

# PT576

## PT576 125W DIN-Rail AC/DC power supply for marine and offshore applications



- GL Approved for bridge use (PENDING)
- 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
- Internal redundancy diode
- Single or parallel mode user selectable

### Features

### Input

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Input range     | 90-265 V <sub>ac</sub> , 125-375 V <sub>dc</sub> |
| Frequency       | 47 – 63 Hz<br>440 Hz with reduced PFC            |
| Inrush current  | 30 A; cold start @ 230 V <sub>ac</sub> / 25°C    |
| Input current   | <0.65 A @ 230 V <sub>ac</sub>                    |
| Input fuse      | 3.15 AT; internal, not user serviceable          |
| Efficiency      | > 90%                                            |
| Safety ground   |                                                  |
| leakage current | <3.5 mA                                          |

### EMC Specifications

|                        |             |                                       |
|------------------------|-------------|---------------------------------------|
| Emissions              | EN60945     | conducted & radiated                  |
| Harmonics              | EN61000-3-2 | compliant                             |
| ESD                    | EN61000-4-2 | Air ± 8 kV<br>Contact ± 6 kV          |
| Electromagnetic fields | EN61000-4-3 | 10 V/m 8 MHz - 2 GHz                  |
| EFT/Burst              | EN61000-4-4 | 2 kV                                  |
| Surge                  | EN61000-4-5 | Line - Line 0.5 kV<br>Line - GND 1 kV |
| Conducted immunity     | EN61000-4-6 | 3 VRMS, 150 kHz - 80 MHz              |
| Conducted LF           | IEC60533    | 3 VRMS, 50 Hz - 12 kHz                |
| HV immunity            | IEC60947-2  | 2 kV, 60 s                            |

### Output

|                            |                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------|
| Output voltage             | 24 V<br>adjustable 23 - 29 V                                                                  |
| Output power               | 125 W<br>Peak power 187.5 W (10s)                                                             |
| Minimum load               | 0 A                                                                                           |
| Load regulation            | ±0.5 %                                                                                        |
| Temperature coefficient    | ± 0.02 %/°C                                                                                   |
| Overvoltage protection     | 32 V                                                                                          |
| Overload protection        | User selectable (see table 1)                                                                 |
| Peak short circuit current | 10 A (<100 ms)                                                                                |
| Overtemperature protection | ± 90 °C internal temp.                                                                        |
| Turn-on delay              | < 2 s @ 90 V <sub>ac</sub>                                                                    |
| DC OK signalling           | Green LED on front<br>Potential free contact;<br>active closed; I < 1 A<br>open voltage < 30V |

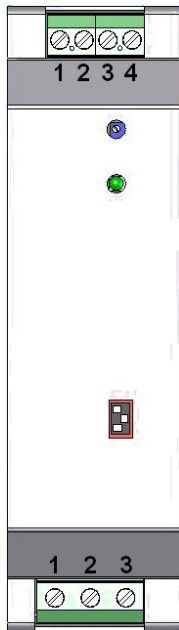
### Environmental

|                     |                                                                                                                               |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 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<br>High vibration strain<br>± 1.6 mm displacement; 2 – 25 Hz<br>4 g; 25 – 100 Hz (1 octave/min) |
| Altitude            | Max. 10,000 feet; operating<br>Max. 30,000 feet; non-operating                                                                |

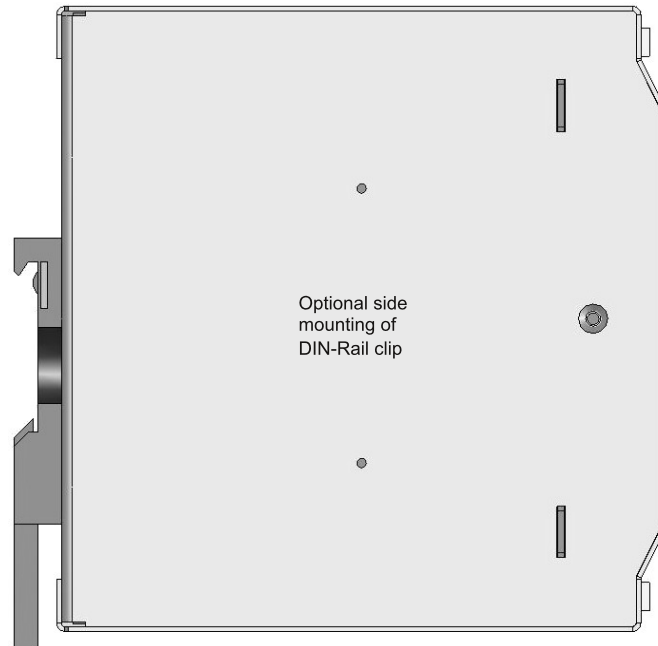
### General

|                   |                      |                      |
|-------------------|----------------------|----------------------|
| Isolation voltage | Input/Output         | 3000 V <sub>ac</sub> |
|                   | Input/Chassis        | 2000 V <sub>ac</sub> |
| Safety            | According to EN60950 |                      |
| Weight            | < 0.8 kg             |                      |
| Warranty          | 2 Years              |                      |

Front view



Side view



## Input Connector

| Pin | Function      |
|-----|---------------|
| 1   | Line          |
| 2   | Neutral       |
| 3   | Safety Ground |

## Dimensions

|                                                             |        |
|-------------------------------------------------------------|--------|
| Length                                                      | 132 mm |
| Width                                                       | 37 mm  |
| Height                                                      | 128 mm |
| Excluding DIN-Rail mounting device                          |        |
| Add 10 mm for standard mounting device and EN50022 DIN-Rail |        |

## Output Connector

| Pin | Function                      |
|-----|-------------------------------|
| 1   | DC OK; Potential Free Contact |
| 2   | DC OK; Potential Free Contact |
| 3   | Output DC+                    |
| 4   | Output DC-                    |

## Approvals

|          |                                        |
|----------|----------------------------------------|
| PENDING: | Germanischer Lloyd                     |
|          | Environmental category: D, EMC1        |
|          | Guidelines for the Performance of Type |
|          | Approvals Chapter 2, Edition 2003      |



|                                  |
|----------------------------------|
| Low Voltage Directive 2006/95/EC |
| EMC Directive 2004/108/EC        |

## Wire Gauge

|          |                           |
|----------|---------------------------|
| AWG      | 24 - 12                   |
| Solid    | 0.2 - 4 mm <sup>2</sup>   |
| Flexible | 0.2 - 2.5 mm <sup>2</sup> |

## Dip Switch Settings

Table 1

| SW1 | SW2 | SW3 |          |
|-----|-----|-----|----------|
| OFF | OFF | X   | OPTION 1 |
| OFF | ON  | X   | OPTION 2 |
| ON  | OFF | X   | OPTION 3 |
| ON  | ON  | X   | OPTION 4 |

Table 2

| SW1 | SW2 | SW3 |                    |
|-----|-----|-----|--------------------|
| X   | X   | OFF | SINGLE OPERATION   |
| X   | X   | ON  | PARALLEL OPERATION |

|   | ON | OFF |
|---|----|-----|
| 3 |    |     |
| 2 |    |     |
| 1 |    |     |

OPTION 1: overload results in latched switch off

OPTION 2: overload results in hiccup mode

OPTION 3: overload results in current limit, with latched switch off short circuit protection

OPTION 4: overload results in current limit, with latched switch off short circuit protection