

P R B X

POWERBOX Marine Line
PT503 Series
250W
Single Output
AC/DC DIN-Rail Switch Mode Power Supply

Features

GL Approved for bridge use
EN60945 compliant
Universal input (90 – 265Vac)
Efficiency above 90%
Active Power Factor Correction
Adjustable output
Overload and overvoltage protection
Thermal overload protection
Conformal coating
DC OK signal and potential free contact
Cooling by free air convection
DIN-Rail mounting on back or side
RoHS compliant
MTBF (acc. MIL-HDBK-217F): 620000 hours

Input

Input range 90-265VAC, 125-375VDC.
Frequency 45-63Hz. 440Hz with reduced PFC.
Inrush current 30A, cold start @ 230VAC/25°C.
Input current <1.3A @ 230VAC.
Input fuse 4AT, internal, not user serviceable.
Efficiency 90%.
Leakage current <3.5mA.

Output

Output voltage 24VDC, adjustable 23-29V.
Output power 250W.
Minimum load 0A.
Load regulation $\pm 0.5\%$.
Temperature coefficient $\pm 0.02\%/^{\circ}\text{C}$.
Overvoltage protection 32V.
Overload protection Hiccup mode. Latching optional.
Peak short circuit current 20A ($\leq 100\text{ms}$).
Overtemp. protection $\pm 90^{\circ}\text{C}$ internal temperature.
Turn-on delay $\leq 2\text{s}$ @ 90VAC.
DC OK signalling Green LED on front.
Open collector; active low; <25mA,
<30V when not active.
Potential free contact; active closed; I <1A,
open voltage <30V.

Environmental

Thermal performance
Operating temperature -25 to +70°C without derating.



Storage temperature -40°C to +85°C.
Humidity 5-95%, condensing @ +55°C.
Conformal coating.
Vibration Germanischer Lloyd table 3.16.
High vibration strain ± 1.6 mm displacement;
2 – 25 Hz. 4g; 25 – 100 Hz (1 octave/min).
Altitude 10,000 feet operating.
30,000 feet non-operating.

General

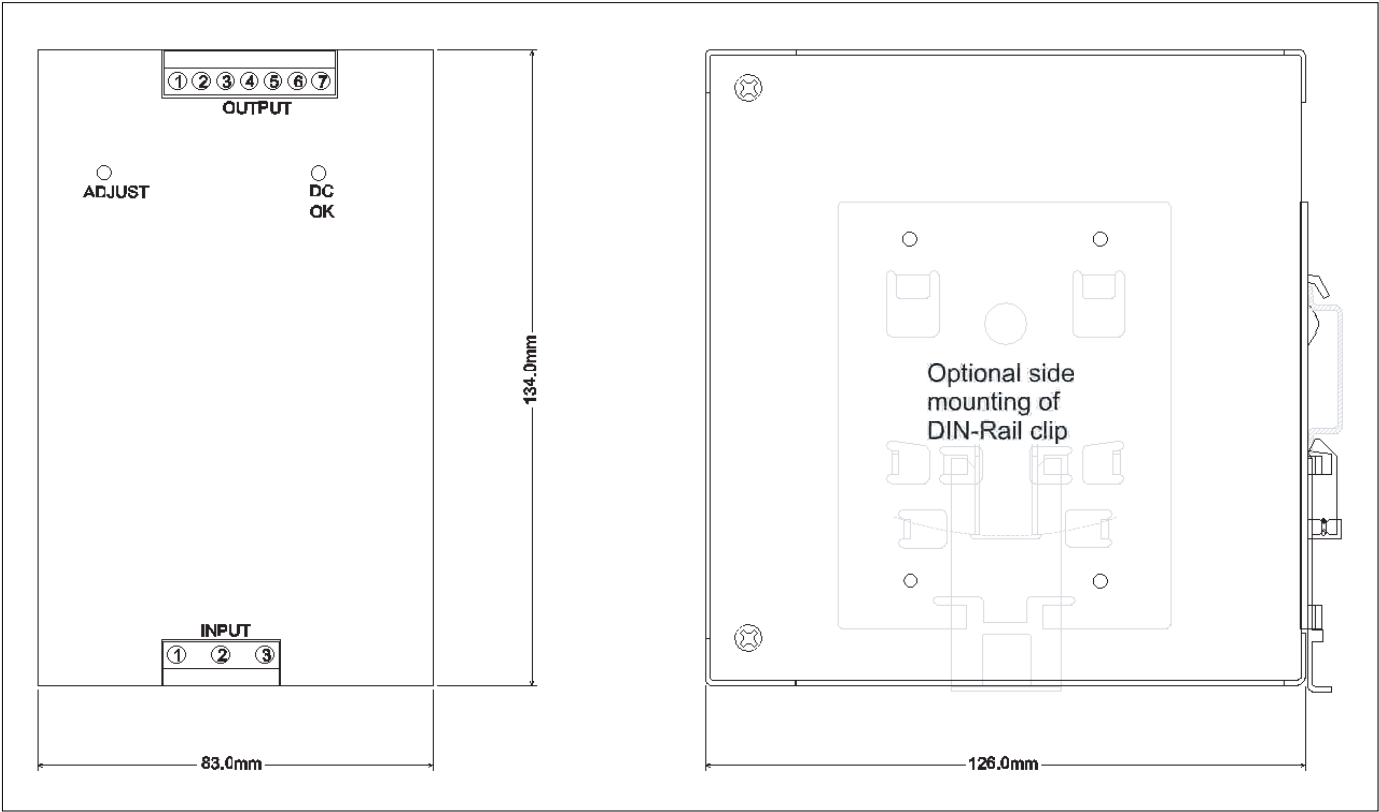
Isolation voltage 2000VAC Input/Output.
2000VAC Input/Chassis.
Dimensions (HxWxD) 134 x 83 x 126 mm.
Excluding DIN-Rail mounting device.
Add 10mm for standard mounting device and
EN50022 DIN-Rail.
Weight <1.2 kg.
Warranty 2 years.

Standards

Safety standards According to UL508C.
EMC Emissions EN60945 conducted & radiated.
Harmonics EN61000-3-2 compliant.
ESD EN61000-4-2 Air $\pm 8\text{kV}$. Contact $\pm 4\text{kV}$.
Electromagnetic fields EN61000-4-3 10V/m 8MHz-2GHz.
EFT/Burst EN61000-4-4 2kV.
Surge EN61000-4-5 Line-Line 0.5kV. Line-GND 1kV.
Conducted immunity EN61000-4-6 3VRMS, 150kHz-80MHz.
Conducted LF IEC60533 3VRMS, 50Hz-12kHz.
HV immunity IEC60947-2 2kV, 60s.
GL approval Germanischer Lloyd Certificate 33 853-06 HH.
Environmental category: D, EMC1.
Guidelines for the Performance of Type
Approvals Chapter 2, Edition 2003.
CE approval EMC Directive 2014/30/EU.
Low Voltage Directive is 2014/35/EU.

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Mechanical



Pin Connection

Input Connector	
Pin	Function
1	Line
2	Neutral
3	Safety Ground

Output Connector	
Pin	Function
1	Output DC+
2	Output DC+
3	Output DC-
4	Output DC-
5	DC OK, Potential Free Contact
6	DC OK, Potential Free Contact
7	DC OK, Open Collector

Wire Gauge	
AWG	24-12
Solid	0,2-4mm ²
Flexible	0,2-2,5mm ²

Specifications are subject to change without notice.