

PT503 250W DIN-Rail AC/DC power supply for marine and offshore applications



- GL Approved for bridge use
- EN60945 compliant
- Universal input (90 - 265V_{ac})
- 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

Features

Input

Input Range	90 - 265 V _{ac} , 125 - 375 V _{dc}
Frequency	47 - 63 Hz 440 Hz with reduced PFC
Inrush Current	30 A; cold start @ 230V _{ac} / 25°C
Input current	<1.3 A @ 230V _{ac}
Input fuse	4 AT; internal, not user serviceable
Efficiency	>90%
Safety ground	
Leakage current	<3.5 mA

Output

Output Voltage	24V adjustable 23 - 29 V
Output Power	250 W
Minimum load	0 A
Load Regulation	± 0.5 %
Temperature coefficient	± 0.02 %/°C
Overvoltage protection	32 V
Overload protection	Hiccup mode Latching optional
Peak short circuit current	20 A (≤ 100 ms)
Overtemperature protection	± 90 °C internal temp.
Turn-on delay	≤ 2 s @ 90 V _{ac}
DC OK signalling	Green LED on front Open collector; active low; < 25mA < 30V when not active Potential free contact; active closed; I < 1 A open voltage < 30V

EMC Specifications

Emissions	EN60945	conducted & radiated
Harmonics	EN61000-3-2	compliant
ESD	EN61000-4-2	Air ± 8 kV 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	3V _{RMS} , 150kHz-80MHz
Conducted LF	IEC60533	3V _{RMS} , 50Hz-12kHz
HV immunity	IEC60947-2	2kV, 60s

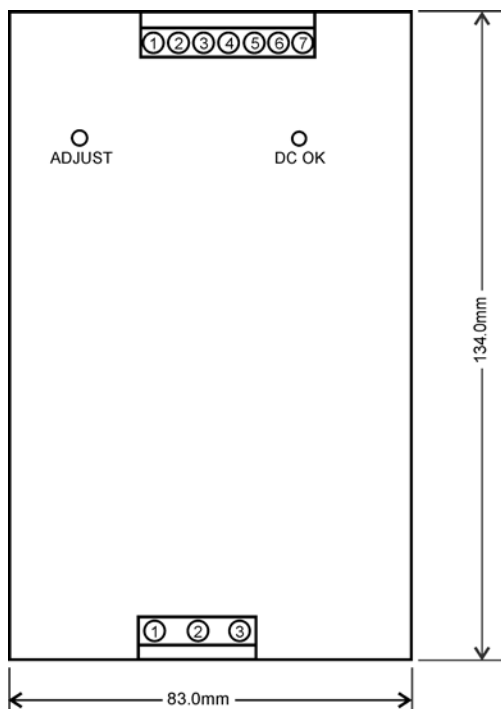
Environmental

Thermal performance	
Operating	-25 - +70°C without derating
Storage	-40 - +85°C
Humidity	5 - 95%; non-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

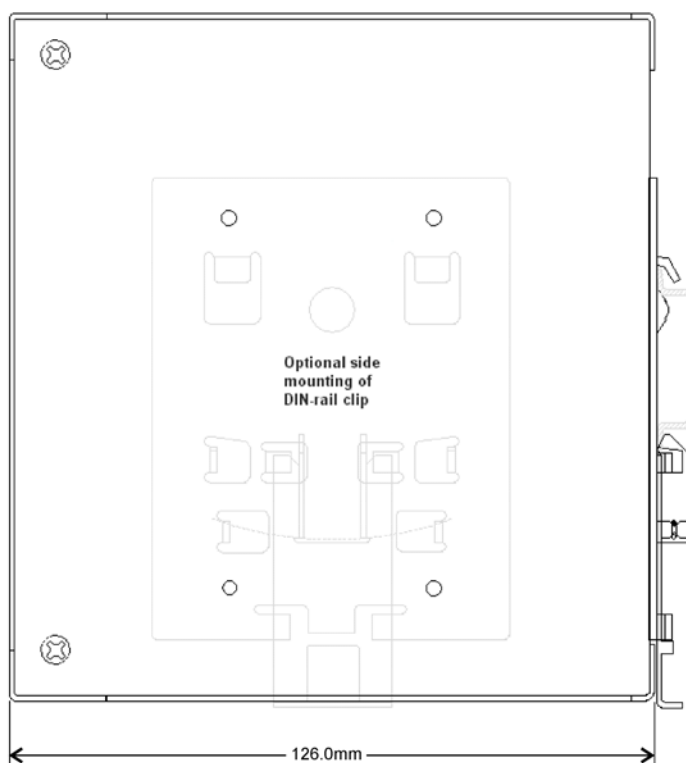
General

Isolation voltage	Input/Output	2000 V _{ac}
	Input/Chassis	2000 V _{ac}
Safety	According to UL508C	
Weight	< 1.2 kg	
Warranty	2 Years	

Front view



Side view



Input Connector

Pin	Function
1	Line
2	Neutral
3	Safety Ground

Dimensions

Height	134 mm
Width	83 mm
Depth	126 mm Excluding DIN-Rail mounting device
	Add 10 mm for standard mounting device and EN50022 DIN-Rail

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

Approvals



Germanischer Lloyd Certificate 33 853-06 HH
Environmental category: D, EMC1
Guidelines for the Performance of Type
Approvals Chapter 2, Edition 2003



Low Voltage Directive 73/23/EEC and 93/68/EEC
EMC Directive 89/336/EEC and 92/31/EEC and 93/68/EEC

Wire Gauge

AWG	24 – 12
Solid	0.2 – 4 mm ²
Flexible	0.2 – 2.5 mm ²

Other Power Technics products for Marine and Offshore Applications

PT506	75 W	DIN-Rail AC/DC Power Supply
PT502	125 W	DIN-Rail AC/DC Power Supply
PT504	500 W	DIN-Rail AC/DC Power Supply
PT505	250 W	DIN-Rail DC/DC Power Supply