

# P R B X

## POWERBOX Marine Line PT511 Series 500W Single Output DC/DC DIN-Rail Power Supply Manual

### Features

GL approved for bridge use

EN60945 compliant

Efficiency above 90%

Adjustable output

Overload and overvoltage protection

Thermal overload protection

Conformal coating

DC OK signal and potential free contact

Internal redundancy diode

Active current sharing

RoHS compliant

Cooling by free air convection

MTBF (acc.MIL-HDBK-217F):500000 hours

### Installation and Safety

This Power Supply Unit is to be installed and put into operation by qualified personnel only, while observing national and local regulations. Read this manual thoroughly to guarantee safe operation and to utilise all features.

This Power Supply Unit is meant for installation as built-in equipment. It must be mounted within an enclosure that is designed to prevent personal injury resulting from accessibility to live parts.

#### Caution



To prevent the risk of electrical shock, never carry out work on live parts.

#### Warning



Explosion Hazard - Do not disconnect while circuit is alive unless area is known to be non-hazardous.

#### Warning

During operation the temperature of the housing can be very high.

To guarantee sufficient convection a minimum distance of 50 mm below and above the device has to be observed.



#### Manufacturers declaration of conformity

In conformance with EMC guideline 2014/30/EU and Low Voltage Directive 2014/35/EU.



### Connections

#### Output connections

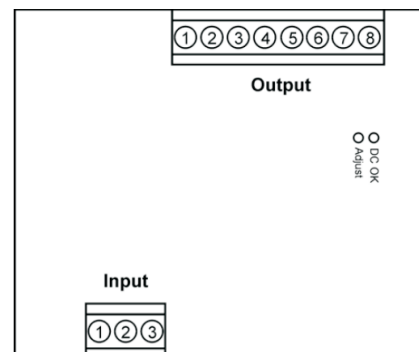
Pin	Function
1	CS; Current Share Bus
2	DC OK; Open Collector
3	DC OK; Potential Free Contact
4	DC OK; Potential Free Contact
5	Output DC -
6	Output DC -
7	Output DC +
8	Output DC+

#### Input and Output Wire Gauge

AWG	20-6
Solid	0,5 - 16 mm <sup>2</sup>
Flexible	0,5 - 16 mm <sup>2</sup>

#### Input connections

Pin	Function
1	Ground
2	Input DC -
3	Input DC +



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Specifications

Input	
Input range	18 - 32 VDC.
Inrush current	20 A; cold start @ 24VDC / 25°C.
Input current	<32 A @ 24VDC.
Input fuse	35 AT; internal, not user serviceable.
Efficiency	>90%.

Output	
Output voltage	24 V, adjustable 23 - 29 V.
Output power	500 W.
Minimum load	0 A.
Load regulation	± 1 %.
Temperature coefficient	± 0.02 %/°C.
Overvoltage protection	< 35 V.
Overload protection	110 - 130 % of output constant current mode.
Peak short circuit current	30 A (< 100 ms).
Overtemp. protection	± 90 °C internal temp.
Turn-on delay	< 2 s @ 18 VDC.
Share Bus	Single wire bus.
Redundancy	Internal diode.
DC OK signalling	Green LED = DC OK Red LED = DC Fail Open collector; active low; < 25mA < 30V when not active Potential free contact; active closed; I < 1 A open voltage < 30V

Mechanical	
Height	134 mm
Width	160 mm
Depth	126 mm Excluding DIN-Rail mounting device
Add 10 mm for standard mounting device and EN50022 DIN-Rail	
The power supply can be snapped onto all mounting DIN Rails in accordance with EN50022-35. Disconnecting can be carried out by lifting the release clip with a screwdriver.	

