



Premium
Powering Your Challenge

POWER TO KEEP YOU ON TRACK



WHERE CAN YOU FIND OUR SOLUTIONS?

LOW BATTERY STARTER
DC/DC Converter

VIDEO ON BOARD SYSTEM MANAGEMENT

HVAC POWER SUPPLY
3ph DC/AC Inverters

RUNNING LIGHTS
DC/DC Converters

EMERGENCY VENTILATION SYSTEMS
3ph DC/AC Inverters

WINDSCREEN WIPERS
DC/DC Converters

DC-BOARD GRID

DRIVER DESK AC SOCKETS
1ph DC/AC Inverters

BISTRO BAR WAGON SERVICES
DC/DC Converters and DC/AC
Inverters

FRONT HATCH MECHANISMS
DC/DC Converter

INTEGRATED TOILET MODULES
DC/DC Converters

DOOR SYSTEMS
DC/DC Converters

BATTERY CHARGERS
DC/AC Inverters

BRAKING SYSTEM
DC/DC Converters

PASSENGER AC SOCKETS
1ph DC/AC Inverters

AUXILIARY DC VOLTAGE
FOR INTEGRATED TRACTION SYSTEM
DC/DC Converters

RAIL CONTROL SYSTEMS
DC/DC Converters

ATP & ATO SIGNALLING SYSTEMS
DC/DC Converters

From the first carriage to the tail end of the train, Premium PSU designs reliable, robust, extremely safe operational, control or signalling solutions designed to optimise energy to the maximum.



AEG TranzCom



ALSTOM
mobility by nature

aselsan



BOMBARDIER



HISPA@LD

HITACHI
Inspire the Next

HTM

HYUNDAI
Rotem

indra



KONČAR



OBB



Plasser & Theurer

renfe



SIEMENS



STADLER

THALES

TURASAS

vivarail

vossloh



Webasto



SHAPING THE FUTURE

Designed to last. With this in mind,
at Premium PSU we have been developing solutions
for the railway industry for more than four decades.
Robust, safe, reliable and high-quality power
conversion systems that strictly comply with
rolling stock regulations.

Premium PSU has been supplying solutions to leading railway companies and its products can be found in vehicles such as trams, light rail vehicles, subways, locomotives or on-board equipment from all over the world and in applications like HVAC systems, auxiliary and emergency systems, propulsion systems or low battery starters, among others.

Our know-how allows us to go even further through custom designs. Regardless of the challenge or project, Premium PSU's engineering team is able to develop a product from scratch, reducing costs and delivery times. This ex-

pands the technical possibilities of each solution that are conceived entirely in Barcelona, without sacrificing development costs and time.

Finding a power solution for the railway sector is key. Electrical and mechanical components for the railway industry need to provide reliable and safe operations while running under wide temperature fluctuations, condensation, electromagnetic interference and shock and vibrations. Under these circumstances, nothing can be left to chance, and being accompanied by Premium PSU is synonymous to reliability, safety and the highest profitability.

EVERYTHING IS READY TO RAISE
THE BARRIER AND START THE RIDE

Solutions conceived
to work under demanding
environmental conditions



Custom made products
to fit the needs
of each application



Long life solutions:
designed to last



The largest range of DC/AC
inverters on the market for
the railway sector



All processes, from design
to testing and manufacturing,
are carried out in Barcelona



Premium PSU
is a trusted
technological partner

CUSTOM DESIGN CAPABILITIES



Power from 50W up to 72kW
(very high power density, high frequency)



Efficiency up to 97% (no isolated converters)
Efficiency up to 94% (isolated converters)



Input voltage up to 1kVac (1-3Ph) or 1.5kVdc
Output voltage up to 500Vac (1-3Ph) or 750Vdc



Multiple and Wide input and output voltages
(e.g. 14,4...154V in railway apps)



Ingres protection up to IP68



Temperature range: -50...85°C
Cooling: Forced air, convection, conduction



Up to 10kV isolation (surges of $\pm 20\text{kV}$ 1,2/50 μs)



RS232, RS485, I2C, Modbus, CANbus, Ethernet,
Web Embedded Server, Profibus, etc



2KW 3PH DC/AC INVERTER,
PARALLELIZABLE UP TO 4 UNITS
RAILWAY INTEGRATED TRACK
MANOEUVRING SYSTEM



35KW+5KW V/F 3PH INVERTER
750VIN
RAILWAY HVAC COMPRESSOR AND FANS
POWER SOURCE



DC/DC CONVERTER, MULTIPLE
REDUNDANT OUTPUT
RAILWAY SIGNALING (ERTMS)



400W DC/DC CONVERTER,
110VIN/290VOUT
RAILWAY EMERGENCY VENTILATION



2KW BATTERY CHARGER, >90%
EFFICIENCY
RAILWAY LEVEL CROSSING GATES



4.4KVA 3PH DC/AC, 110VIN
EMERGENCY FANS FOR HVAC SYSTEM

SIC Technology

SIC Technology

Increasing the range of high power with innovative solutions to cover all needs for the railway market is key to keep giving shape to power the future.

Premium PSU has been providing reliable power supply solutions for the main companies of the railway sector since its early days. This path began in the early 80s with a special retro fit design for the subway of Madrid (a 300 W DC/DC converter with dual output) and continues to this day. Premium PSU is outstanding developing and manufacturing limited series of completely custom-made products

Our solutions for the railway market offer a 5 year warranty and comply with standards according to the needs of the application. Some of them are:

- IEC50155 (Rolling stock electronic equipment)
- RIA 12 surge protection (3.5VN 20ms)
- IEC61373 (Shock & Vibration)
- IEC50121-3-2, IEC50124-1 (EMC)
- IEC45545 (Fire & Smoke)
- IEC60950-1 IEC63268-1 (Safety)
- IEC50163 (Traction supply voltage)
- RIA 13 and RIA 20 mechanical standards

WE MAKE THE JOURNEY TO YOUR CUSTOM DESIGN SIMPLE



BENEFITS OF DEVELOPING A CUSTOM PRODUCT

- The product is unit and only belongs to you
- Guaranteed supply, no obsolescence surprises
- The product evolves as your customer needs grow
- Differentiation from your competition, adding value to the final solution

WHY CHOOSING A CUSTOMIZED SOLUTION FROM PREMIUM PSU?



+50 engineers
at your service



Affordable
NRE



+40 years
of experience



Design from
scratch



State of the
art design

SPARK SERIES

Designed to operate directly from the catenary line



CVS-280

280W DC/DC CONVERTER 600/750VIN



Parallelizable units by ORing
Low battery voltage starter
Active catenary surges filter
Input voltage according to EN50163:2006 and EN50124-2:2017

Input Voltage Range [V] 400 - 1100
Output Voltage Range [V] 21.6 - 121

OVX-6400

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



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

Input Voltage Range [V] 400-1000
Output Voltage Range [V] 80 - 400

AC MASTER SERIES

Railway AC/AC Variable Frequency Drives



VDX-10K

10KVA AC/AC VARIABLE FREQUENCY DRIVE



Suitable for motors control
Remote control via RS232
Sine wave output voltage

Input Voltage Range [V] 360-440
Output Voltage Range [V] 80-400

TDS-3300

3300VA AC/AC FREQUENCY CONVERTER



Suitable for socket AC power
Input-Output Isolation
Stable output voltage

Input Voltage Range [V] 432-528
Output Voltage Range [V] 230

DC/AC CONVERTERS



OCS-260

1PH 260VA DC/AC INVERTERS



Extreme reliability
Sine wave output voltage

Input Voltage Range [V] 9.5 - 138
Output Voltage Range [V] 144 - 241.5

OPS-260

1PH IP66 260VA DC/AC INVERTER



Extreme reliability
Sine wave output voltage
IP66

Input Voltage Range [V] 9.5 - 138
Output Voltage Range [V] 144 - 241.5

ODS-750

1PH 450-750W DC/AC INVERTERS



High power density
Extreme reliability
Sine wave output voltage

Input Voltage Range [V] 9.5 - 138
Output Voltage Range [V] 0 - 230

ODS-1500

1PH 1500W DC/DC CONVERTERS



Very high power density
Configurable power
Sine wave output voltage

Input Voltage Range [V] 16.8 - 138
Output Voltage Range [V] 0 - 230

ODS-3000

1PH 3000VA DC/AC INVERTERS



Very high power density
Configurable power
Sine wave output voltage

Input Voltage Range [V] 16.8 - 138
Output Voltage Range [V] 0 - 230

ODX-1300

3PH 1300VA DC/AC INVERTERS



Very high power density
Sine wave output voltage
Configurable power & soft start

Input Voltage Range [V] 16.8 - 138
Output Voltage Range [V] 150 - 400

ODX-3000

3PH 3000VA DC/AC INVERTERS



Very high power density
Sine wave output voltage
Configurable power & soft start

Input Voltage Range [V] 16.8 - 138
Output Voltage Range [V] 0 - 400

ODX-4500

3PH 4500VA DC/AC INVERTERS



Very high power density
Configurable power & soft start
Sine wave output voltage

Input Voltage Range [V] 50.4 - 138
Output Voltage Range [V] 0 - 400

ODX-6000

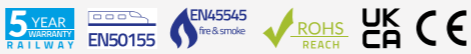
3PH 6000VA DC/AC INVERTERS



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

Input Voltage Range [V] 16.8 - 138
Output Voltage Range [V] 0 - 400

DC/DC CONVERTERS



CCS-60 *DISCONTINUED*
50-70W DC/DC CONVERTERS



Low profile
Extreme reliability



Input Voltage Range [V] 9.5 - 144
Output Voltage Range [V] 4.5 - 55.2

CTS-60
50-70W DC/DC CONVERTERS



Extreme reliability
Wide input/output range combinations
MTBF >1Mh @ 40°C



Input Voltage Range [V] 14.4 - 144
Output Voltage Range [V] 4.5 - 55.2

CLS-120
120W WIDE INPUT RANGE DC/DC CONVERTERS



Universal input range
Efficiency up to 91%



Input Voltage Range [V] 14.4 - 154
Output Voltage Range [V] 10.8 - 69.6

CTS-120
100-140W DC/DC CONVERTERS



MTBF >1Mh @ 40°C
Extreme reliability



Input Voltage Range [V] 14.4 - 144
Output Voltage Range [V] 4.5 - 55.2

CTS-240
180-240W DC/DC CONVERTERS



MTBF >1Mh @ 40°C
Extreme reliability



Input Voltage Range [V] 14.4 - 275
Output Voltage Range [V] 4.5 - 55.2

CRS-500
500W DC/DC CONVERTERS



Extreme reliability,
Oring FET, current sharing
& hold-up time options.



Input Voltage Range [V] 14.4 - 144
Output Voltage Range [V] 21.6 - 55.2

CRS-1000
1000W DC/DC CONVERTERS



Extreme reliability,
Oring FET, current sharing
& hold-up time options



Input Voltage Range [V] 14.4 - 144
Output Voltage Range [V] 21.6 - 126.4

CRS-2000
2000W DC/DC CONVERTERS



High power density
Wide input/output range combinations



Input Voltage Range [V] 14.4 - 154
Output Voltage Range [V] 21.6 - 126.5

CBS-10K
10KW PEAK DC/DC CONVERTER

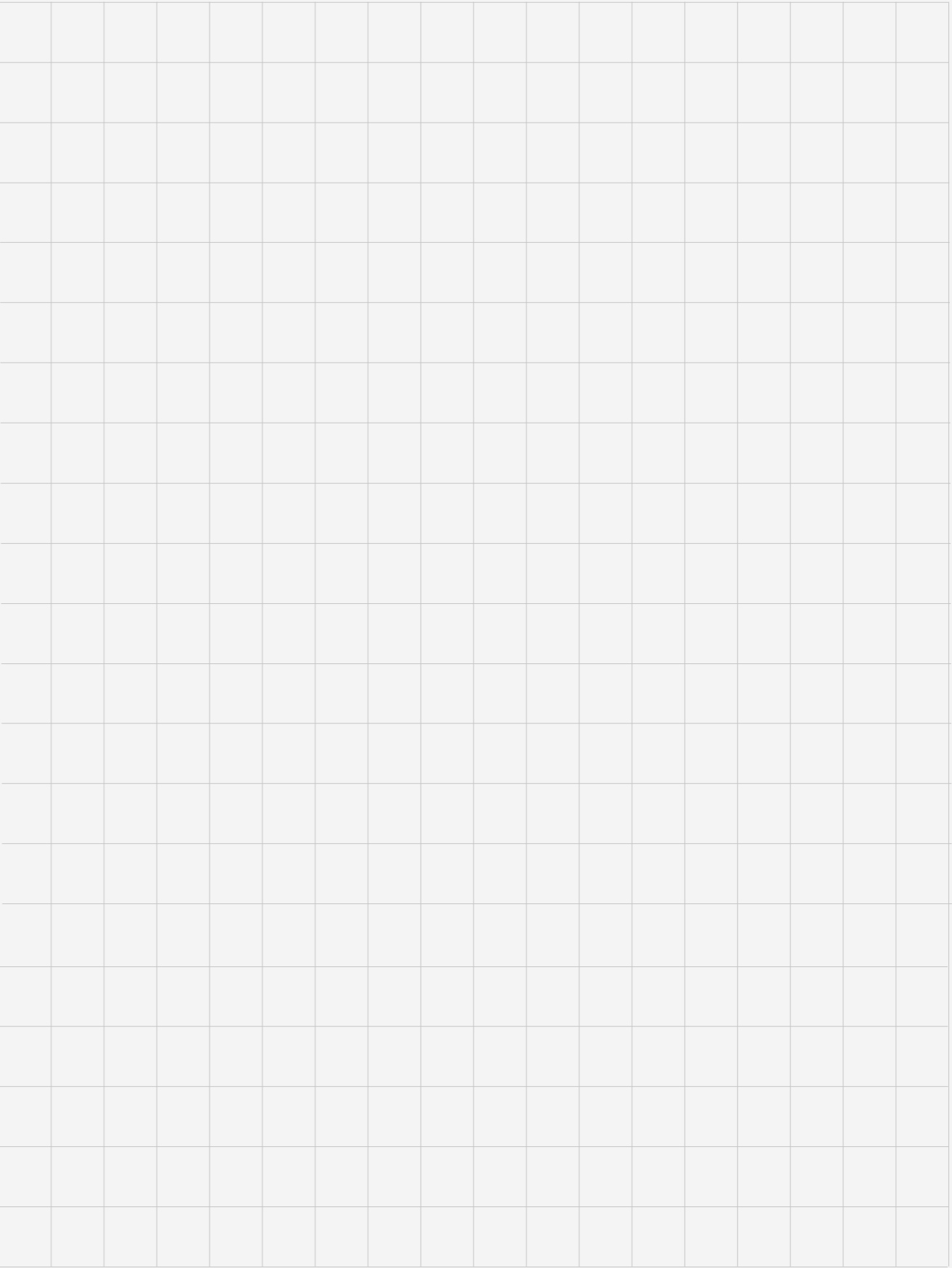


Up to 10 kW during 40s
O-ring output diode
up to 2000V



Input Voltage Range [V]
16.8 - 138 (14.4 - 154Vdc 0.1s)
Output Voltage Range [V] 500

DRAW THE POWER BLOCK DIAGRAM OF YOUR PROJECT
WE PROVIDE THE SOLUTION TO YOUR CHALLENGE





Premium
Powering Your Challenge

#SHAPINGTHEFUTURE



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