

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	±0.5%.
Temperature coefficient	±0.02%/°C.
Overvoltage protection	32V.
Overload protection	Hiccup mode. Latching optional.
Peak short circuit current	20A (≤100ms).
Overtemp. protection	±90°C internal temperature.
Turn-on delay	≤2s @ 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

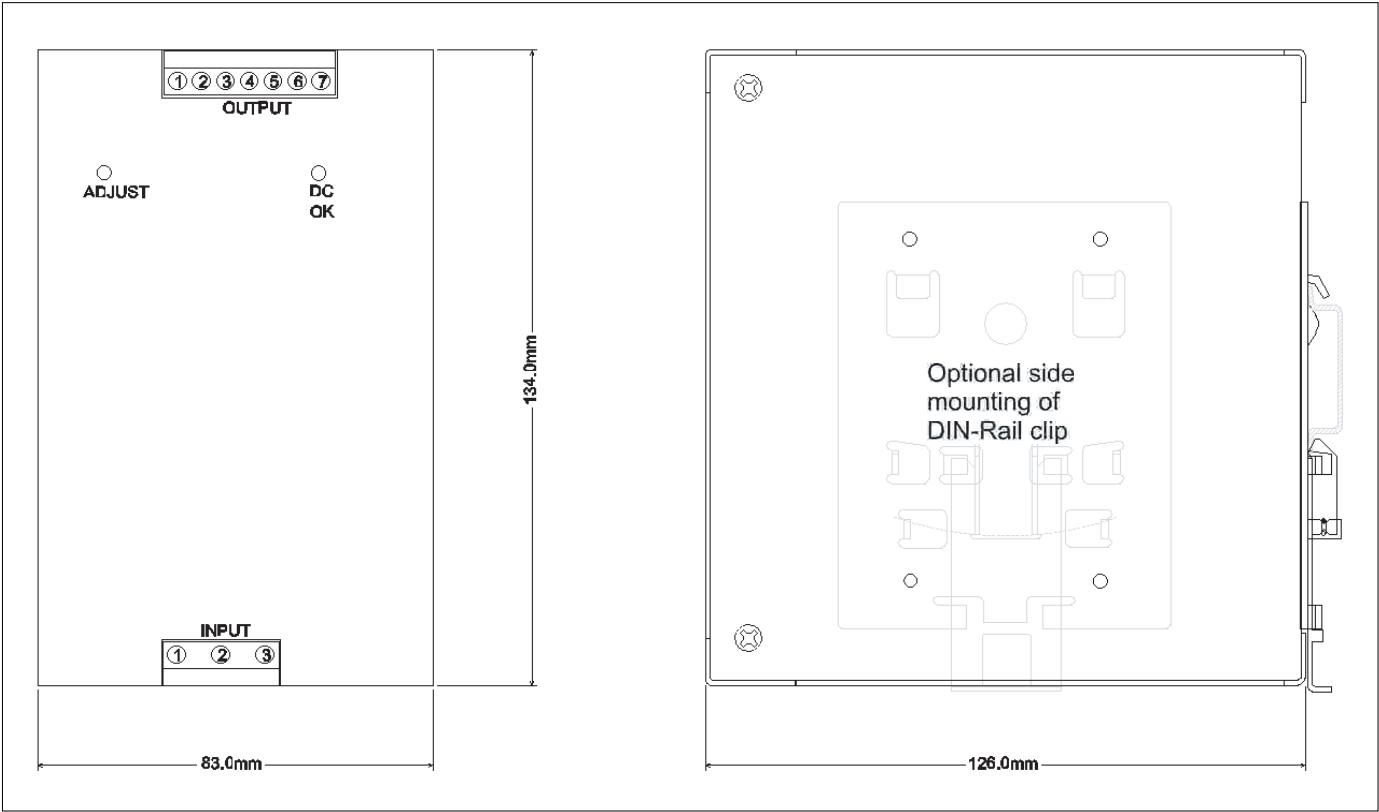
Isolation voltage	2000VAC Input/Output.
	2000VAC Input/Chassis.
Dimensions (HxWxD)	134 x 83 x 126 mm.
	Excluding DIN-Rail mounting device.
	Add 10mm for standard mounting device and EN50022 DIN-Rail.
Weight	<1.2 kg.
Warranty	2 years.

Standards

Safety standards	According to UL508C.
EMC Emissions	EN60945 conducted & radiated.
Harmonics	EN61000-3-2 compliant.
ESD	EN61000-4-2 Air ±8kV. Contact ± 4 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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PT503 Series
250W
Single Output
AC/DC DIN-Rail Switch Mode Power Supply

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.