range [V] 184 - 264

Output Voltage Range [V] 0 - 57.6

Cooling: Natural convection

Dimensions [LxWxH in mm]: 247 x 115 x 115



Key Features

Ethernet network controlled (Web services & SNMP)

Battery test, temperature sensor, 10kV I/O isolation

Especially designed for IoT applications

EDT-150	OUT-1	OUT-2	OUT-3	Total power	Peak power	Battery	Input isolation	Housing
EDT-150-5191	12V / 16A 25 Apk	48V / 2.2A 5.2 Apk	48V / 0.83A 0.83 Apk	150W	275W	12V	3000Vrms	Aluminium case

EDS-500

500W DC UPS BATTERY CHARGER



Power [W] 500

Input Voltage Range [V] 90 - 264

Output Voltage Range [V] 0 - 57.6

Cooling: Natural convection

Dimensions [LxWxH in mm]: 186.5 x 87 x 124.4



Key Features

Battery test

Temperature sensor

CAN communication

NEW

EDS-500	Input Voltage	Nominal output voltage	Maximum output power	Maximum output current	Maximum output peak current from battery
EDS-500-5243	90 ... 264 Vac	12V	500W	36.7A	50A 30s
EDS-500-5247	90 ... 264 Vac	24V	500W	18.4A	30A 30s
EDS-500-5249	90 ... 264 Vac	48V	500W	9.19A	15A 30s
EDS-500-5251	90 ... 264 Vac	110V	500W	4A	6.5A 30s

FlexStorm Series: MODULAR SiC RECTIFIER SYSTEM

Battery autonomy end contactor
Output circuit breaker distribution
Voltage drop Diodes - Communications
Anti-reverse diode - IP grade - Cabinet color
Special documentation - Seismic grade protection
Other input voltages available
Output distribution with DC/DC
Output inverter - Batteries



#WEAREPREMIUMPSU

Configurable cabinet: Up to 72kW 110/125Vout High Efficiency modular Rectifier



Input

AC input voltage (nominal)	3 x 400 Vac + N
AC input voltage (range)	340...460 Vac
AC input frequency (range)	45 ... 65 Hz
Power factor	>0.94 (> 50% Load)
Efficiency	>89 % (> 25% Load) >93 % (> 100% Load)

Output

Output type	DC
Default output voltage	125Vdc
Output voltage adjustment	86 ... 157 Vdc
Maximum output current	20...480 A
Current sharing	Parallel Active
Battery type	NiCd & PbCa
Static voltage regulation	< ±1 % typical
Dynamic voltage regulation	< ±1 % (Δ 20%-100%-20% Load)
Response time	< 10 ms (Δ 20%-100%-20% Load)
Ripple (BW: 20mHz)	< 90 mVpp

EMC

Emission according to	EN 61000-6-4:2019 EN 61000-3-2:2019
Cooling	EN-61000-6-2:2019

3kW Parallelable single phase Rectifier Module



Environmental

Storage temperature	-40°C ... 85°C
Operating temperature range	-10°C ... 60°C ¹
Cooling	Internal forced air controlled (modules)
Maximum Relative humidity	95% with no condensation
Installation height	up to 2000 m
MTBF	250.000h @ 25°C according to EN29500

Safety

Safety according to	EN62368-1:2020
Dielectric strength Input-Output	2000Vac, 50Hz, 1min.
Dielectric strength Input-Earth	4000Vac, 50Hz, 1min.
Dielectric strength Output-Earth	2000Vac, 50Hz, 1min.

Dimensions

FDS-3kW Rectifier Module	67mm x 130mm x 400mm
LMS Control Module	40 mm x 130mm x 400mm

FlexStorm Series Communication and Control system



Control

Local control	RS-232
Remote control	Ethernet & SNMP
Alarm contacts	6 low voltage analog inputs 4 digital inputs
LEDs	Green: Vin-Vout OK, Yellow: Warning, Red: Alarm

CUSTOM-MADE SOLUTIONS

Not finding the perfect fit in a standard product catalogue? Tell us about your project and we will make it possible.

We have the best R&D to design the best power conversion systems:



More than 50 engineers working transversally
Know-how acquired over four decades
Innovative and limitless designs
Involved in the entire process
Technical assistance to all projects
Over 900 successful industrialized solutions
Committed to continuous improvement

SMART 125V/35A THYRISTOR RECTIFIER

SECURE DC POWER FOR MV/LV SUBSTATIONS

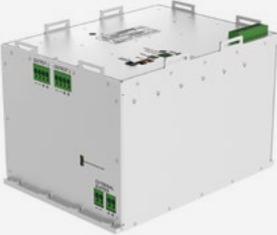
#WEAREPREMIUMPSU

**2kW 3PH DC/AC
INVERTER, PARALLELIZABLE
UP TO 4 UNITS**



RAILWAY INTEGRATED TRACK
MANOEUVRING SYSTEM

**3PH AC/DC
POWER SUPPLY 15kW
(60kW/PK)**



MECHATRONICS

**UL DC/DC
70V..900VIN 300W
(800WPK)**



HIGH TECH OIL-FREE AIR
CENTRIFUGAL BLOWER

**400W DC/DC
CONVERTER,
110VIN/290VOUT**



RAILWAY EMERGENCY
VENTILATION

**IOT BATTERY CHARGER,
DUAL OUTPUT, 200W
(400W/PK)**



SECURE DC POWER
FOR MV/LV SUBSTATIONS

**2kW BATTERY CHARGER,
>90% EFFICIENCY**



RAILWAY LEVEL
CROSSING GATES

**35kW+5KW V/F 3PH
INVERTER 750VIN**



RAILWAY HVAC COMPRESSOR
AND FANS POWER SOURCE

**DC/DC CONVERTER,
MULTIPLE REDUNDANT
OUTPUT**



RAILWAY SIGNALING (ERTMS)

QUICK PRODUCT GUIDE

DC/DC Converters

Product series	Power [W]	Input voltage range [V]	Output voltage [V]	Temperature range [°C]	Cooling	Page	
 CKR-2000	1920 - 2240	28 ... 60 66 ... 144	12, 24, 48	-25 ... 70	Natural convection	23	
 CRS-120	100 - 140	9 ... 15 18 ... 30 36 ... 72	50,4 ... 90 77 ... 144 165 ... 275	5, 12, 24, 48	-25 ... 80	Natural convection	21
 CTS-120	100 - 140	14,4 ... 30 21,6 ... 47 28,8 ... 60	43,2 ... 90 66 ... 144	5, 12, 24, 48	-25 ... 85	Natural convection	21
 CLS-120	120	14,4 ... 154	12, 24, 48	-40 ... 85	Natural convection	22	
 CRS-240	180-280	9 ... 15 18 ... 30 36 ... 60	50,4 ... 90 77 ... 144 165 ... 275	5, 12, 24, 48	-25 ... 80	Natural convection	22
 CTS-240	180 - 280	14,4 ... 30 21,6 ... 47 28,8 ... 60	43,2 ... 90 66 ... 144 132 ... 275	5, 12, 24, 48	-25 ... 85	Natural convection	23
 CRS-500	500	14,4 ... 30 21,6 ... 47 28,8 ... 60	43,2 ... 90 66 ... 144	24, 48, 110	-25 ... 70	Natural convection	24
 CRS-1000	1000	14,4 ... 30 21,6 ... 47 28,8 ... 60	43,2 ... 90 66 ... 144	24, 48, 72, 110	-25 ... 70	Natural convection	24
 CRS-2000	2000	14,4 ... 33,8 21,6 ... 50,4 28,8 ... 67,2	43,2 ... 100,8 66 ... 154	24, 48, 72, 110	-25 ... 70	Internal fan Natural convection	25
 CVS-280	280	500 ... 1100	24, 48, 72, 110	-25 ... 85	Natural convection	25	
 CBS-10K	6000 average	16.8 - 138 (14.4 - 154Vdc 0.1s)	500	-40 ... 85	Internal forced air	26	

AC/AC VFD

Product series	Power [W]	Input voltage range [V]	Output voltage [V]	Temperature range [°C]	Cooling	Page
 VDX-10K	10.000	360...460	400	-25 ... 85	Internal controlled fan	37
 TDS-3300	3.300	432...528	230Vac (1ph) 400Vac (3ph)	-40 ... 55	Internal force air with fan speed control	37

DC/AC Inverters

Product series	Apparent Output Power [VA]	Input Voltage Range [V]		Output Voltage [V]	Temperature Range [°C]	Cooling	Page
 OCS-260	260	9,5 ... 15 16,8 ... 30 25,2 ... 45	33,6 ... 60 50,4 ... 90 77 ... 138	 1ph 120, 230	-40 ... 70	Natural convection	29
 OPS-260	260	9,5 ... 15 16,8 ... 30 25,2 ... 45	33,6 ... 60 50,4 ... 90 77 ... 138	 1ph 120, 230	-40 ... 70	Natural convection	29
 ODS-750	750	9,5 ... 15 16,8 ... 30 25 ... 45	33,6 ... 60 50,4 ... 90 77 ... 138	 1ph 120, 230	-25 ... 70	Internal fan	30
 ODS-1500	1200 - 1500	10 ... 15 16,8 ... 30 25,2 ... 45	33,6 ... 60 50,4 ... 90 77 ... 138	 1ph 120, 230	-25 ... 70	Internal fan	30
 ODS-3000	2400 - 4000	16,8 ... 30 25,2 ... 45 33,6 ... 60	50,4 ... 90 77 ... 138	 1ph 120, 230	-25 ... 70	Internal fan	31
 ODX-1300	1300	16,8 ... 30 50,4 ... 90 77 ... 138		 3ph 250, 400	-25 ... 85	Internal fan	31
 ODX-3000	2400 - 3000	16,8 ... 30 25,2 ... 45 33,6 ... 60	50,4 ... 90 77 ... 138	 3ph 230, 400	-25 ... 85	Internal fan	32
 ODX-4500	4500	50,4 ... 90 70 ... 125 77 ... 138		 3ph 400	-25 ... 85	Internal fan	32
 ODX-6000	4500 - 6000	16,8 ... 30 33,6 ... 60	50,4 ... 90 77 ... 138	 3ph 400	-25 ... 85	Internal fan	33
 OVX-6400	6400	400...1000		 3ph 80 - 400	-25 ... 85	Internal fan	33

AC/DC UPS - Battery chargers

Product series	Power [W]	Input Voltage [V]	Output Voltage [V]	Temperature Range [°C]	Cooling	Page
 ECS-200	200 - 230	88 ... 133	12, 24, 48	-25 ... 70	Natural convection	39
 EPS-120	120	184 ... 264	48	-25 ... 70	Natural convection	39
 EPS-200	200	184 ... 265	48	-25 ... 70	Natural convection	40
 EDT-150	150	184 ... 264	Triple output: 12V/16A 48V/2,2A 48V/0,83A	-25 ... 70	Natural convection	40
 EDS-500	500	90 ... 264	12, 24, 48	-25 ... 70	Natural convection	41