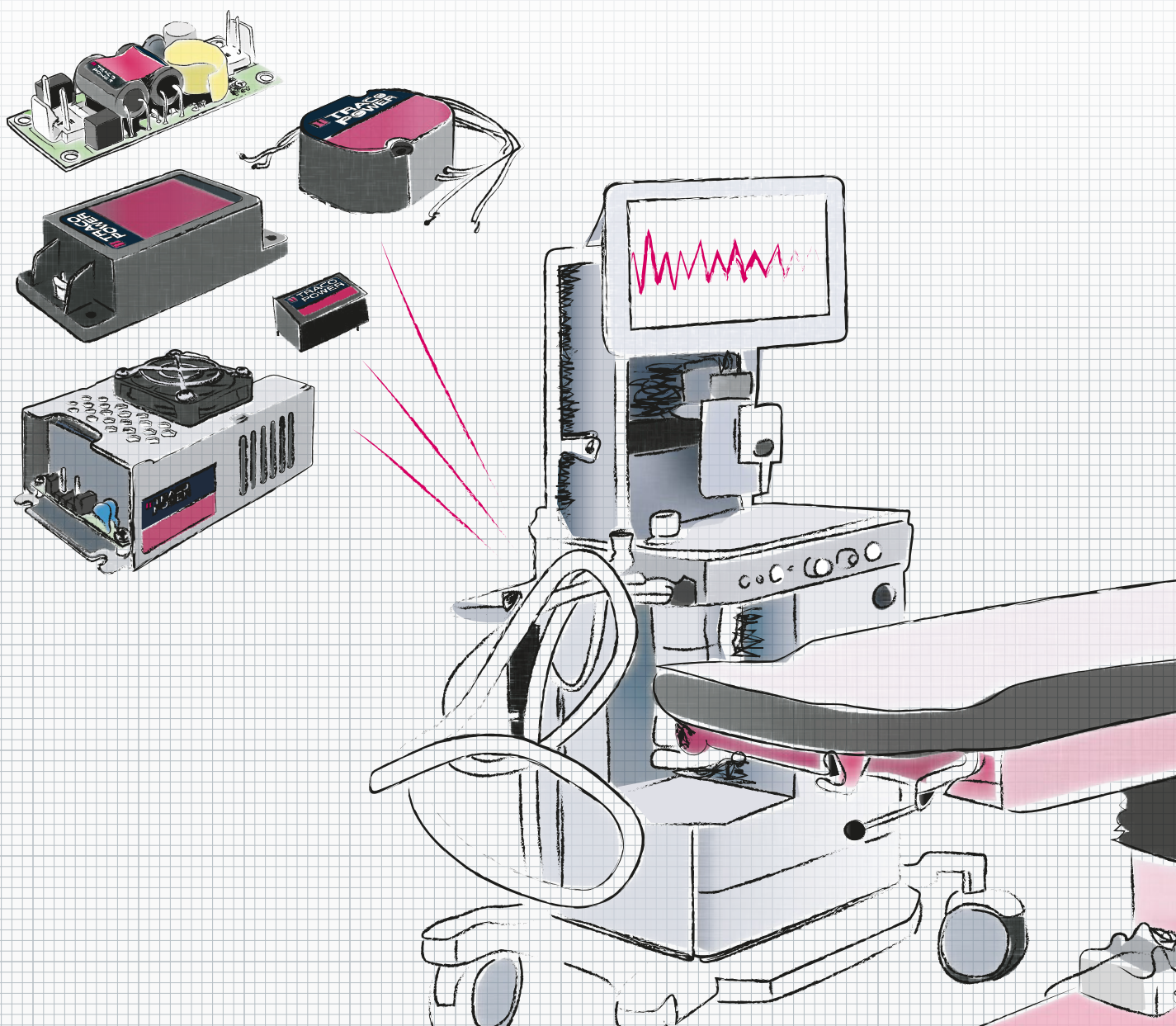




## 2025 | Medical Power Solutions Product Portfolio



## Company Profile

TRACO Electronic AG is a Swiss company with headquarters based in Baar, Switzerland. As a leading power supply specialist with more than 40 years experience we are dedicated to the design and manufacturing of high quality DC/DC and AC/DC power conversion products.

TRACO markets its products worldwide under the registered trademark TRACO POWER. Our mission is to provide our customers with optimal power supply solutions in terms of performance, quality and cost for their individual application.

## TRACO POWER Products for applied versus non applied medical requirements

**For non-applied parts** sections of medical equipment, power and safety requirements can be satisfied by any of Traco Power power supplies, non-medical for 1 × MOOP applications and medical rated power supplies for all other MOPP levels. If this part of the system is attaching to a DC input from a non-medical rated power supply, then use of our DC/DC Converters should satisfy safety requirements for 1 × MOPP / 2 × MOPP applications.

**For applied parts** sections of medical equipment, the clearance and creepage distances, as well as a secondary isolation barrier are required to further isolate the patient from potentially high voltages (2 × MOPP is means of patient protection). The isolation barrier may be satisfied using Traco Power medical rated 2 × MOPP AC/DC power supplies or DC/DC converters.

Even this reinforced insulation system does not unconditionally qualify a power supply unit and DC/DC converter for medical applications. Particular and collateral standards also require that a risk/quality management System be in place at the component level, especially for safety critical applications.

**TRACO POWER products** for applied parts applications with a 2 × MOPP rating, have been carefully designed and manufactured to the highest standards to meet the increased quality, reliability and safety standards for medical equipment. These products have fully regulated output voltages and feature:

- Product certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 including risk management file
- EMC emission and immunity according to IEC 60601-1-2 edition 4
- Acceptance criteria for electronic assemblies according to IPC-A-610 Level 3
- Design and production according to ISO 13485 quality management system
- 5-year product warranty

## DC/DC converters

### 1–60 Watt 2:1 | 4:1

### AC/DC power supplies

### 5–850 Watt

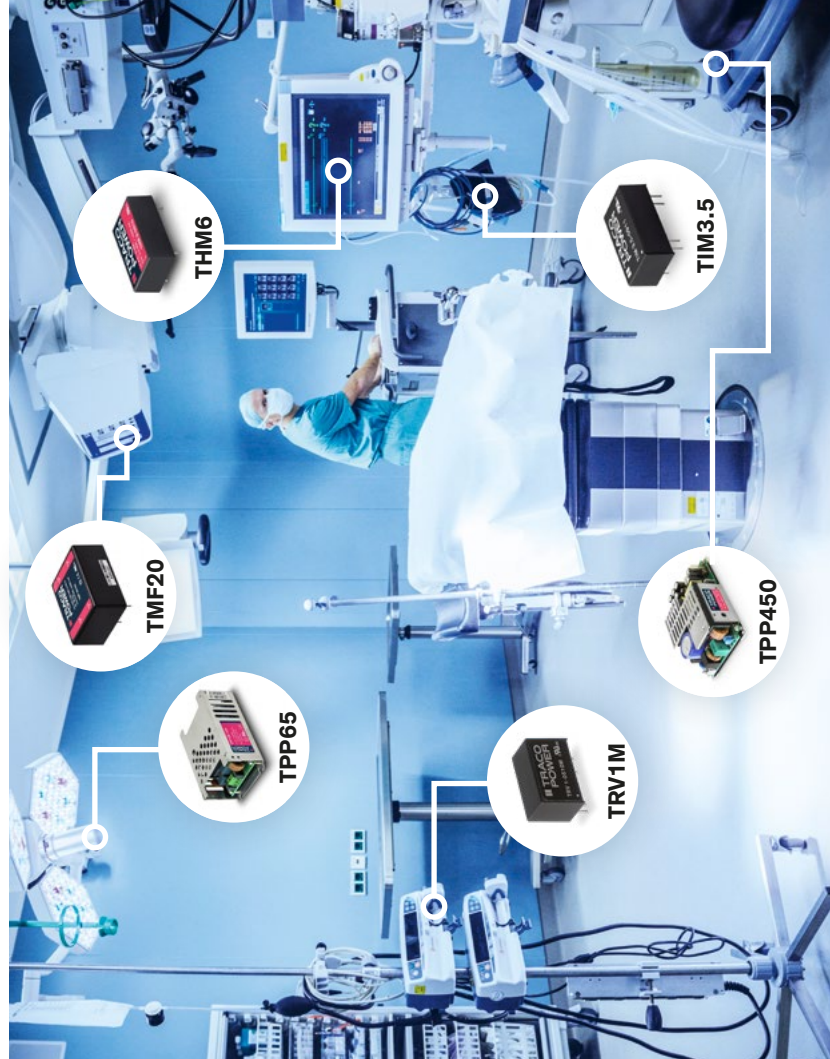
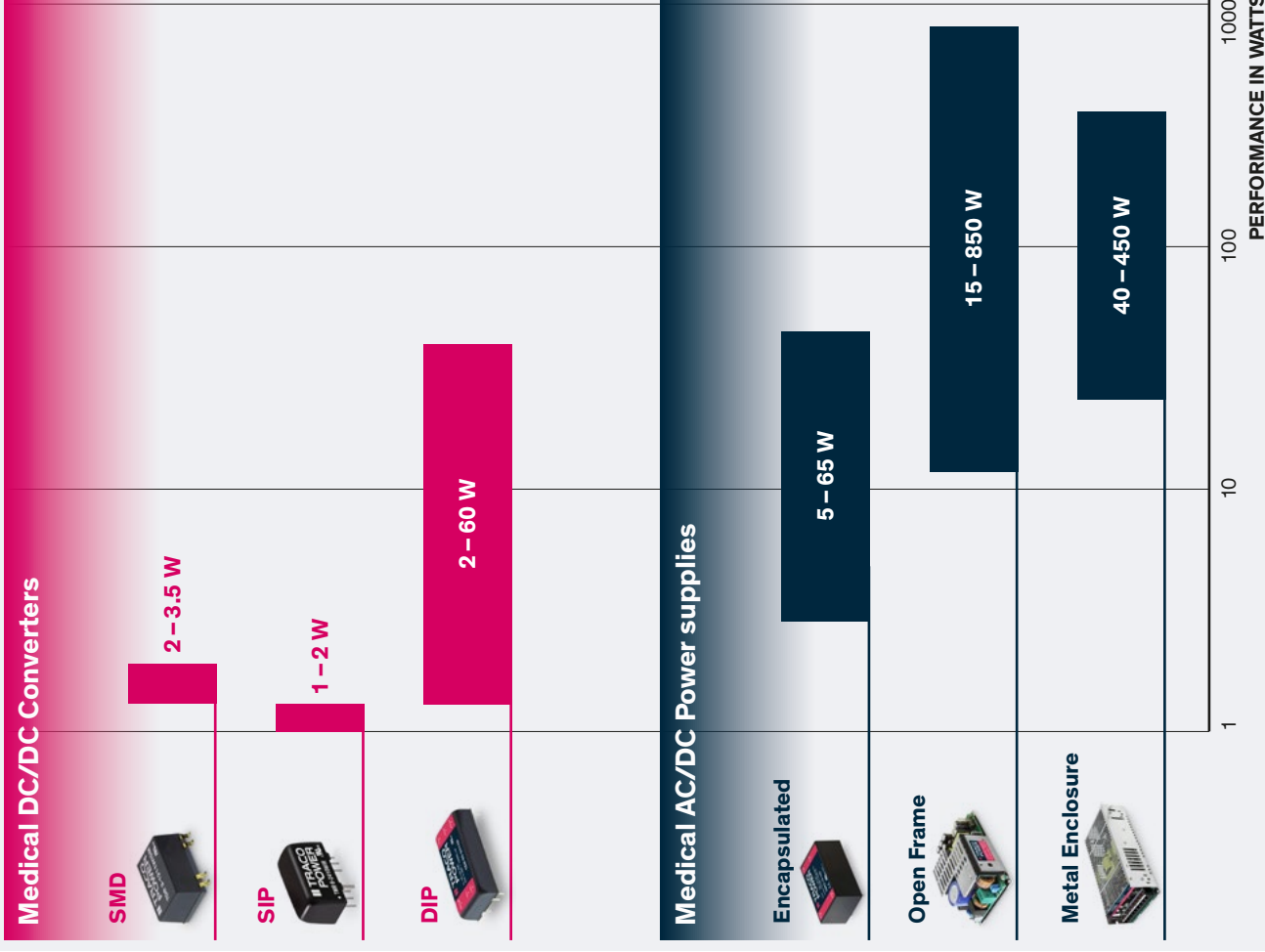
#### Features

- IEC/EN/ES 60601-1 3<sup>rd</sup> Edition for 2 x MOPP
- Risk Management ISO 14971
- IPC-A-610 Class 3
- High Performance Acceptability

#### Standards and Directives

- ISO 9001
- ISO 14001
- RoHS
- REACH
- EMC Acc. EN55032
- ErP Directive

- EMC Emission to IEC 60601-1-2 ed. 4
- Quality Management ISO 13485
- 5-year Warranty



## Index

### DC/DC Converters

|           | Footprint     | Mounting | Input | Housing      | I/O isolation |                     |          |    |
|-----------|---------------|----------|-------|--------------|---------------|---------------------|----------|----|
| TRV 1M    | SIP-9         | PCB      | ±10%  | Encapsulated | 5000 VAC      | 2 × MOPP            | 1 Watt   | 6  |
| TRV 2M    | SIP-9         | PCB      | ±10%  | Encapsulated | 5000 VAC      | 2 × MOPP            | 2 Watt   | 7  |
| TIM 2     | DIP-16        | PCB      | 2 :1  | Encapsulated | 5000 VAC      | 2 × MOPP            | 2 Watt   | 7  |
| TIM 2SM   | DIP-16        | SMD      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 2 Watt   | 8  |
| TIM 3.5   | DIP-16        | PCB      | 2 :1  | Encapsulated | 5000 VAC      | 2 × MOPP            | 3.5 Watt | 8  |
| TIM 3.5SM | DIP-16        | SMD      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 3.5 Watt | 9  |
| THM 3     | DIP-24        | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 3 Watt   | 9  |
| THM 3WI   | DIP-24        | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 3 Watt   | 10 |
| THM 6     | DIP-24        | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 6 Watt   | 10 |
| TIM 6     | DIP-24        | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP <b>NEW</b> | 6 Watt   | 11 |
| THM 6WI   | DIP-24        | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 6 Watt   | 11 |
| THM 10    | DIP-24        | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 10 Watt  | 12 |
| THM 10WI  | DIP-24        | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 10 Watt  | 12 |
| THM 15    | 1.6" × 1.0"   | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 15 Watt  | 13 |
| THM 15WI  | 1.6" × 1.0"   | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 15 Watt  | 13 |
| THM 20    | 1.6" × 1.0"   | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 20 Watt  | 14 |
| THM 20WI  | 1.6" × 1.0"   | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 20 Watt  | 14 |
| THM 30    | 2.0" × 1.0"   | PCB      | 2:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 30 Watt  | 15 |
| THM 30WI  | 2.0" × 1.0"   | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 30 Watt  | 15 |
| THM 60WI  | 2.28" × 1.45" | PCB      | 4:1   | Encapsulated | 5000 VAC      | 2 × MOPP            | 60 Watt  | 16 |

### AC/DC Power Supplies

|           | Footprint     | Mounting  | Input      | Housing             | I/O isolation |          |         |    |
|-----------|---------------|-----------|------------|---------------------|---------------|----------|---------|----|
| TMF 05    | 1.6" × 1.0"   | PCB       | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 5 Watt  | 17 |
| TMF 10    | 2.0" × 1.0"   | PCB       | 90–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 10 Watt | 18 |
| TPP 15A-J | 2.6" × 1.0"   | Chassis   | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 15 Watt | 18 |
| TPP 15A-D | 1.5" × 1.0"   | PCB       | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 15 Watt | 19 |
| TPP 15-J  | 2.82" × 1.14" | Chassis   | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 15 Watt | 19 |
| TPP 15-D  | 1.65" × 1.14" | PCB       | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 15 Watt | 20 |
| TMF 20    | 2.16" × 1.78" | PCB       | 90–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 20 Watt | 20 |
| TMW 24    | 2.09" × 2.0"  | Flush box | 85–264 VAC | Encapsulated (IP68) | 4000 VAC      | 2 × MOPP | 24 Watt | 21 |
| TMF 30    | 2.52" × 1.80" | PCB       | 90–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 30 Watt | 21 |
| TPP 30A-J | 3.34" × 1.36" | Chassis   | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 30 Watt | 22 |
| TPP 30A-D | 2.74" × 1.1"  | PCB       | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 30 Watt | 22 |
| TPP 30-J  | 3.95" × 1.5"  | Chassis   | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 30 Watt | 23 |
| TPP 30-D  | 2.89" × 1.50" | PCB       | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 30 Watt | 23 |
| TMW 36    | 2.09" × 2.0"  | Flush box | 85–264 VAC | Encapsulated (IP68) | 4000 VAC      | 2 × MOPP | 36 Watt | 24 |
| TPP 40A   | 3" × 2"       | Chassis   | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 40 Watt | 24 |
| TPP 40    | 3.53" × 2.38" | Chassis   | 85–264 VAC | Encased             | 4000 VAC      | 2 × MOPP | 40 Watt | 25 |
| TPP 40E-J | 4.3" × 2.2"   | Chassis   | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 40 Watt | 25 |
| TPP 40E-D | 3.2" × 2.2"   | PCB       | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 40 Watt | 26 |
| TPP 65A   | 3" × 2"       | Chassis   | 85–264 VAC | Open frame          | 4000 VAC      | 2 × MOPP | 65 Watt | 26 |
| TPP 65    | 3.53" × 2.38" | Chassis   | 85–264 VAC | Encased             | 4000 VAC      | 2 × MOPP | 65 Watt | 27 |
| TPP 65E-J | 4.3" × 2.2"   | Chassis   | 85–264 VAC | Encapsulated        | 4000 VAC      | 2 × MOPP | 65 Watt | 27 |

# Index

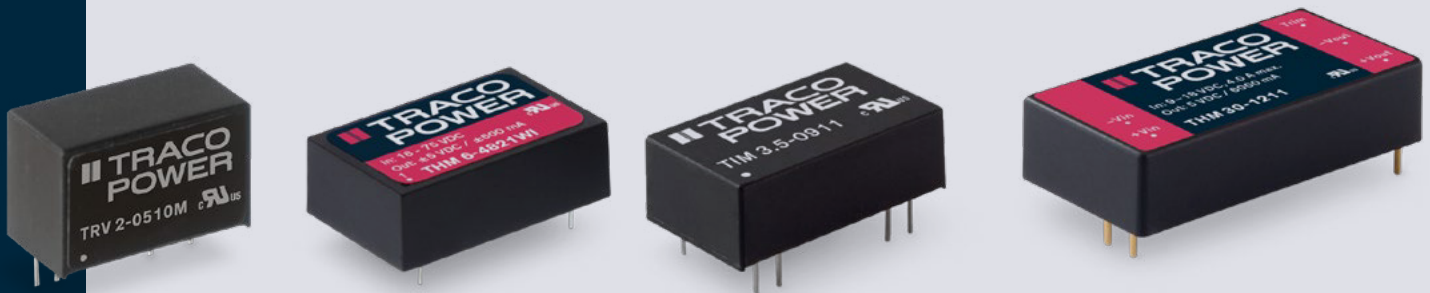
|            | Footprint    | Mounting | Input      | Housing      | I/O isolation |          |     |             |
|------------|--------------|----------|------------|--------------|---------------|----------|-----|-------------|
| TPP 65E-D  | 3.2" × 2.2"  | PCB      | 85–264 VAC | Encapsulated | 4000 VAC      | 2 × MOPP |     | 65 Watt 28  |
| TPP 100A-J | 3" × 2"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP |     | 100 Watt 28 |
| TPP 100    | 3.6" × 2.44" | Chassis  | 85–264 VAC | Encased      | 4000 VAC      | 2 × MOPP |     | 100 Watt 29 |
| TPP 150A-J | 4" × 2"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP |     | 150 Watt 29 |
| TPP 150    | 4.6" × 2.44" | Chassis  | 85–264 VAC | Encased      | 4000 VAC      | 2 × MOPP |     | 150 Watt 30 |
| TPP 180A-M | 3" × 2"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP |     | 180 Watt 30 |
| TPP 180-M  | 3.6" × 2.44" | Chassis  | 85–264 VAC | Encased      | 4000 VAC      | 2 × MOPP |     | 180 Watt 31 |
| TPP 250A   | 4" × 2"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP | NEW | 250 Watt 31 |
| TPP 300A-M | 4" × 2"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP |     | 300 Watt 32 |
| TPP 300-M  | 4" × 2"      | Chassis  | 85–264 VAC | Encased      | 4000 VAC      | 2 × MOPP |     | 300 Watt 32 |
| TPP 450BA  | 5" × 3"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP |     | 450 Watt 33 |
| TPP 450B   | 5.83" × 3"   | Chassis  | 85–264 VAC | Encased      | 4000 VAC      | 2 × MOPP |     | 450 Watt 33 |
| TPP 600A   | 5" × 3"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP | NEW | 600 Watt 34 |
| TPP 850A   | 6" × 4"      | Chassis  | 85–264 VAC | Open frame   | 4000 VAC      | 2 × MOPP | NEW | 850 Watt 34 |

# DC/DC Converters

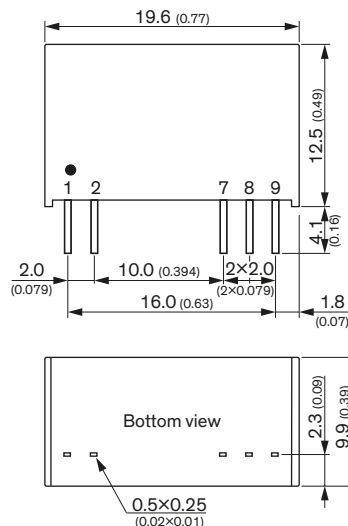
1–60 watt

- IEC/EN/ES 60601-1 3<sup>rd</sup> Edition for 2 × MOPP
- Risk Management ISO 14971
- IPC-A-610 Class 3 High Performance Acceptability

- EMC Emission acc. to IEC 60601-1-2 ed. 4
- Quality Management ISO 13485
- 5-years warranty



## TRV 1M | 1 W



- I/O isolation 5000 VAC (reinforced)
- Short circuit protection
- Semi-regulated outputs
- Input voltage ranges ( $\pm 10\%$ ): 5, 12, 15, 24 VDC
- Operating temperature range  $-40$  to  $+95^\circ\text{C}$  without derating
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and IEC/EN/UL 62368-1
- Low leakage current  $< 2 \mu\text{A}$
- Efficiency up to 85%
- Operation up to 5000 m altitude
- 5-year product warranty

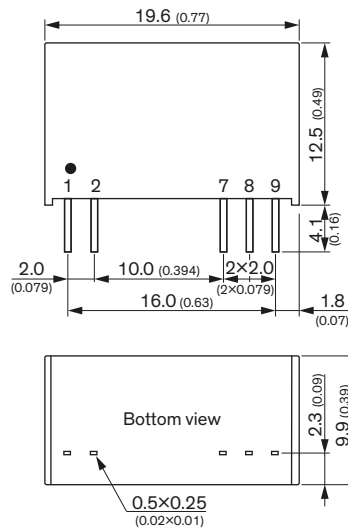
| Pinout |               |             |
|--------|---------------|-------------|
| Pin    | Single Output | Dual Output |
| 1      | +Vin          | +Vin        |
| 2      | -Vin          | -Vin        |
| 7      | -Vout         | -Vout       |
| 8      | No pin        | Common      |
| 9      | +Vout         | +Vout       |

| Model       | Input                         | Vout         | Iout         | Efficiency |
|-------------|-------------------------------|--------------|--------------|------------|
| TRV 1-0510M | 4.5–5.5 VDC<br>(5 VDC nom.)   | 3.3 VDC      | 303 mA       | 80%        |
| TRV 1-0511M |                               | 5 VDC        | 200 mA       | 82%        |
| TRV 1-0512M |                               | 12 VDC       | 83 mA        | 85%        |
| TRV 1-0513M |                               | 15 VDC       | 67 mA        | 84%        |
| TRV 1-0521M |                               | $\pm 5$ VDC  | $\pm 100$ mA | 85%        |
| TRV 1-0522M |                               | $\pm 12$ VDC | $\pm 42$ mA  | 85%        |
| TRV 1-0523M |                               | $\pm 15$ VDC | $\pm 34$ mA  | 84%        |
| TRV 1-1210M | 9.6–14.4 VDC<br>(5 VDC nom.)  | 3.3 VDC      | 303 mA       | 80%        |
| TRV 1-1211M |                               | 5 VDC        | 200 mA       | 82%        |
| TRV 1-1212M |                               | 12 VDC       | 83 mA        | 84%        |
| TRV 1-1213M |                               | 15 VDC       | 67 mA        | 83%        |
| TRV 1-1221M |                               | $\pm 5$ VDC  | $\pm 100$ mA | 82%        |
| TRV 1-1222M |                               | $\pm 12$ VDC | $\pm 42$ mA  | 83%        |
| TRV 1-1223M |                               | $\pm 15$ VDC | $\pm 34$ mA  | 83%        |
| TRV 1-1510M | 12–18 VDC<br>(5 VDC nom.)     | 3.3 VDC      | 303 mA       | 79%        |
| TRV 1-1511M |                               | 5 VDC        | 200 mA       | 83%        |
| TRV 1-1512M |                               | 12 VDC       | 83 mA        | 84%        |
| TRV 1-1513M |                               | 15 VDC       | 67 mA        | 84%        |
| TRV 1-1521M |                               | $\pm 5$ VDC  | $\pm 100$ mA | 82%        |
| TRV 1-1522M |                               | $\pm 12$ VDC | $\pm 42$ mA  | 83%        |
| TRV 1-1523M |                               | $\pm 15$ VDC | $\pm 34$ mA  | 83%        |
| TRV 1-2410M | 19.2–28.8 VDC<br>(5 VDC nom.) | 3.3 VDC      | 303 mA       | 78%        |
| TRV 1-2411M |                               | 5 VDC        | 200 mA       | 82%        |
| TRV 1-2412M |                               | 12 VDC       | 83 mA        | 83%        |
| TRV 1-2413M |                               | 15 VDC       | 67 mA        | 83%        |
| TRV 1-2421M |                               | $\pm 5$ VDC  | $\pm 100$ mA | 80%        |
| TRV 1-2422M |                               | $\pm 12$ VDC | $\pm 42$ mA  | 81%        |
| TRV 1-2423M |                               | $\pm 15$ VDC | $\pm 34$ mA  | 81%        |





## TRV 2M | 2 W



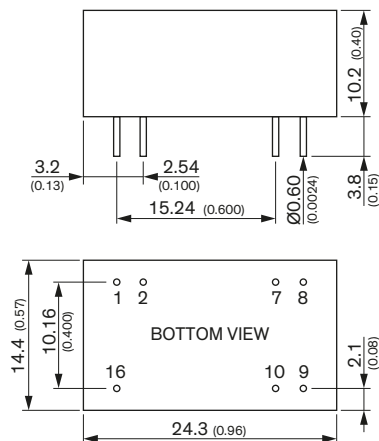
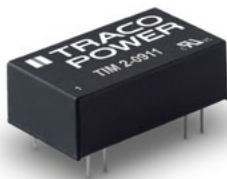
- I/O isolation 5000 VAC (reinforced)
- Wide 1.5:1 input voltage range
- Operating temperature range -40 to +80°C without derating
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and IEC/EN/UL 62368-1
- Short circuit protection
- Regulated outputs
- Low leakage current <2 µA
- Efficiency up to 84%
- Operation up to 5000 m altitude
- 5-year product warranty

| Pinout |        |        |
|--------|--------|--------|
| Pin    | Single | Dual   |
| 1      | +Vin   | +Vin   |
| 2      | -Vin   | -Vin   |
| 7      | -Vout  | -Vout  |
| 8      | No Pin | Common |
| 9      | +Vout  | +Vout  |

| Model       | Input Voltage Range            | Output  |         |            |
|-------------|--------------------------------|---------|---------|------------|
|             |                                | Vnom    | Iout    | Efficiency |
| TRV 2-0510M | 4.5–7 VDC<br>(5 VDC nom.)      | 3.3 VDC | 600 mA  | 78%        |
| TRV 2-0511M |                                | 5 VDC   | 400 mA  | 81%        |
| TRV 2-0512M |                                | 12 VDC  | 167 mA  | 83%        |
| TRV 2-0513M |                                | 15 VDC  | 134 mA  | 83%        |
| TRV 2-0521M |                                | ±5 VDC  | ±200 mA | 82%        |
| TRV 2-0522M |                                | ±12 VDC | ±83 mA  | 83%        |
| TRV 2-0523M |                                | ±15 VDC | ±67 mA  | 81%        |
| TRV 2-1210M | 9.6–14.4 VDC<br>(12 VDC nom.)  | 3.3 VDC | 600 mA  | 79%        |
| TRV 2-1211M |                                | 5 VDC   | 400 mA  | 81%        |
| TRV 2-1212M |                                | 12 VDC  | 167 mA  | 84%        |
| TRV 2-1213M |                                | 15 VDC  | 134 mA  | 83%        |
| TRV 2-1221M |                                | ±5 VDC  | ±200 mA | 81%        |
| TRV 2-1222M |                                | ±12 VDC | ±83 mA  | 83%        |
| TRV 2-1223M |                                | ±15 VDC | ±67 mA  | 82%        |
| TRV 2-1510M | 12–18 VDC<br>(15 VDC nom.)     | 3.3 VDC | 600 mA  | 79%        |
| TRV 2-1511M |                                | 5 VDC   | 400 mA  | 81%        |
| TRV 2-1512M |                                | 12 VDC  | 167 mA  | 84%        |
| TRV 2-1513M |                                | 15 VDC  | 134 mA  | 83%        |
| TRV 2-1521M |                                | ±5 VDC  | ±200 mA | 81%        |
| TRV 2-1522M |                                | ±12 VDC | ±83 mA  | 83%        |
| TRV 2-1523M |                                | ±15 VDC | ±67 mA  | 80%        |
| TRV 2-2410M | 19.2–28.8 VDC<br>(24 VDC nom.) | 3.3 VDC | 600 mA  | 78%        |
| TRV 2-2411M |                                | 5 VDC   | 400 mA  | 80%        |
| TRV 2-2412M |                                | 12 VDC  | 167 mA  | 82%        |
| TRV 2-2413M |                                | 15 VDC  | 134 mA  | 82%        |
| TRV 2-2421M |                                | ±5 VDC  | ±200 mA | 81%        |
| TRV 2-2422M |                                | ±12 VDC | ±83 mA  | 81%        |
| TRV 2-2423M |                                | ±15 VDC | ±67 mA  | 80%        |



## TIM 2 | 2 W



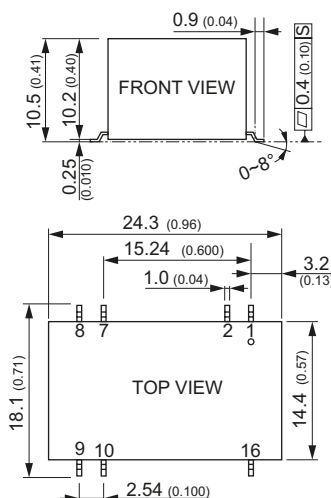
- Compact DIP-16-package
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and operation up to 5000 m altitude
- Low leakage current <2 µA
- Extended operating temperature range -40°C to 95°C.
- 5-year product warranty

| Pinout |               |             |
|--------|---------------|-------------|
| Pin    | Single Output | Dual Output |
| 1      | -Vin (GND)    | -Vin (GND)  |
| 2      | Remote        | Remote      |
| 7      | NC            | NC          |
| 8      | NC            | Common      |
| 9      | +Vout         | +Vout       |
| 10     | -Vout         | -Vout       |
| 16     | +Vin (Vcc)    | +Vin (Vcc)  |

| Model      | Input Voltage Range        | Output  |                  |            |
|------------|----------------------------|---------|------------------|------------|
|            |                            | Vnom    | I <sub>max</sub> | Efficiency |
| TIM 2-0910 | 4.5–12 VDC<br>(9 VDC nom.) | 3.3 VDC | 600 mA           | 75%        |
| TIM 2-0911 |                            | 5 VDC   | 400 mA           | 78%        |
| TIM 2-0919 |                            | 9 VDC   | 222 mA           | 78%        |
| TIM 2-0912 |                            | 12 VDC  | 167 mA           | 82%        |
| TIM 2-0913 |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-0915 |                            | 24 VDC  | 83 mA            | 82%        |
| TIM 2-0922 | 9–18 VDC<br>(12 VDC nom.)  | ±12 VDC | 83 mA            | 82%        |
| TIM 2-0923 |                            | ±15 VDC | 67 mA            | 80%        |
| TIM 2-1210 |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-1211 |                            | 5 VDC   | 400 mA           | 78%        |
| TIM 2-1219 |                            | 9 VDC   | 222 mA           | 79%        |
| TIM 2-1212 |                            | 12 VDC  | 167 mA           | 82%        |
| TIM 2-1213 |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-1215 | 18–36 VDC<br>(24 VDC nom.) | 24 VDC  | 83 mA            | 81%        |
| TIM 2-1222 |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-1223 |                            | ±15 VDC | 67 mA            | 81%        |
| TIM 2-2410 |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-2411 |                            | 5 VDC   | 400 mA           | 79%        |
| TIM 2-2419 |                            | 9 VDC   | 222 mA           | 80%        |
| TIM 2-2412 | 36–75 VDC<br>(48 VDC nom.) | 12 VDC  | 167 mA           | 81%        |
| TIM 2-2413 |                            | 15 VDC  | 134 mA           | 81%        |
| TIM 2-2415 |                            | 24 VDC  | 83 mA            | 81%        |
| TIM 2-2422 |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-2423 |                            | ±15 VDC | 67 mA            | 81%        |
| TIM 2-4810 |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-4811 |                            | 5 VDC   | 400 mA           | 78%        |
| TIM 2-4819 |                            | 9 VDC   | 222 mA           | 79%        |
| TIM 2-4812 |                            | 12 VDC  | 167 mA           | 80%        |
| TIM 2-4813 |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-4815 |                            | 24 VDC  | 83 mA            | 81%        |
| TIM 2-4822 |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-4823 |                            | ±15 VDC | 67 mA            | 81%        |



## TIM 2SM | 2 W

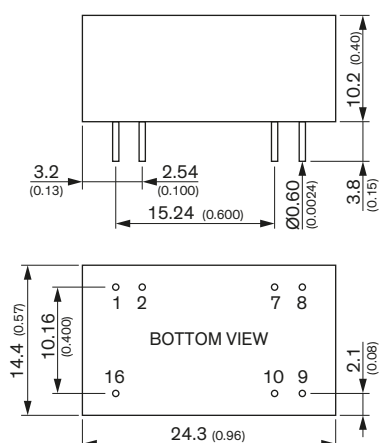
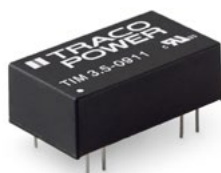


- Compact SMD-16-package
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and operation up to 5000 m altitude
- Low leakage current <2 μA
- Extended operating temperature range -40°C to 95°C.
- 5-year product warranty

| Pinout |               |             |
|--------|---------------|-------------|
| Pin    | Single Output | Dual Output |
| 1      | -Vin (GND)    | -Vin (GND)  |
| 2      | Remote        | Remote      |
| 7      | NC            | NC          |
| 8      | NC            | Common      |
| 9      | +Vout         | +Vout       |
| 10     | -Vout         | -Vout       |
| 16     | +Vin (Vcc)    | +Vin (Vcc)  |

| Model        | Input Voltage Range        | Output  |                  |            |
|--------------|----------------------------|---------|------------------|------------|
|              |                            | Vnom    | I <sub>max</sub> | Efficiency |
| TIM 2-0910SM | 4.5–12 VDC<br>(9 VDC nom.) | 3.3 VDC | 600 mA           | 75%        |
| TIM 2-0911SM |                            | 5 VDC   | 400 mA           | 78%        |
| TIM 2-0919SM |                            | 9 VDC   | 222 mA           | 78%        |
| TIM 2-0912SM |                            | 12 VDC  | 167 mA           | 82%        |
| TIM 2-0913SM |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-0915SM |                            | 24 VDC  | 83 mA            | 82%        |
| TIM 2-0922SM | 9–18 VDC<br>(12 VDC nom.)  | ±12 VDC | 83 mA            | 82%        |
| TIM 2-0923SM |                            | ±15 VDC | 67 mA            | 80%        |
| TIM 2-1210SM |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-1211SM |                            | 5 VDC   | 400 mA           | 78%        |
| TIM 2-1219SM |                            | 9 VDC   | 222 mA           | 79%        |
| TIM 2-1212SM |                            | 12 VDC  | 167 mA           | 82%        |
| TIM 2-1213SM |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-1215SM | 18–36 VDC<br>(24 VDC nom.) | 24 VDC  | 83 mA            | 81%        |
| TIM 2-1222SM |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-1223SM |                            | ±15 VDC | 67 mA            | 81%        |
| TIM 2-2410SM |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-2411SM |                            | 5 VDC   | 400 mA           | 79%        |
| TIM 2-2419SM |                            | 9 VDC   | 222 mA           | 80%        |
| TIM 2-2412SM | 36–75 VDC<br>(48 VDC nom.) | 12 VDC  | 167 mA           | 81%        |
| TIM 2-2413SM |                            | 15 VDC  | 134 mA           | 81%        |
| TIM 2-2415SM |                            | 24 VDC  | 83 mA            | 81%        |
| TIM 2-2422SM |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-2423SM |                            | ±15 VDC | 67 mA            | 81%        |
| TIM 2-4810SM |                            | 3.3 VDC | 600 mA           | 76%        |
| TIM 2-4811SM | 36–75 VDC<br>(48 VDC nom.) | 5 VDC   | 400 mA           | 78%        |
| TIM 2-4819SM |                            | 9 VDC   | 222 mA           | 79%        |
| TIM 2-4812SM |                            | 12 VDC  | 167 mA           | 80%        |
| TIM 2-4813SM |                            | 15 VDC  | 134 mA           | 82%        |
| TIM 2-4815SM |                            | 24 VDC  | 83 mA            | 81%        |
| TIM 2-4822SM |                            | ±12 VDC | 83 mA            | 81%        |
| TIM 2-4823SM |                            | ±15 VDC | 67 mA            | 81%        |

## TIM 3.5 | 3.5 W



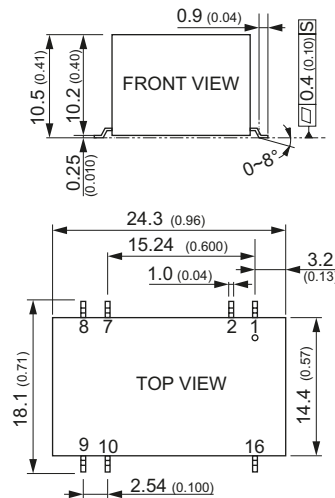
- Compact DIP-16-package
- I/O isolation 5000 VACrms rated for 250 VACrms working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and operation to 5000 m altitude
- Low leakage current <2 μA for BF-applications
- Extended operating temperature range -40°C to 90°C
- 5-year product warranty

| Pinout |               |             |
|--------|---------------|-------------|
| Pin    | Single Output | Dual Output |
| 1      | -Vin (GND)    | -Vin (GND)  |
| 2      | Remote        | Remote      |
| 7      | NC            | NC          |
| 8      | NC            | Common      |
| 9      | +Vout         | +Vout       |
| 10     | -Vout         | -Vout       |
| 16     | +Vin (Vcc)    | +Vin (Vcc)  |

| Model        | Input Voltage Range        | Output  |                  |            |
|--------------|----------------------------|---------|------------------|------------|
|              |                            | Vnom    | I <sub>max</sub> | Efficiency |
| TIM 3.5-0911 | 4.5–12 VDC<br>(9 VDC nom.) | 5 VDC   | 700 mA           | 77%        |
| TIM 3.5-0919 |                            | 9 VDC   | 389 mA           | 78%        |
| TIM 3.5-0912 |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-0913 |                            | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-0915 |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-0922 |                            | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-0923 | 9–18 VDC<br>(12 VDC nom.)  | ±15 VDC | 117 mA           | 81%        |
| TIM 3.5-1211 |                            | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-1219 |                            | 9 VDC   | 389 mA           | 79%        |
| TIM 3.5-1212 |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-1213 |                            | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-1215 |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-1222 | 18–36 VDC<br>(24 VDC nom.) | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-1223 |                            | ±15 VDC | 117 mA           | 82%        |
| TIM 3.5-2411 |                            | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-2419 |                            | 9 VDC   | 389 mA           | 80%        |
| TIM 3.5-2412 |                            | 12 VDC  | 292 mA           | 83%        |
| TIM 3.5-2413 |                            | 15 VDC  | 234 mA           | 83%        |
| TIM 3.5-2415 | 36–75 VDC<br>(48 VDC nom.) | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-2422 |                            | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-2423 |                            | ±15 VDC | 117 mA           | 82%        |
| TIM 3.5-4811 |                            | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-4819 |                            | 9 VDC   | 389 mA           | 80%        |
| TIM 3.5-4812 |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-4813 | 36–75 VDC<br>(48 VDC nom.) | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-4815 |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-4822 |                            | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-4823 |                            | ±15 VDC | 117 mA           | 82%        |



## TIM 3.5SM | 3.5 W

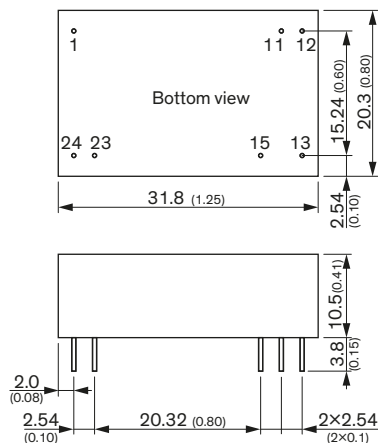


- Compact SMD-16-package
- I/O isolation 5000 VACrms rated for 250 VACrms working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP and operation to 5000 m altitude
- Low leakage current <2 µA for BF-applications
- Extended operating temperature range -40°C to 90°C
- 5-year product warranty

| Pinout |               |             |
|--------|---------------|-------------|
| Pin    | Single Output | Dual Output |
| 1      | -Vin (GND)    | -Vin (GND)  |
| 2      | Remote        | Remote      |
| 7      | NC            | NC          |
| 8      | NC            | Common      |
| 9      | +Vout         | +Vout       |
| 10     | -Vout         | -Vout       |
| 16     | +Vin (Vcc)    | +Vin (Vcc)  |

| Model          | Input Voltage Range        | Output  |                  | Efficiency |
|----------------|----------------------------|---------|------------------|------------|
|                |                            | Vnom    | I <sub>max</sub> |            |
| TIM 3.5-0911SM | 4.5–12 VDC<br>(9 VDC nom.) | 5 VDC   | 700 mA           | 77%        |
| TIM 3.5-0919SM |                            | 9 VDC   | 389 mA           | 78%        |
| TIM 3.5-0912SM |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-0913SM |                            | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-0915SM |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-0922SM | ±12 VDC                    | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-0923SM |                            | ±15 VDC | 117 mA           | 81%        |
| TIM 3.5-1211SM | 9–18 VDC<br>(12 VDC nom.)  | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-1219SM |                            | 9 VDC   | 389 mA           | 79%        |
| TIM 3.5-1212SM |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-1213SM |                            | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-1215SM |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-1222SM |                            | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-1223SM | 18–36 VDC<br>(24 VDC nom.) | ±15 VDC | 117 mA           | 82%        |
| TIM 3.5-2411SM |                            | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-2419SM |                            | 9 VDC   | 389 mA           | 80%        |
| TIM 3.5-2412SM |                            | 12 VDC  | 292 mA           | 83%        |
| TIM 3.5-2413SM |                            | 15 VDC  | 234 mA           | 83%        |
| TIM 3.5-2415SM |                            | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-2422SM | 36–75 VDC<br>(48 VDC nom.) | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-2423SM |                            | ±15 VDC | 117 mA           | 82%        |
| TIM 3.5-4811SM |                            | 5 VDC   | 700 mA           | 79%        |
| TIM 3.5-4819SM |                            | 9 VDC   | 389 mA           | 80%        |
| TIM 3.5-4812SM |                            | 12 VDC  | 292 mA           | 82%        |
| TIM 3.5-4813SM |                            | 15 VDC  | 234 mA           | 82%        |
| TIM 3.5-4815SM | ±12 VDC                    | 24 VDC  | 146 mA           | 82%        |
| TIM 3.5-4822SM |                            | ±12 VDC | 146 mA           | 82%        |
| TIM 3.5-4823SM |                            | ±15 VDC | 117 mA           | 82%        |

## THM 3 | 3 W



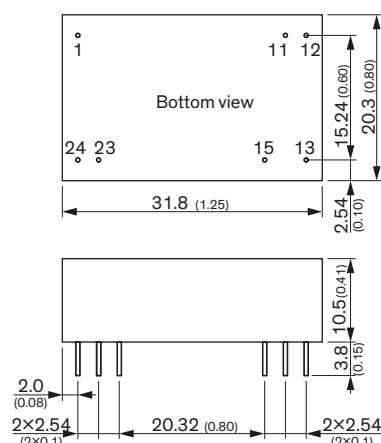
- Compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- IEC 60601-1 certification for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- 5-year product warranty

| Pinout |            |            |
|--------|------------|------------|
| Pin    | Single     | Dual       |
| 1      | +Vin (Vcc) | +Vin (Vcc) |
| 11     | No pin     | Common     |
| 12     | -Vout      | No pin     |
| 13     | +Vout      | -Vout      |
| 15     | No pin     | +Vout      |
| 23     | -Vin (GND) | -Vin (GND) |
| 24     | -Vin (GND) | -Vin (GND) |

| Model      | Input Voltage Range        | Output  |                  | Efficiency |
|------------|----------------------------|---------|------------------|------------|
|            |                            | Vnom    | I <sub>max</sub> |            |
| THM 3-0510 | 4.5–9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 1000 mA          | 81%        |
| THM 3-0511 |                            | 5 VDC   | 600 mA           | 85%        |
| THM 3-0512 |                            | 12 VDC  | 250 mA           | 86%        |
| THM 3-0513 |                            | 15 VDC  | 200 mA           | 88%        |
| THM 3-0515 |                            | 24 VDC  | 125 mA           | 86%        |
| THM 3-0521 | ±5 VDC                     | ±5 VDC  | 300 mA           | 83%        |
| THM 3-0522 |                            | ±12 VDC | 125 mA           | 86%        |
| THM 3-0523 |                            | ±15 VDC | 100 mA           | 86%        |
| THM 3-1210 | 9–18 VDC<br>(12 VDC nom.)  | 3.3 VDC | 1000 mA          | 82%        |
| THM 3-1211 |                            | 5 VDC   | 600 mA           | 85%        |
| THM 3-1212 |                            | 12 VDC  | 250 mA           | 87%        |
| THM 3-1213 |                            | 15 VDC  | 200 mA           | 87%        |
| THM 3-1215 |                            | 24 VDC  | 125 mA           | 87%        |
| THM 3-1221 |                            | ±5 VDC  | 300 mA           | 84%        |
| THM 3-1222 | 18–36 VDC<br>(24 VDC nom.) | ±12 VDC | 125 mA           | 88%        |
| THM 3-1223 |                            | ±15 VDC | 100 mA           | 87%        |
| THM 3-2410 |                            | 3.3 VDC | 1000 mA          | 82%        |
| THM 3-2411 | 36–75 VDC<br>(48 VDC nom.) | 5 VDC   | 600 mA           | 85%        |
| THM 3-2412 |                            | 12 VDC  | 250 mA           | 87%        |
| THM 3-2413 |                            | 15 VDC  | 200 mA           | 87%        |
| THM 3-2415 |                            | 24 VDC  | 125 mA           | 87%        |
| THM 3-2421 |                            | ±5 VDC  | 300 mA           | 83%        |
| THM 3-2422 |                            | ±12 VDC | 125 mA           | 87%        |
| THM 3-2423 | ±15 VDC                    | ±15 VDC | 100 mA           | 86%        |
| THM 3-4810 |                            | 3.3 VDC | 1000 mA          | 81%        |
| THM 3-4811 |                            | 5 VDC   | 600 mA           | 84%        |
| THM 3-4812 |                            | 12 VDC  | 250 mA           | 87%        |
| THM 3-4813 |                            | 15 VDC  | 200 mA           | 87%        |
| THM 3-4815 |                            | 24 VDC  | 125 mA           | 87%        |
| THM 3-4821 | ±5 VDC                     | ±5 VDC  | 300 mA           | 83%        |
| THM 3-4822 |                            | ±12 VDC | 125 mA           | 86%        |
| THM 3-4823 |                            | ±15 VDC | 100 mA           | 86%        |



## THM 3WI | 3 W



- Ultra wide 4:1 input voltage 3 W DC/DC converter in a compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | No pin*/Remote | No pin*/Remote |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 10     | No pin*/Trim   | No pin*/Trim   |
| 11     | No pin/NC **   | -Vout          |
| 14     | +Vout          | +Vout          |
| 16     | -Vout          | Common         |
| 22     | +Vin (Vcc)     | +Vin (Vcc)     |
| 23     | +Vin (Vcc)     | +Vin (Vcc)     |

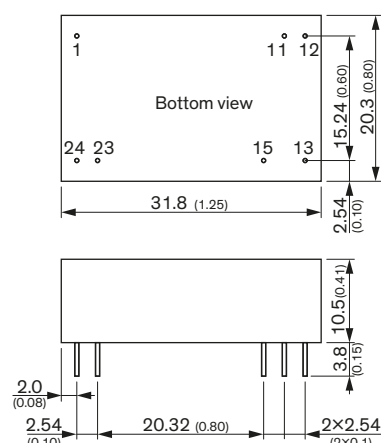
| Model        | Input Voltage Range        | Output  |                  | Efficiency |
|--------------|----------------------------|---------|------------------|------------|
|              |                            | Vnom    | I <sub>max</sub> |            |
| THM 3-0510WI | 4.5–9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 1000 mA          | 81%        |
| THM 3-0511WI |                            | 5 VDC   | 600 mA           | 85%        |
| THM 3-0512WI |                            | 12 VDC  | 250 mA           | 86%        |
| THM 3-0513WI |                            | 15 VDC  | 200 mA           | 88%        |
| THM 3-0515WI |                            | 24 VDC  | 125 mA           | 86%        |
| THM 3-0521WI |                            | ± 5 VDC | 300 mA           | 83%        |
| THM 3-0522WI | 9–36 VDC<br>(24 VDC nom.)  | ±12 VDC | 125 mA           | 86%        |
| THM 3-0523WI |                            | ±15 VDC | 100 mA           | 86%        |
| THM 3-2410WI |                            | 3.3 VDC | 1000 mA          | 82%        |
| THM 3-2411WI |                            | 5 VDC   | 600 mA           | 85%        |
| THM 3-2412WI |                            | 12 VDC  | 250 mA           | 87%        |
| THM 3-2413WI |                            | 15 VDC  | 200 mA           | 87%        |
| THM 3-2415WI |                            | 24 VDC  | 125 mA           | 87%        |
| THM 3-2421WI | 18–75 VDC<br>(48 VDC nom.) | ± 5 VDC | 300 mA           | 83%        |
| THM 3-2422WI |                            | ±12 VDC | 125 mA           | 87%        |
| THM 3-2423WI |                            | ±15 VDC | 100 mA           | 86%        |
| THM 3-4810WI |                            | 3.3 VDC | 1000 mA          | 81%        |
| THM 3-4811WI |                            | 5 VDC   | 600 mA           | 84%        |
| THM 3-4812WI |                            | 12 VDC  | 250 mA           | 87%        |
| THM 3-4813WI |                            | 15 VDC  | 200 mA           | 87%        |
| THM 3-4815WI |                            | 24 VDC  | 125 mA           | 87%        |
| THM 3-4821WI |                            | ± 5 VDC | 300 mA           | 83%        |
| THM 3-4822WI |                            | ±12 VDC | 125 mA           | 86%        |
| THM 3-4823WI |                            | ±15 VDC | 100 mA           | 86%        |

NC: No connection

\* If Remote or Trim is not selected there is no pin on corresponding number.

\*\* If Trim is selected there is no pin on the corresponding pin number.

## THM 6 | 6 W



- Compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- IEC 60601-1 certification for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- 5-year product warranty

| Pinout |            |            |
|--------|------------|------------|
| Pin    | Single     | Dual       |
| 1      | +Vin (Vcc) | +Vin (Vcc) |
| 11     | No pin     | Common     |
| 12     | -Vout      | No pin     |
| 13     | +Vout      | -Vout      |
| 15     | No pin     | +Vout      |
| 23     | -Vin (GND) | -Vin (GND) |
| 24     | -Vin (GND) | -Vin (GND) |

| Model      | Input Voltage Range        | Output  |                  | Efficiency |
|------------|----------------------------|---------|------------------|------------|
|            |                            | Vnom    | I <sub>max</sub> |            |
| THM 6-0510 | 4.5–9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 1800 mA          | 82%        |
| THM 6-0511 |                            | 5 VDC   | 1200 mA          | 86%        |
| THM 6-0512 |                            | 12 VDC  | 500 mA           | 86%        |
| THM 6-0513 |                            | 15 VDC  | 400 mA           | 88%        |
| THM 6-0515 |                            | 24 VDC  | 250 mA           | 87%        |
| THM 6-0521 |                            | ± 5 VDC | 600 mA           | 84%        |
| THM 6-0522 | 9–18 VDC<br>(12 VDC nom.)  | ±12 VDC | 250 mA           | 87%        |
| THM 6-0523 |                            | ±15 VDC | 200 mA           | 88%        |
| THM 6-1210 |                            | 3.3 VDC | 1800 mA          | 84%        |
| THM 6-1211 |                            | 5 VDC   | 1200 mA          | 86%        |
| THM 6-1212 |                            | 12 VDC  | 500 mA           | 89%        |
| THM 6-1213 |                            | 15 VDC  | 400 mA           | 89%        |
| THM 6-1215 | 18–36 VDC<br>(24 VDC nom.) | 24 VDC  | 250 mA           | 89%        |
| THM 6-1221 |                            | ± 5 VDC | 600 mA           | 85%        |
| THM 6-1222 |                            | ±12 VDC | 250 mA           | 89%        |
| THM 6-1223 |                            | ±15 VDC | 200 mA           | 88%        |
| THM 6-2410 |                            | 3.3 VDC | 1800 mA          | 83%        |
| THM 6-2411 |                            | 5 VDC   | 1200 mA          | 86%        |
| THM 6-2412 | 36–75 VDC<br>(48 VDC nom.) | 12 VDC  | 500 mA           | 89%        |
| THM 6-2413 |                            | 15 VDC  | 400 mA           | 89%        |
| THM 6-2415 |                            | 24 VDC  | 250 mA           | 89%        |
| THM 6-2421 |                            | ± 5 VDC | 600 mA           | 85%        |
| THM 6-2422 |                            | ±12 VDC | 250 mA           | 89%        |
| THM 6-2423 |                            | ±15 VDC | 200 mA           | 89%        |
| THM 6-4810 |                            | 3.3 VDC | 1800 mA          | 83%        |
| THM 6-4811 |                            | 5 VDC   | 1200 mA          | 87%        |
| THM 6-4812 |                            | 12 VDC  | 500 mA           | 88%        |
| THM 6-4813 |                            | 15 VDC  | 400 mA           | 89%        |
| THM 6-4815 |                            | 24 VDC  | 250 mA           | 88%        |
| THM 6-4821 |                            | ± 5 VDC | 600 mA           | 85%        |
| THM 6-4822 |                            | ±12 VDC | 250 mA           | 88%        |
| THM 6-4823 |                            | ±15 VDC | 200 mA           | 87%        |

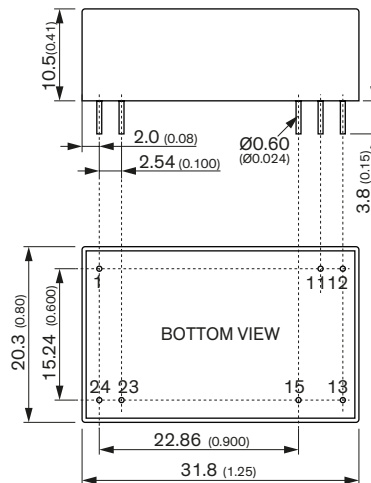


## TIM 6 | 6 W

NEW!



- Compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 95°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty



| Pinout |        |        |
|--------|--------|--------|
| Pin    | Single | Dual   |
| 1      | +Vin   | +Vin   |
| 11     | No Pin | Common |
| 12     | -Vout  | No Pin |
| 13     | +Vout  | -Vout  |
| 15     | No Pin | +Vout  |
| 23     | -Vout  | -Vout  |
| 24     | -Vout  | -Vout  |

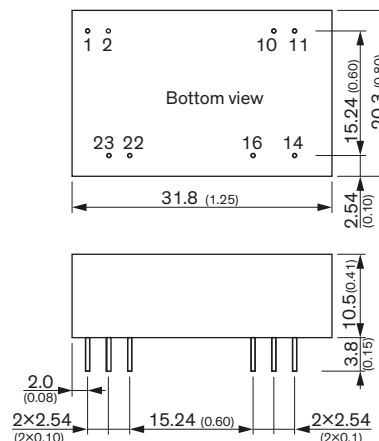
| Model      | Input Voltage Range        | Output  |                  | Efficiency |
|------------|----------------------------|---------|------------------|------------|
|            |                            | Vnom    | I <sub>max</sub> |            |
| TIM 6-1211 | 9-18 VDC<br>(12 VDC nom.)  | 5 VDC   | 1200 mA          | 84%        |
| TIM 6-1212 |                            | 12 VDC  | 500 mA           | 87%        |
| TIM 6-1213 |                            | 15 VDC  | 400 mA           | 86%        |
| TIM 6-1221 |                            | ±5 VDC  | ±600 mA          | 83%        |
| TIM 6-1222 |                            | ±12 VDC | ±250 mA          | 87%        |
| TIM 6-1223 |                            | ±15 VDC | ±200 mA          | 86%        |
| TIM 6-2411 | 18-36 VDC<br>(24 VDC nom.) | 5 VDC   | 1200 mA          | 84%        |
| TIM 6-2412 |                            | 12 VDC  | 500 mA           | 87%        |
| TIM 6-2413 |                            | 15 VDC  | 400 mA           | 87%        |
| TIM 6-2421 |                            | ±5 VDC  | ±600 mA          | 84%        |
| TIM 6-2422 |                            | ±12 VDC | ±250 mA          | 86%        |
| TIM 6-2423 |                            | ±15 VDC | ±200 mA          | 86%        |
| TIM 6-4811 | 36-75 VDC<br>(48 VDC nom.) | 5 VDC   | 1200 mA          | 84%        |
| TIM 6-4812 |                            | 12 VDC  | 500 mA           | 87%        |
| TIM 6-4813 |                            | 15 VDC  | 400 mA           | 86%        |
| TIM 6-4821 |                            | ±5 VDC  | ±600 mA          | 83%        |
| TIM 6-4822 |                            | ±12 VDC | ±250 mA          | 87%        |
| TIM 6-4823 |                            | ±15 VDC | ±200 mA          | 85%        |



## THM 6WI | 6 W



- Ultra wide 4:1 input voltage 6 W DC/DC converter in a compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty



| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | No pin*/Remote | No pin*/Remote |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 10     | No pin*/Trim   | No pin*/Trim   |
| 11     | No pin/NC**    | -Vout          |
| 14     | +Vout          | +Vout          |
| 16     | -Vout          | Common         |
| 22     | +Vin (Vcc)     | +Vin (Vcc)     |
| 23     | +Vin (Vcc)     | +Vin (Vcc)     |

| Model        | Input Voltage Range        | Output  |                  | Efficiency |
|--------------|----------------------------|---------|------------------|------------|
|              |                            | Vnom    | I <sub>max</sub> |            |
| THM 6-0510WI | 4.5-9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 1800 mA          | 82%        |
| THM 6-0511WI |                            | 5 VDC   | 1200 mA          | 86%        |
| THM 6-0512WI |                            | 12 VDC  | 500 mA           | 86%        |
| THM 6-0513WI |                            | 15 VDC  | 400 mA           | 88%        |
| THM 6-0515WI |                            | 24 VDC  | 250 mA           | 87%        |
| THM 6-0521WI | 9-36 VDC<br>(24 VDC nom.)  | ±5 VDC  | 600 mA           | 84%        |
| THM 6-0522WI |                            | ±12 VDC | 250 mA           | 87%        |
| THM 6-0523WI |                            | ±15 VDC | 200 mA           | 88%        |
| THM 6-2410WI |                            | 3.3 VDC | 1800 mA          | 83%        |
| THM 6-2411WI |                            | 5 VDC   | 1200 mA          | 86%        |
| THM 6-2412WI |                            | 12 VDC  | 500 mA           | 89%        |
| THM 6-2413WI |                            | 15 VDC  | 400 mA           | 89%        |
| THM 6-2415WI |                            | 24 VDC  | 250 mA           | 89%        |
| THM 6-2421WI | 18-75 VDC<br>(48 VDC nom.) | ±5 VDC  | 600 mA           | 85%        |
| THM 6-2422WI |                            | ±12 VDC | 250 mA           | 89%        |
| THM 6-2423WI |                            | ±15 VDC | 200 mA           | 89%        |
| THM 6-4810WI |                            | 3.3 VDC | 1800 mA          | 83%        |
| THM 6-4811WI |                            | 5 VDC   | 1200 mA          | 87%        |
| THM 6-4812WI |                            | 12 VDC  | 500 mA           | 88%        |
| THM 6-4813WI |                            | 15 VDC  | 400 mA           | 89%        |
| THM 6-4815WI |                            | 24 VDC  | 250 mA           | 88%        |
| THM 6-4821WI | 18-75 VDC<br>(48 VDC nom.) | ±5 VDC  | 600 mA           | 85%        |
| THM 6-4822WI |                            | ±12 VDC | 250 mA           | 88%        |
| THM 6-4823WI |                            | ±15 VDC | 200 mA           | 87%        |

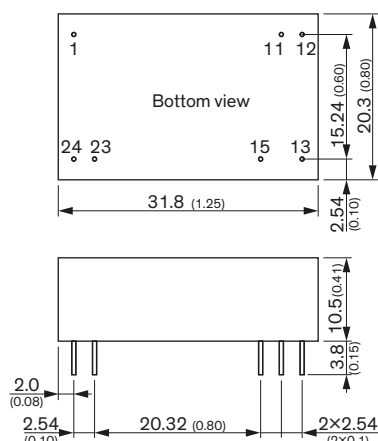
NC: No connection

\* If Remote or Trim is not selected there is no pin on corresponding number.

\*\*If Trim is selected there is no pin on the corresponding pin number.



## THM 10 | 10 W

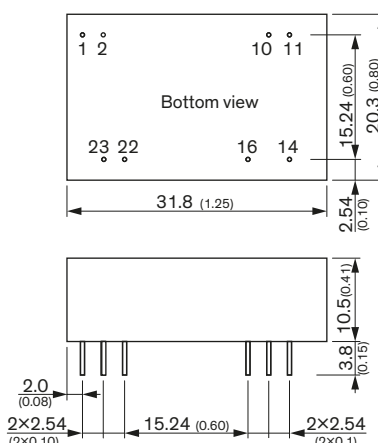


- Compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- IEC 60601-1 certification for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- 5-year product warranty

| Pinout |            |            |
|--------|------------|------------|
| Pin    | Single     | Dual       |
| 1      | +Vin (Vcc) | +Vin (Vcc) |
| 11     | No pin     | Common     |
| 12     | -Vout      | No pin     |
| 13     | +Vout      | -Vout      |
| 15     | No pin     | +Vout      |
| 23     | -Vin (GND) | -Vin (GND) |
| 24     | -Vin (GND) | -Vin (GND) |

| Model       | Input Voltage Range        | Output  |                  | Efficiency |
|-------------|----------------------------|---------|------------------|------------|
|             |                            | Vnom    | I <sub>max</sub> |            |
| THM 10-0510 | 4.5–9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 2500 mA          | 80%        |
| THM 10-0511 |                            | 5 VDC   | 2000 mA          | 84%        |
| THM 10-0512 |                            | 12 VDC  | 830 mA           | 87%        |
| THM 10-0513 |                            | 15 VDC  | 670 mA           | 87%        |
| THM 10-0515 |                            | 24 VDC  | 416 mA           | 86%        |
| THM 10-0521 |                            | ± 5 VDC | 1000 mA          | 83%        |
| THM 10-0522 | 9–18 VDC<br>(12 VDC nom.)  | ±12 VDC | 416 mA           | 86%        |
| THM 10-0523 |                            | ±15 VDC | 333 mA           | 87%        |
| THM 10-1210 |                            | 3.3 VDC | 2500 mA          | 83%        |
| THM 10-1211 |                            | 5 VDC   | 2000 mA          | 86%        |
| THM 10-1212 |                            | 12 VDC  | 830 mA           | 88%        |
| THM 10-1213 |                            | 15 VDC  | 670 mA           | 89%        |
| THM 10-1215 |                            | 24 VDC  | 416 mA           | 89%        |
| THM 10-1221 | 18–36 VDC<br>(24 VDC nom.) | ± 5 VDC | 1000 mA          | 84%        |
| THM 10-1222 |                            | ±12 VDC | 416 mA           | 89%        |
| THM 10-1223 |                            | ±15 VDC | 333 mA           | 88%        |
| THM 10-2410 |                            | 3.3 VDC | 2500 mA          | 83%        |
| THM 10-2411 |                            | 5 VDC   | 2000 mA          | 87%        |
| THM 10-2412 |                            | 12 VDC  | 830 mA           | 89%        |
| THM 10-2413 | 36–75 VDC<br>(48 VDC nom.) | 15 VDC  | 670 mA           | 89%        |
| THM 10-2415 |                            | 24 VDC  | 416 mA           | 89%        |
| THM 10-2421 |                            | ± 5 VDC | 1000 mA          | 85%        |
| THM 10-2422 |                            | ±12 VDC | 416 mA           | 89%        |
| THM 10-2423 |                            | ±15 VDC | 333 mA           | 88%        |
| THM 10-4810 |                            | 3.3 VDC | 2500 mA          | 83%        |
| THM 10-4811 |                            | 5 VDC   | 2000 mA          | 87%        |
| THM 10-4812 |                            | 12 VDC  | 830 mA           | 89%        |
| THM 10-4813 |                            | 15 VDC  | 670 mA           | 89%        |
| THM 10-4815 |                            | 24 VDC  | 416 mA           | 89%        |
| THM 10-4821 |                            | ± 5 VDC | 1000 mA          | 85%        |
| THM 10-4822 |                            | ±12 VDC | 416 mA           | 88%        |
| THM 10-4823 |                            | ±15 VDC | 333 mA           | 88%        |

## THM 10WI | 10 W



- Ultra wide 4:1 input voltage
- 10 W DC/DC converter in a compact DIP-24 plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2 µA
- Operating temperature -40°C to 90°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | No pin*/Remote | No pin*/Remote |
| 2      | -Vin (GND)     | NC -Vin (GND)  |
| 10     | No pin*/Trim   | No pin*/Trim   |
| 11     | NC             | -Vout          |
| 14     | +Vout          | +Vout          |
| 16     | -Vout          | Common         |
| 22     | +Vin (Vcc)     | +Vin (Vcc)     |
| 23     | +Vin (Vcc)     | +Vin (Vcc)     |

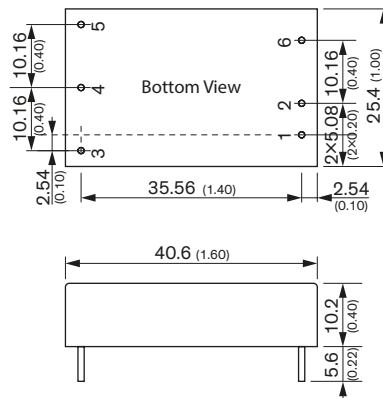
| Model         | Input Voltage Range        | Output  |                  | Efficiency |
|---------------|----------------------------|---------|------------------|------------|
|               |                            | Vnom    | I <sub>max</sub> |            |
| THM 10-0510WI | 4.5–9 VDC<br>(5 VDC nom.)  | 3.3 VDC | 2500 mA          | 80%        |
| THM 10-0511WI |                            | 5 VDC   | 2000 mA          | 84%        |
| THM 10-0512WI |                            | 12 VDC  | 830 mA           | 87%        |
| THM 10-0513WI |                            | 15 VDC  | 670 mA           | 87%        |
| THM 10-0515WI |                            | 24 VDC  | 416 mA           | 86%        |
| THM 10-0521WI |                            | ± 5 VDC | 1000 mA          | 83%        |
| THM 10-0522WI | 9–18 VDC<br>(12 VDC nom.)  | ±12 VDC | 416 mA           | 86%        |
| THM 10-0523WI |                            | ±15 VDC | 333 mA           | 87%        |
| THM 10-2410WI |                            | 3.3 VDC | 2500 mA          | 83%        |
| THM 10-2411WI |                            | 5 VDC   | 2000 mA          | 87%        |
| THM 10-2412WI |                            | 12 VDC  | 830 mA           | 89%        |
| THM 10-2413WI |                            | 15 VDC  | 670 mA           | 89%        |
| THM 10-2415WI | 18–75 VDC<br>(48 VDC nom.) | 24 VDC  | 416 mA           | 89%        |
| THM 10-2421WI |                            | ± 5 VDC | 1000 mA          | 85%        |
| THM 10-2422WI |                            | ±12 VDC | 416 mA           | 89%        |
| THM 10-2423WI |                            | ±15 VDC | 333 mA           | 88%        |
| THM 10-4810WI |                            | 3.3 VDC | 2500 mA          | 83%        |
| THM 10-4811WI |                            | 5 VDC   | 2000 mA          | 87%        |
| THM 10-4812WI |                            | 12 VDC  | 830 mA           | 89%        |
| THM 10-4813WI |                            | 15 VDC  | 670 mA           | 89%        |
| THM 10-4815WI |                            | 24 VDC  | 416 mA           | 89%        |
| THM 10-4821WI |                            | ± 5 VDC | 1000 mA          | 85%        |
| THM 10-4822WI |                            | ±12 VDC | 416 mA           | 88%        |
| THM 10-4823WI |                            | ±15 VDC | 333 mA           | 88%        |

NC: No connection

\* If Remote or Trim is not selected there is no pin on corresponding number.



## THM 15 | 15 W



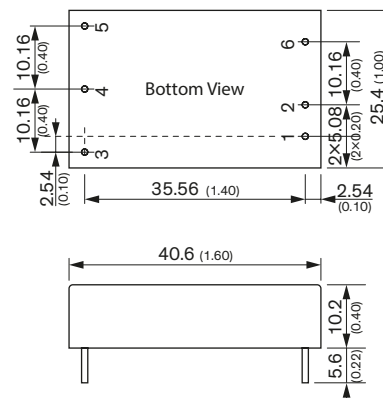
- Wide 2:1 input voltage 15 W DC/DC converter in a 1.6 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 85°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model       | Input Voltage Range        | Output  |                  | Efficiency |
|-------------|----------------------------|---------|------------------|------------|
|             |                            | Vnom    | I <sub>max</sub> |            |
| THM 15-1211 | 9-18 VDC<br>(12 VDC nom.)  | 5 VDC   | 3000 mA          | 89%        |
| THM 15-1212 |                            | 12 VDC  | 1250 mA          | 89%        |
| THM 15-1213 |                            | 15 VDC  | 1000 mA          | 89%        |
| THM 15-1215 |                            | 24 VDC  | 625 mA           | 89%        |
| THM 15-1221 |                            | ± 5 VDC | 1500 mA          | 86%        |
| THM 15-1222 |                            | ±12 VDC | 625 mA           | 89%        |
| THM 15-1223 |                            | ±15 VDC | 500 mA           | 89%        |
| THM 15-2411 | 18-36 VDC<br>(24 VDC nom.) | 5 VDC   | 3000 mA          | 90%        |
| THM 15-2412 |                            | 12 VDC  | 1250 mA          | 90%        |
| THM 15-2413 |                            | 15 VDC  | 1000 mA          | 90%        |
| THM 15-2415 |                            | 24 VDC  | 625 mA           | 90%        |
| THM 15-2421 |                            | ± 5 VDC | 1500 mA          | 86%        |
| THM 15-2422 |                            | ±12 VDC | 625 mA           | 90%        |
| THM 15-2423 |                            | ±15 VDC | 500 mA           | 90%        |
| THM 15-4811 | 36-75 VDC<br>(48 VDC nom.) | 5 VDC   | 3000 mA          | 90%        |
| THM 15-4812 |                            | 12 VDC  | 1250 mA          | 88%        |
| THM 15-4813 |                            | 15 VDC  | 1000 mA          | 89%        |
| THM 15-4815 |                            | 24 VDC  | 625 mA           | 89%        |
| THM 15-4821 |                            | ± 5 VDC | 1500 mA          | 86%        |
| THM 15-4822 |                            | ±12 VDC | 625 mA           | 89%        |
| THM 15-4823 |                            | ±15 VDC | 500 mA           | 89%        |

\* If Remote or Trim is not selected there is no pin on corresponding number.

## THM 15WI | 15 W



- Ultra wide 4:1 input voltage 15 W DC/DC converter in a 1.6 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 85°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

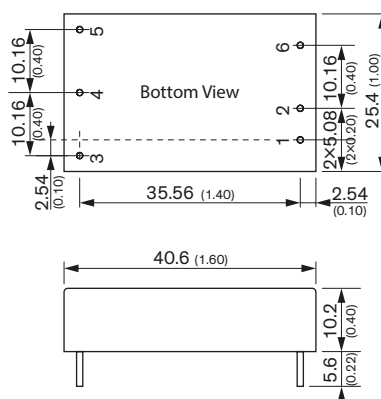
| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model         | Input Voltage Range        | Output  |                  | Efficiency |
|---------------|----------------------------|---------|------------------|------------|
|               |                            | Vnom    | I <sub>max</sub> |            |
| THM 15-2411WI | 9-36 VDC<br>(24 VDC nom.)  | 5 VDC   | 3000 mA          | 88%        |
| THM 15-2412WI |                            | 12 VDC  | 1250 mA          | 89%        |
| THM 15-2413WI |                            | 15 VDC  | 1000 mA          | 89%        |
| THM 15-2415WI |                            | 24 VDC  | 625 mA           | 88%        |
| THM 15-2421WI |                            | ± 5 VDC | 1500 mA          | 86%        |
| THM 15-2422WI |                            | ±12 VDC | 625 mA           | 88%        |
| THM 15-2423WI |                            | ±15 VDC | 500 mA           | 89%        |
| THM 15-4811WI | 18-75 VDC<br>(48 VDC nom.) | 5 VDC   | 3000 mA          | 90%        |
| THM 15-4812WI |                            | 12 VDC  | 1250 mA          | 88%        |
| THM 15-4813WI |                            | 15 VDC  | 1000 mA          | 89%        |
| THM 15-4815WI |                            | 24 VDC  | 625 mA           | 89%        |
| THM 15-4821WI |                            | ± 5 VDC | 1500 mA          | 86%        |
| THM 15-4822WI |                            | ±12 VDC | 625 mA           | 89%        |
| THM 15-4823WI |                            | ±15 VDC | 500 mA           | 89%        |

\* If remote is not selected there will be no pin.



## THM 20 | 20 W



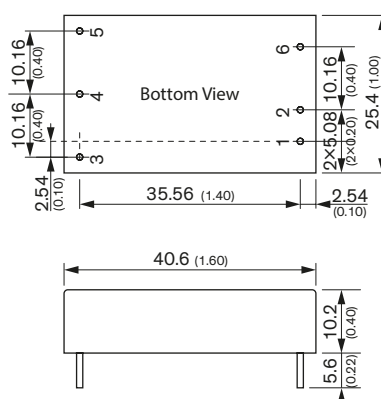
- Wide 2:1 input voltage 20 W DC/DC converter in a 1.6 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 80°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model       | Input Voltage Range        | Output  |                  |            |
|-------------|----------------------------|---------|------------------|------------|
|             |                            | Vnom    | I <sub>max</sub> | Efficiency |
| THM 20-1211 | 9-18 VDC<br>(12 VDC nom.)  | 5 VDC   | 4000 mA          | 89%        |
| THM 20-1212 |                            | 12 VDC  | 1670 mA          | 89%        |
| THM 20-1213 |                            | 15 VDC  | 1330 mA          | 89%        |
| THM 20-1215 |                            | 24 VDC  | 833 mA           | 89%        |
| THM 20-1221 |                            | ± 5 VDC | 2000 mA          | 86%        |
| THM 20-1222 |                            | ±12 VDC | 833 mA           | 89%        |
| THM 20-1223 |                            | ±15 VDC | 667 mA           | 89%        |
| THM 20-2411 | 18-36 VDC<br>(24 VDC nom.) | 5 VDC   | 4000 mA          | 90%        |
| THM 20-2412 |                            | 12 VDC  | 1670 mA          | 90%        |
| THM 20-2413 |                            | 15 VDC  | 1330 mA          | 90%        |
| THM 20-2415 |                            | 24 VDC  | 833 mA           | 90%        |
| THM 20-2421 |                            | ± 5 VDC | 2000 mA          | 86%        |
| THM 20-2422 |                            | ±12 VDC | 833 mA           | 90%        |
| THM 20-2423 |                            | ±15 VDC | 667 mA           | 90%        |
| THM 20-4811 | 36-75 VDC<br>(48 VDC nom.) | 5 VDC   | 4000 mA          | 90%        |
| THM 20-4812 |                            | 12 VDC  | 1670 mA          | 89%        |
| THM 20-4813 |                            | 15 VDC  | 1330 mA          | 89%        |
| THM 20-4815 |                            | 24 VDC  | 833 mA           | 89%        |
| THM 20-4821 |                            | ± 5 VDC | 2000 mA          | 86%        |
| THM 20-4822 |                            | ±12 VDC | 833 mA           | 89%        |
| THM 20-4823 |                            | ±15 VDC | 667 mA           | 89%        |

\* If remote is not selected there will be no pin.

## THM 20WI | 20 W



- Ultra wide 4:1 input voltage 20 W DC/DC converter in a 1.6 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 80°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

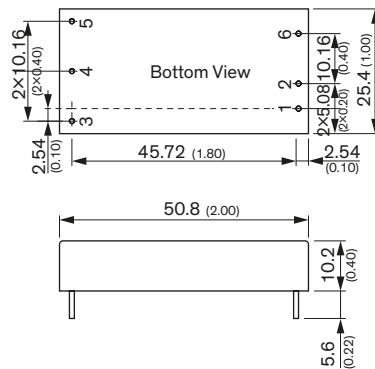
| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model         | Input Voltage Range        | Output  |                  |            |
|---------------|----------------------------|---------|------------------|------------|
|               |                            | Vnom    | I <sub>max</sub> | Efficiency |
| THM 20-2411WI | 9-36 VDC<br>(24 VDC nom.)  | 5 VDC   | 4000 mA          | 89%        |
| THM 20-2412WI |                            | 12 VDC  | 1670 mA          | 89%        |
| THM 20-2413WI |                            | 15 VDC  | 1330 mA          | 89%        |
| THM 20-2415WI |                            | 24 VDC  | 833 mA           | 89%        |
| THM 20-2421WI |                            | ± 5 VDC | 2000 mA          | 86%        |
| THM 20-2422WI |                            | ±12 VDC | 833 mA           | 89%        |
| THM 20-2423WI |                            | ±15 VDC | 667 mA           | 89%        |
| THM 20-4811WI | 18-75 VDC<br>(48 VDC nom.) | 5 VDC   | 4000 mA          | 90%        |
| THM 20-4812WI |                            | 12 VDC  | 1670 mA          | 89%        |
| THM 20-4813WI |                            | 15 VDC  | 1330 mA          | 89%        |
| THM 20-4815WI |                            | 24 VDC  | 833 mA           | 89%        |
| THM 20-4821WI |                            | ± 5 VDC | 2000 mA          | 86%        |
| THM 20-4822WI |                            | ±12 VDC | 833 mA           | 89%        |
| THM 20-4823WI |                            | ±15 VDC | 667 mA           | 89%        |

\* If remote is not selected there will be no pin.



## THM 30 | 30 W



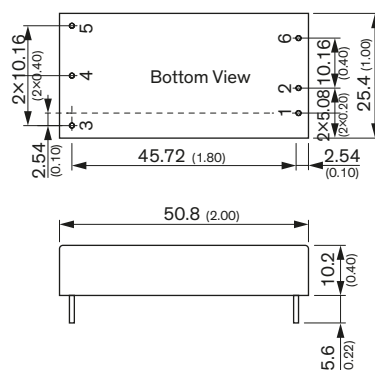
- Wide 2:1 input voltage 30 W DC/DC converter in a 2 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 80°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model       | Input Voltage Range        | Output  |                  | Efficiency |
|-------------|----------------------------|---------|------------------|------------|
|             |                            | Vnom    | I <sub>max</sub> |            |
| THM 30-1211 | 9-18 VDC<br>(12 VDC nom.)  | 5 VDC   | 6000 mA          | 89%        |
| THM 30-1212 |                            | 12 VDC  | 2500 mA          | 89%        |
| THM 30-1213 |                            | 15 VDC  | 2000 mA          | 90%        |
| THM 30-1215 |                            | 24 VDC  | 1250 mA          | 89%        |
| THM 30-1221 |                            | ± 5 VDC | 3000 mA          | 86%        |
| THM 30-1222 |                            | ±12 VDC | 1250 mA          | 89%        |
| THM 30-1223 |                            | ±15 VDC | 1000 mA          | 89%        |
| THM 30-2411 | 18-36 VDC<br>(24 VDC nom.) | 5 VDC   | 6000 mA          | 89%        |
| THM 30-2412 |                            | 12 VDC  | 2500 mA          | 89%        |
| THM 30-2413 |                            | 15 VDC  | 2000 mA          | 91%        |
| THM 30-2415 |                            | 24 VDC  | 1250 mA          | 90%        |
| THM 30-2421 |                            | ± 5 VDC | 3000 mA          | 86%        |
| THM 30-2422 |                            | ±12 VDC | 1250 mA          | 90%        |
| THM 30-2423 |                            | ±15 VDC | 1000 mA          | 90%        |
| THM 30-4811 | 36-75 VDC<br>(48 VDC nom.) | 5 VDC   | 6000 mA          | 89%        |
| THM 30-4812 |                            | 12 VDC  | 2500 mA          | 89%        |
| THM 30-4813 |                            | 15 VDC  | 2000 mA          | 90%        |
| THM 30-4815 |                            | 24 VDC  | 1250 mA          | 89%        |
| THM 30-4821 |                            | ± 5 VDC | 3000 mA          | 87%        |
| THM 30-4822 |                            | ±12 VDC | 1250 mA          | 90%        |
| THM 30-4823 |                            | ±15 VDC | 1000 mA          | 90%        |

\* If remote is not selected there will be no pin.

## THM 30WI | 30 W



- Ultra wide 4:1 input voltage 30 W DC/DC converter in a 2 × 1" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <2.5  $\mu$ A
- Operating temperature -40°C to 80°C
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class A
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout |                |                |
|--------|----------------|----------------|
| Pin    | Single         | Dual           |
| 1      | +Vin (Vcc)     | +Vin (Vcc)     |
| 2      | -Vin (GND)     | -Vin (GND)     |
| 3      | +Vout          | +Vout          |
| 4      | -Vout          | Common         |
| 5      | Trim           | -Vout          |
| 6      | No pin*/Remote | No pin*/Remote |

| Model         | Input Voltage Range        | Output  |                  | Efficiency |
|---------------|----------------------------|---------|------------------|------------|
|               |                            | Vnom    | I <sub>max</sub> |            |
| THM 30-2411WI | 9-36 VDC<br>(24 VDC nom.)  | 5 VDC   | 6000 mA          | 89%        |
| THM 30-2412WI |                            | 12 VDC  | 2500 mA          | 89%        |
| THM 30-2413WI |                            | 15 VDC  | 2000 mA          | 91%        |
| THM 30-2415WI |                            | 24 VDC  | 1250 mA          | 90%        |
| THM 30-2421WI |                            | ± 5 VDC | 3000 mA          | 86%        |
| THM 30-2422WI |                            | ±12 VDC | 1250 mA          | 90%        |
| THM 30-2423WI |                            | ±15 VDC | 1000 mA          | 90%        |
| THM 30-4811WI | 18-75 VDC<br>(48 VDC nom.) | 5 VDC   | 6000 mA          | 89%        |
| THM 30-4812WI |                            | 12 VDC  | 2500 mA          | 89%        |
| THM 30-4813WI |                            | 15 VDC  | 2000 mA          | 90%        |
| THM 30-4815WI |                            | 24 VDC  | 1250 mA          | 89%        |
| THM 30-4821WI |                            | ± 5 VDC | 3000 mA          | 87%        |
| THM 30-4822WI |                            | ±12 VDC | 1250 mA          | 90%        |
| THM 30-4823WI |                            | ±15 VDC | 1000 mA          | 90%        |

\* If remote is not selected there will be no pin.



THM 60WI | 60 W

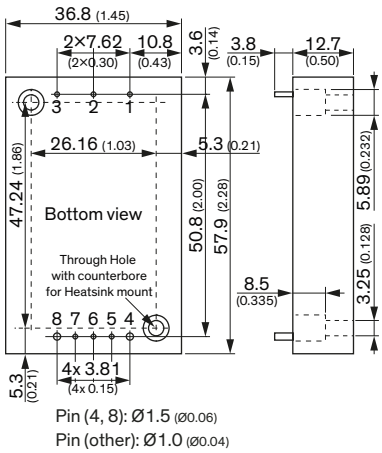
CB  
Scheme

UL  
US

RoHS



- Wide 4:1 input voltage 60 W DC/DC converter in a compact 2.3 × 1.45" plastic case
- I/O isolation 5000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <4.5 µA
- Operating temperature range: -40 to +75°C
- EMC compliance according to IEC 60601-1-2 4<sup>th</sup> edition
- Operating up to 5000 m altitude
- 5-year product warranty



| Pinout |               |               |
|--------|---------------|---------------|
| Pin    | Single        | Dual          |
| 1      | -Vin (GND)    | -Vin (GND)    |
| 2      | Remote On/Off | Remote On/Off |
| 3      | +Vin (Vcc)    | +Vin (Vcc)    |
| 4      | -Vout         | -Vout         |
| 5      | -Sense        | -Sense        |
| 6      | Trim          | Common        |
| 7      | +Sense        | +Sense        |
| 8      | +Vout         | +Vout         |

| Model         | Input Voltage Range        | Output    |                  |            |
|---------------|----------------------------|-----------|------------------|------------|
|               |                            | Vnom      | I <sub>max</sub> | Efficiency |
| THM 60-2411WI | 9-36 VDC<br>(24 VDC nom.)  | 5.1 VDC   | 12.0 A           | 90%        |
| THM 60-2412WI |                            | 12.0 VDC  | 5.0 A            | 92%        |
| THM 60-2413WI |                            | 15.0 VDC  | 4.0 A            | 90%        |
| THM 60-2415WI |                            | 24.0 VDC  | 2.5 A            | 89%        |
| THM 60-2422WI |                            | ±12.0 VDC | ±2.5 A           | 89%        |
| THM 60-2423WI |                            | ±15.0 VDC | ±2.0 A           | 90%        |
| THM 60-4811WI | 18-75 VDC<br>(48 VDC nom.) | 5.1 VDC   | 12.0 A           | 90%        |
| THM 60-4812WI |                            | 12.0 VDC  | 5.0 A            | 92%        |
| THM 60-4813WI |                            | 15.0 VDC  | 4.0 A            | 93%        |
| THM 60-4815WI |                            | 24.0 VDC  | 2.5 A            | 90%        |
| THM 60-4822WI |                            | ±12.0 VDC | ±2.5 A           | 90%        |
| THM 60-4823WI |                            | ±15.0 VDC | ±2.0 A           | 90%        |

THM 60WI Series

TRACO POWER

New THM 60WI SERIES

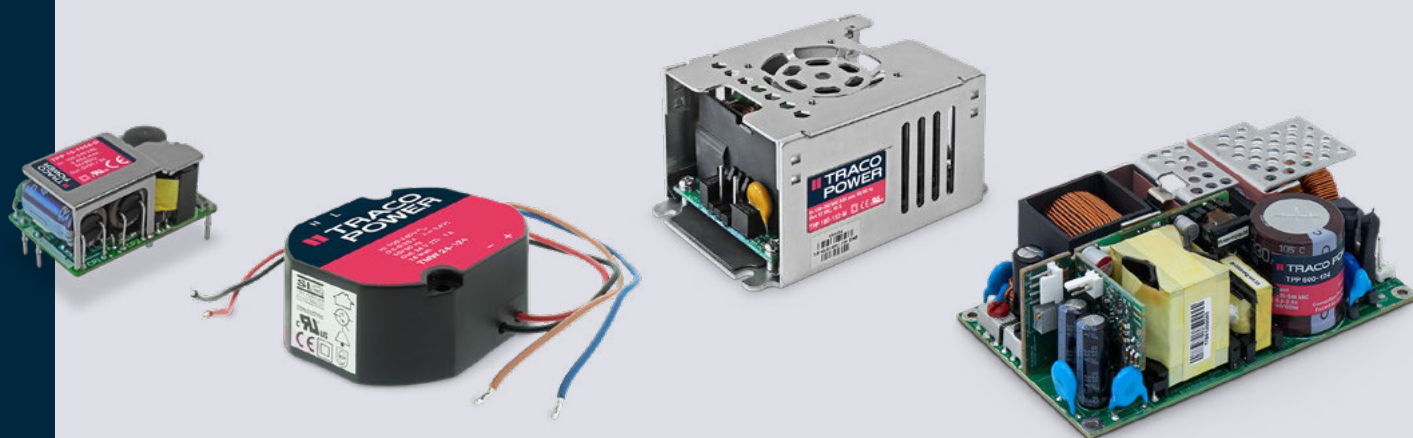
60 Watt DC/DC converter delivers high power for your medical

# AC/DC Power Supplies

5–850 watt

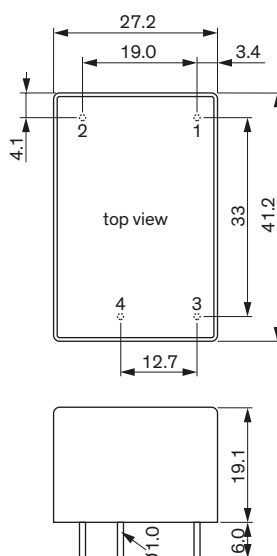
- IEC/EN/ES 60601-1 3rd Edition for 2 × MOPP
- Risk Management ISO 14971
- IPC-A-610 Class 3 High Performance Acceptability

- EMC Emission acc. to IEC 60601-1-2 ed. 4
- Quality Management ISO 13485
- 5-years warranty



TMF 05 | 5 W

EMC CE UK CA cULus CB



- Fully encapsulated power supplies in plastic casing for PCB mount
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 including risk management file
- Acceptance criteria for electronic assemblies according to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature range: -25°C to +70°C max.
- Protection against short-circuit, over load and over voltage
- Protection class II prepared
- 5 year product warranty

| Model     | Output Voltage | Output Current (max.) | Efficiency (typ.) |
|-----------|----------------|-----------------------|-------------------|
| TMF 05105 | 5.0 VDC        | 1000 mA               | 77%               |
| TMF 05112 | 12 VDC         | 417 mA                | 82%               |
| TMF 05115 | 15 VDC         | 333 mA                | 82%               |
| TMF 05124 | 24 VDC         | 208 mA                | 82%               |

| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (L) |
| 2      | AC (N) |
| 3      | -Vout  |
| 4      | +Vout  |

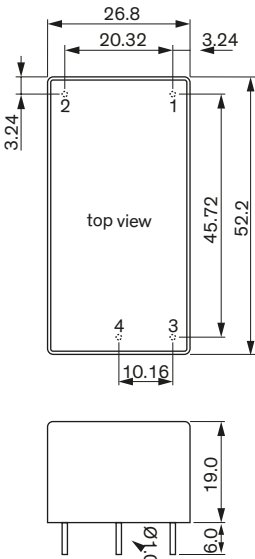


TMF 10 | 10 W

ErP ready CB Scheme



- Fully encapsulated power supplies in plastic casing for PCB mount
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 including risk management file
- Acceptance criteria for electronic assemblies according to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature range: -25°C to +70°C max.
- Protection against short-circuit, over load and over voltage
- Protection class II prepared
- 5 year product warranty



| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (L) |
| 2      | AC (N) |
| 3      | -Vout  |
| 4      | +Vout  |

| Model     | Output Voltage | Output Current (max.) | Efficiency (typ.) |
|-----------|----------------|-----------------------|-------------------|
| TMF 10105 | 5.0 VDC        | 2000 mA               | 79%               |
| TMF 10112 | 12 VDC         | 833 mA                | 84%               |
| TMF 10115 | 15 VDC         | 666 mA                | 84%               |
| TMF 10124 | 24 VDC         | 417 mA                | 84%               |

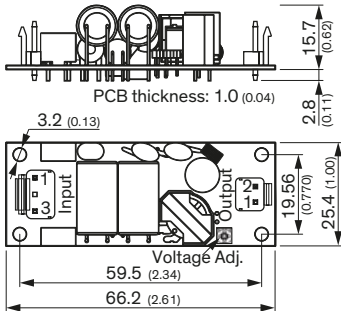
TPP 15A-J | 15 W

CE ErP ready CB Scheme

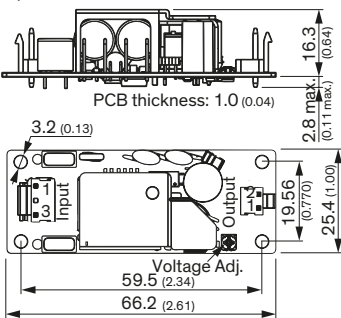


- High power density power supply (open frame)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class I and II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <100 mW
- 5-year product warranty

12, 15, 24, 36 and 48 VDC models – without heatsink



3.3, 5 and 9 VDC models – with heatsink



| Pin Connectors |          |        |          |
|----------------|----------|--------|----------|
| Input          |          | Output |          |
| Pin            | Function | Pin    | Function |
| 1              | AC (L)   | 1      | -Vout    |
| 3              | AC (N)   | 2      | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|---------------|----------------------------------|---------------------|-----------------|
| TPP 15-103A-J | 3.3 VDC (2.97–3.63 VDC)          | 4000 mA             | 84%             |
| TPP 15-105A-J | 5 VDC (4.5–5.5 VDC)              | 3000 mA             | 86%             |
| TPP 15-109A-J | 9 VDC (8.1–9.9 VDC)              | 1670 mA             | 86%             |
| TPP 15-112A-J | 12 VDC (10.8–13.2 VDC)           | 1250 mA             | 87%             |
| TPP 15-115A-J | 15 VDC (13.5–16.5 VDC)           | 1000 mA             | 87%             |
| TPP 15-124A-J | 24 VDC (21.6–26.4 VDC)           | 625 mA              | 88%             |
| TPP 15-136A-J | 36 VDC (32.4–39.6 VDC)           | 417 mA              | 88%             |
| TPP 15-148A-J | 48 VDC (43.2–52.8 VDC)           | 313 mA              | 89%             |

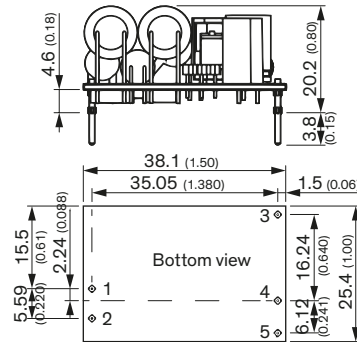


## TPP 15A-D | 15 W

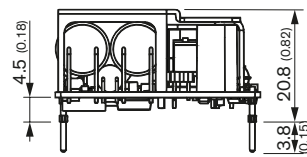


- High power density power supply (open frame)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <100 mW
- 5-year product warranty

12, 15, 24, 36 and 48 VDC models – without heatsink



3.3, 5 and 9 VDC models –with heatsink



Pinout

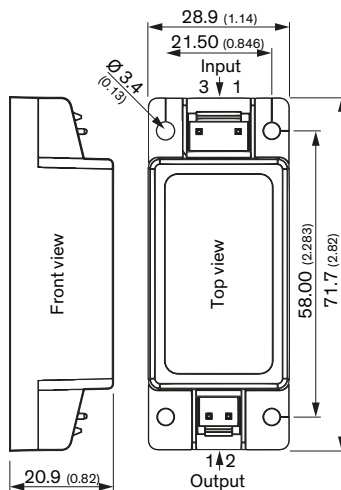
| Pin | Function |
|-----|----------|
| 1   | AC (N)   |
| 2   | AC (L)   |
| 3   | Trim     |
| 4   | –Vout    |
| 5   | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|---------------|----------------------------------|---------------------|-----------------|
| TPP 15-103A-D | 3.3 VDC (2.97–3.63 VDC)          | 4000 mA             | 84%             |
| TPP 15-105A-D | 5 VDC (4.5–5.5 VDC)              | 3000 mA             | 86%             |
| TPP 15-109A-D | 9 VDC (8.1–9.9 VDC)              | 1670 mA             | 86%             |
| TPP 15-112A-D | 12 VDC (10.8–13.2 VDC)           | 1250 mA             | 87%             |
| TPP 15-115A-D | 15 VDC (13.5–16.5 VDC)           | 1000 mA             | 87%             |
| TPP 15-124A-D | 24 VDC (21.6–26.4 VDC)           | 625 mA              | 88%             |
| TPP 15-136A-D | 36 VDC (32.4–39.6 VDC)           | 417 mA              | 88%             |
| TPP 15-148A-D | 48 VDC (43.2–52.8 VDC)           | 313 mA              | 89%             |

## TPP 15-J | 15 W



- High power density power supply (encapsulated)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <100 mW
- 5-year product warranty



Pin Connectors

| Input |          | Output |          |
|-------|----------|--------|----------|
| Pin   | Function | Pin    | Function |
| 1     | AC (L)   | 1      | –Vout    |
| 3     | AC (N)   | 2      | +Vout    |

| Model        | Output Voltage nom. | Output Current max. | Efficiency typ. |
|--------------|---------------------|---------------------|-----------------|
| TPP 15-103-J | 3.3 VDC             | 4000 mA             | 84%             |
| TPP 15-105-J | 5 VDC               | 3000 mA             | 86%             |
| TPP 15-109-J | 9 VDC               | 1670 mA             | 86%             |
| TPP 15-112-J | 12 VDC              | 1250 mA             | 87%             |
| TPP 15-115-J | 15 VDC              | 1000 mA             | 87%             |
| TPP 15-124-J | 24 VDC              | 625 mA              | 88%             |
| TPP 15-136-J | 36 VDC              | 417 mA              | 88%             |
| TPP 15-148-J | 48 VDC              | 313 mA              | 89%             |

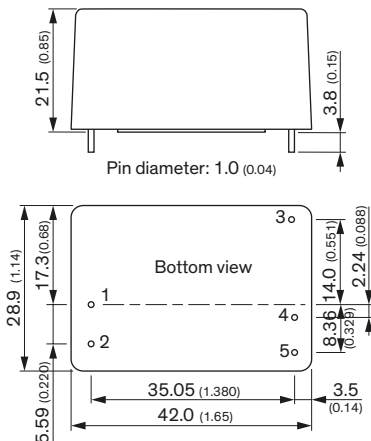


TPP 15-D | 15 W

CE UK CA LAGOM ErP ready cFUS CB Scheme EAC



- High power density power supply (encapsulated)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <100 mW
- 5-year product warranty



| Pin Connections |          |
|-----------------|----------|
| Pin             | Function |
| 1               | AC (N)   |
| 2               | AC (L)   |
| 3               | Trim     |
| 4               | -Vout    |
| 5               | +Vout    |

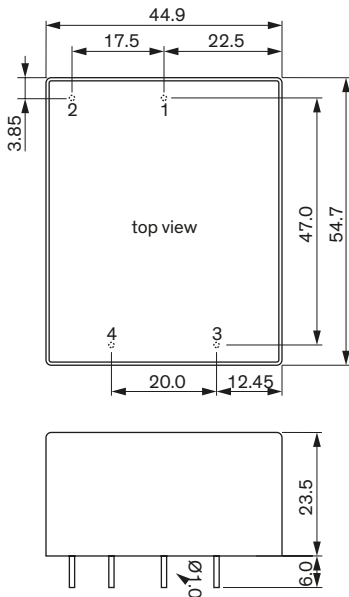
| Model        | Output Voltage nom. * | *adjustable   | Output Current max. | Efficiency typ. |
|--------------|-----------------------|---------------|---------------------|-----------------|
| TPP 15-103-D | 3.3 VDC               | 2.97–3.63 VDC | 4000 mA             | 84%             |
| TPP 15-105-D | 5 VDC                 | 4.5–5.5 VDC   | 3000 mA             | 86%             |
| TPP 15-109-D | 9 VDC                 | 8.1–9.9 VDC   | 1670 mA             | 86%             |
| TPP 15-112-D | 12 VDC                | 10.8–13.2 VDC | 1250 mA             | 87%             |
| TPP 15-115-D | 15 VDC                | 13.5–16.5 VDC | 1000 mA             | 87%             |
| TPP 15-124-D | 24 VDC                | 21.6–26.4 VDC | 625 mA              | 88%             |
| TPP 15-136-D | 36 VDC                | 32.4–39.6 VDC | 417 mA              | 88%             |
| TPP 15-148-D | 48 VDC                | 43.2–52.8 VDC | 313 mA              | 89%             |

TMF 20 | 20 W

EAC CE UK CA LAGOM ErP ready cFUS CB Scheme



- Fully encapsulated power supplies in plastic casing for PCB mount
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 including risk management file
- Acceptance criteria for electronic assemblies according to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature range: –25°C to +70°C max.
- Protection against short-circuit, over load and over voltage
- Protection class II prepared
- 5 year product warranty

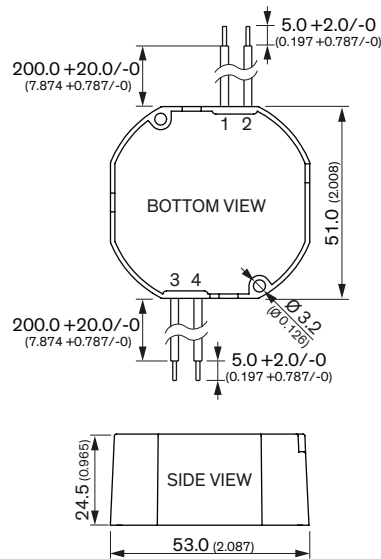


| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (L) |
| 2      | AC (N) |
| 3      | -Vout  |
| 4      | +Vout  |

| Model     | Output Voltage | Output Current (max.) | Efficiency (typ.) |
|-----------|----------------|-----------------------|-------------------|
| TMF 20105 | 5.0 VDC        | 3600 mA               | 78%               |
| TMF 20112 | 12 VDC         | 1667 mA               | 84%               |
| TMF 20115 | 15 VDC         | 1333 mA               | 84%               |
| TMF 20124 | 24 VDC         | 833 mA                | 84%               |

**TMW 24 | 24 W**

- Fully encapsulated, dust resistant, and waterproof (IP68 certified)
- Operating temperature range  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- Mountable in wall outlet boxes
- Screw mountable on wood and inside furniture
- Safety approval IEC/EN 62368-1 and IEC/EN 60335-1
- IEC/EN 60601-1 (3<sup>rd</sup> edition) certified, 2 x MOPP compliant
- Leakage current  $<100\text{ }\mu\text{A}$  for body-floating (BF) applications
- I/O isolation 4000 VAC (reinforced)
- Short-circuit protection (SCP), overvoltage protection (OVP) and overtemperature protection (OTP)
- 5 year product warranty



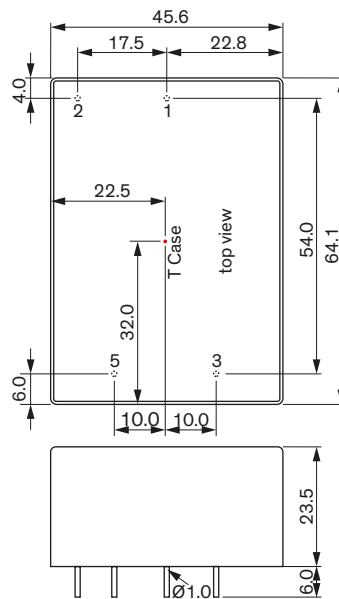
| Pinout |            |       |                            |
|--------|------------|-------|----------------------------|
| Pin    | Wire       | Color | Type                       |
| 1      | Vac IN (N) | Blue  | 20AWG/0.52 mm <sup>2</sup> |
| 2      | Vac IN (L) | Brown | 20AWG/0.52 mm <sup>2</sup> |
| 3      | -Vout      | Black | 20AWG/0.52 mm <sup>2</sup> |
| 4      | +Vout      | Red   | 20AWG/0.52 mm <sup>2</sup> |

| Model *    | Output Voltage nom. | Output Current max. | Efficiency typ. |
|------------|---------------------|---------------------|-----------------|
| TMW 24-105 | 5.1 VDC             | 4000 mA             | 85%             |
| TMW 24-112 | 12 VDC              | 2000 mA             | 88%             |
| TMW 24-124 | 24 VDC              | 1000 mA             | 89%             |

\* Also available as pin version: suffix -P

**TMF 30 | 30 W**

- Fully encapsulated power supplies in plastic casing for PCB mount
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 including risk management file
- Acceptance criteria for electronic assemblies according to IPC-A-610 Level 3
- Low leakage current  $<100\text{ }\mu\text{A}$  rated for BF applications
- Operating temperature range:  $-25^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  max.
- Protection against short-circuit, over load and over voltage
- Protection class II prepared
- 5 year product warranty



| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (L) |
| 2      | AC (N) |
| 3      | -Vout  |
| 4      | +Vout  |

| Model     | Output Voltage | Output Current (max.) | Efficiency (typ.) |
|-----------|----------------|-----------------------|-------------------|
| TMF 30105 | 5.0 VDC        | 5000 mA               | 82%               |
| TMF 30112 | 12 VDC         | 2500 mA               | 88%               |
| TMF 30115 | 15 VDC         | 2000 mA               | 86%               |
| TMF 30124 | 24 VDC         | 1250 mA               | 85%               |

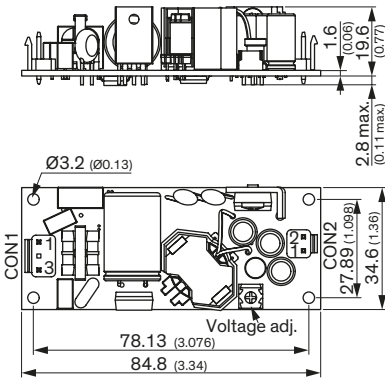


TPP 30A-J | 30 W

CE UK CA LAMOPP ErP ready cFUS CB Scheme EAC



- High power density power supply (open frame)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class I and II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <60 mW
- 5-year product warranty



| Pin Connectors |          |               |          |
|----------------|----------|---------------|----------|
| Input (CON1)   |          | Output (CON2) |          |
| Pin            | Function | Pin           | Function |
| 1              | AC (L)   | 1             | +Vout    |
| 3              | AC (N)   | 2             | -Vout    |

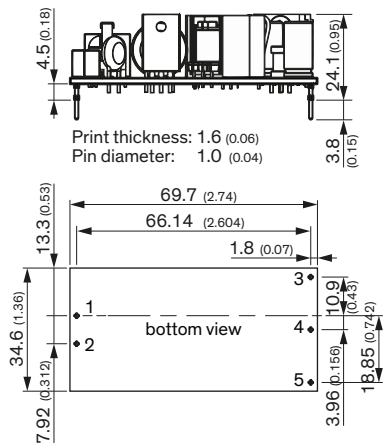
| Model         | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|---------------|----------------------------------|---------------------|-----------------|
| TPP 30-103A-J | 3.3 VDC (2.97–3.63 VDC)          | 6000 mA             | 84%             |
| TPP 30-105A-J | 5 VDC (4.5–5.5 VDC)              | 6000 mA             | 87%             |
| TPP 30-109A-J | 9 VDC (8.1–9.9 VDC)              | 3340 mA             | 88%             |
| TPP 30-112A-J | 12 VDC (10.8–13.2 VDC)           | 2500 mA             | 91%             |
| TPP 30-115A-J | 15 VDC (13.5–16.5 VDC)           | 2000 mA             | 91%             |
| TPP 30-124A-J | 24 VDC (21.6–26.4 VDC)           | 1250 mA             | 90%             |
| TPP 30-136A-J | 36 VDC (32.4–39.6 VDC)           | 840 mA              | 90%             |
| TPP 30-148A-J | 48 VDC (43.2–52.8 VDC)           | 630 mA              | 92%             |

TPP 30A-D | 30 W

CE UK CA LAMOPP ErP ready cFUS CB Scheme EAC



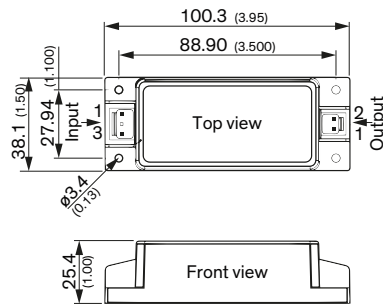
- High power density power supply (open frame)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <60 mW
- 5-year product warranty



| Pinout |          |
|--------|----------|
| Pin    | Function |
| 1      | AC (N)   |
| 2      | AC (L)   |
| 3      | +Vout    |
| 4      | -Vout    |
| 5      | Trim     |

| Model         | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|---------------|----------------------------------|---------------------|-----------------|
| TPP 30-103A-D | 3.3 VDC (2.97–3.63 VDC)          | 6000 mA             | 84%             |
| TPP 30-105A-D | 5 VDC (4.5–5.5 VDC)              | 6000 mA             | 87%             |
| TPP 30-109A-D | 9 VDC (8.1–9.9 VDC)              | 3340 mA             | 88%             |
| TPP 30-112A-D | 12 VDC (10.8–13.2 VDC)           | 2500 mA             | 91%             |
| TPP 30-115A-D | 15 VDC (13.5–16.5 VDC)           | 2000 mA             | 91%             |
| TPP 30-124A-D | 24 VDC (21.6–26.4 VDC)           | 1250 mA             | 90%             |
| TPP 30-136A-D | 36 VDC (32.4–39.6 VDC)           | 840 mA              | 90%             |
| TPP 30-148A-D | 48 VDC (43.2–52.8 VDC)           | 630 mA              | 92%             |

**TPP 30-J** | 30 W

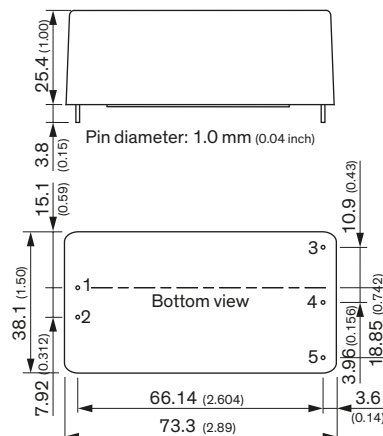


- High power density power supply (encapsulated)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <60 mW
- 5-year product warranty

| Model        | Output Voltage nom.     | Output Current max. | Efficiency typ. |
|--------------|-------------------------|---------------------|-----------------|
| TPP 30-103-J | 3.3 VDC (2.97–3.63 VDC) | 6000 mA             | 84%             |
| TPP 30-105-J | 5 VDC (4.5–5.5 VDC)     | 6000 mA             | 88%             |
| TPP 30-109-J | 9 VDC (8.1–9.9 VDC)     | 3340 mA             | 87%             |
| TPP 30-112-J | 12 VDC (10.8–13.2 VDC)  | 2500 mA             | 91%             |
| TPP 30-115-J | 15 VDC (13.5–16.5 VDC)  | 2000 mA             | 91%             |
| TPP 30-124-J | 24 VDC (21.6–26.4 VDC)  | 1250 mA             | 90%             |
| TPP 30-136-J | 36 VDC (32.4–39.6 VDC)  | 840 mA              | 90%             |
| TPP 30-148-J | 48 VDC (43.2–52.8 VDC)  | 630 mA              | 92%             |

| Pin Connectors |          |        |          |
|----------------|----------|--------|----------|
| Input          |          | Output |          |
| Pin            | Function | Pin    | Function |
| 1              | AC (L)   | 1      | +Vout    |
| 3              | AC (N)   | 2      | −Vout    |

**TPP 30-D** | **30 W**



- High power density power supply (encapsulated)
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- EMC compliance to IEC 60601-1-2 4<sup>th</sup> edition
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Protection class II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, no load power consumption <60 mW
- 5-year product warranty

| Model        | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|--------------|----------------------------------|---------------------|-----------------|
| TPP 30-103-D | 3.3 VDC (2.97–3.63 VDC)          | 6000 mA             | 84%             |
| TPP 30-105-D | 5 VDC (4.5–5.5 VDC)              | 6000 mA             | 87%             |
| TPP 30-109-D | 9 VDC (8.1–9.9 VDC)              | 3340 mA             | 88%             |
| TPP 30-112-D | 12 VDC (10.8–13.2 VDC)           | 2500 mA             | 91%             |
| TPP 30-115-D | 15 VDC (13.5–16.5 VDC)           | 2000 mA             | 91%             |
| TPP 30-124-D | 24 VDC (21.6–26.4 VDC)           | 1250 mA             | 90%             |
| TPP 30-136-D | 36 VDC (32.4–39.6 VDC)           | 840 mA              | 90%             |
| TPP 30-148-D | 48 VDC (43.2–52.8 VDC)           | 630 mA              | 92%             |

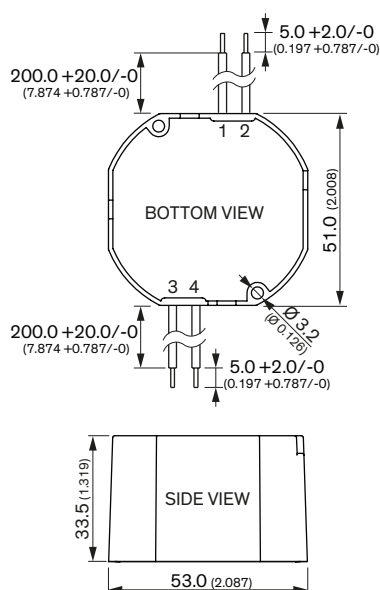
| Pinout |          |
|--------|----------|
| Pin    | Function |
| 1      | AC (N)   |
| 2      | AC (L)   |
| 3      | +Vout    |
| 4      | −Vout    |
| 5      | Trim     |



## TMW 36 | 36 W



- Fully encapsulated, dust resistant, and waterproof (IP68 certified)
- Operating temperature range  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- Mountable in wall outlet boxes
- Screw mountable on wood and inside furniture
- Safety approval IEC/EN 62368-1 and IEC/EN 60335-1
- IEC/EN 60601-1 (3<sup>rd</sup> edition) certified, 2 x MOPP compliant
- Leakage current  $<100\ \mu\text{A}$  for body-floating (BF) applications
- I/O isolation 4000 VAC (reinforced)
- Short-circuit protection (SCP), overvoltage protection (OVP) and overtemperature protection (OTP)
- 5 year product warranty



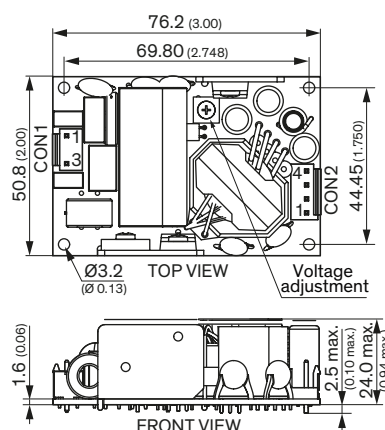
| Pinout |            |       |                            |
|--------|------------|-------|----------------------------|
| Pin    | Wire       | Color | Type                       |
| 1      | Vac IN (N) | Blue  | 20AWG/0.52 mm <sup>2</sup> |
| 2      | Vac IN (L) | Brown | 20AWG/0.52 mm <sup>2</sup> |
| 3      | -Vout      | Black | 20AWG/0.52 mm <sup>2</sup> |
| 4      | +Vout      | Red   | 20AWG/0.52 mm <sup>2</sup> |

| Model *    | Output Voltage nom. | Output Current max. | Efficiency typ. |
|------------|---------------------|---------------------|-----------------|
| TMW 36-112 | 12 VDC              | 3.0 A               | 87%             |
| TMW 36-124 | 24 VDC              | 1.5 A               | 87%             |

\* Also available as pin version: suffix -P



## TPP 40A | 40 W



- Open frame power supply with pin connector
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Low leakage current  $<75\ \mu\text{A}$  rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- EMC compliance to IEC 60601-1-2 ed. 4
- Protection class I and II prepared
- Operating up to 5000 m altitude
- Ready to meet ErP directive,  $<0.15\ \text{W}$  no load power consumption
- 5-year product warranty

| Pin connectors |          |               |          |
|----------------|----------|---------------|----------|
| Input (CON1)   |          | Output (CON2) |          |
| Pin            | Function | Pin*          | Function |
| 1              | AC (L)   | 1, 2          | -Vout    |
| 3              | AC (N)   | 3, 4          | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 40-105A-J | 5 VDC (4.5–5.5 VDC)              | 8000 mA  | 90%        |
| TPP 40-112A-J | 12 VDC (10.8–13.2 VDC)           | 3340 mA  | 92%        |
| TPP 40-124A-J | 24 VDC (21.6–26.4 VDC)           | 1670 mA  | 92%        |
| TPP 40-148A-J | 48 VDC (43.2–52.8 VDC)           | 840 mA   | 93%        |

Note  
– Other output models are available on request.

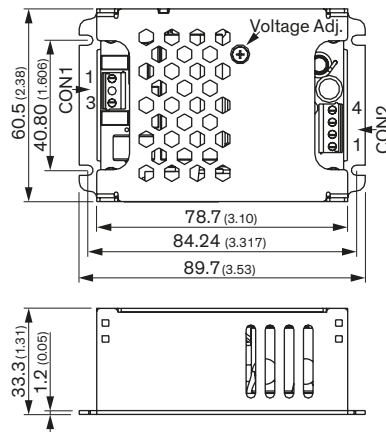
\* Terminal rated for 7 A max. (at higher current connection has to be split)

CON1: JST series mates with JST crimp terminal: BVH-21T-P1.1 and terminal housing: VHR-3N

CON2: JST series mates with JST crimp terminal: BVH-21T-P1.1 and terminal housing: VHR-4N



## TPP 40 | 40 W



- Enclosed power supply with screw terminal connection
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- EMC compliance to IEC 60601-1-2 ed. 4
- Protection class I and II prepared
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.15 W no load power consumption
- 5-year product warranty

## Screw Terminal (Single Output Models)

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1, 2          | -Vout    |
| 3            | AC (N)   | 3, 4          | +Vout    |

## Screw Terminal (Multi Output Models)

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1             | Vout 3   |
| 3            | AC (N)   | 2, 3          | COM      |
|              |          | 4, 5          | Vout 2   |
|              |          | 6             | Vout 1   |

| Model        | Vout           | Iout             | Efficiency |
|--------------|----------------|------------------|------------|
| TPP 40-105   | 5 VDC          | 8.00 A           | 90%        |
| TPP 40-112   | 12 VDC         | 3.34 A           | 92%        |
| TPP 40-115   | 15 VDC         | 2.67 A           | 92%        |
| TPP 40-124   | 24 VDC         | 1.67 A           | 92%        |
| TPP 40-221   | +12/+5 VDC     | 3.34/6.00 A      | 89%        |
| TPP 40-231   | +15/+5 VDC     | 2.67/6.00 A      | 89%        |
| TPP 40-251   | +24/+5 VDC     | 1.67/6.00 A      | 86%        |
| TPP 40-321M2 | +12/+5/-12 VDC | 3.34/6.00/0.50 A | 88%        |
| TPP 40-331M3 | +15/+5/-15 VDC | 2.67/6.00/0.50 A | 88%        |
| TPP 40-3512  | +24/+5/+12 VDC | 1.67/6.00/0.50 A | 86%        |

## Note

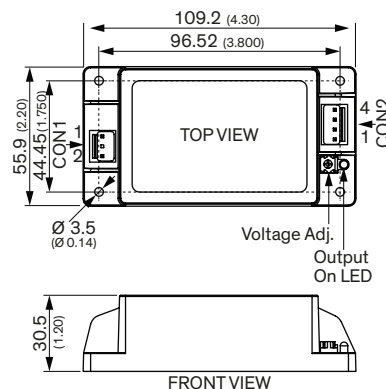
- Total Power must not exceed 40 W.
- Other output models are available on request.
- Multi output models have a common ground.

## Note (Dimensions)

- Multi output models 102.4 (4.03) length, 34.5 (1.36) height

\* Terminal rated for 10 A max.  
(at higher current connection has to be split)

## TPP 40E-J | 40 W



- Compact encapsulated 40 Watt Chassis mount module (4.3" × 2.2")
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature -40°C to 80°C
- EMC compliance according to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class B
- Operating up to 5000 m altitude
- 5-year product warranty

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 40-105E-J | 5 VDC (4.5–5.5 VDC)              | 8000 mA  | 90%        |
| TPP 40-112E-J | 12 VDC (10.8–13.2 VDC)           | 3340 mA  | 92%        |
| TPP 40-115E-J | 15 VDC (13.5–16.5 VDC)           | 2670 mA  | 92%        |
| TPP 40-124E-J | 24 VDC (21.6–26.4 VDC)           | 1670 mA  | 92%        |
| TPP 40-136E-J | 36 VDC (32.4–39.6 VDC)           | 1120 mA  | 92%        |
| TPP 40-148E-J | 48 VDC (43.2–52.8 VDC)           | 840 mA   | 93%        |

## Pin connectors

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin           | Function |
| 1            | Line     | 1, 2          | -Vout    |
| 3            | Neutral  | 3, 4          | +Vout    |

## TPP40E &amp; TPP65E Series

TRACO POWER

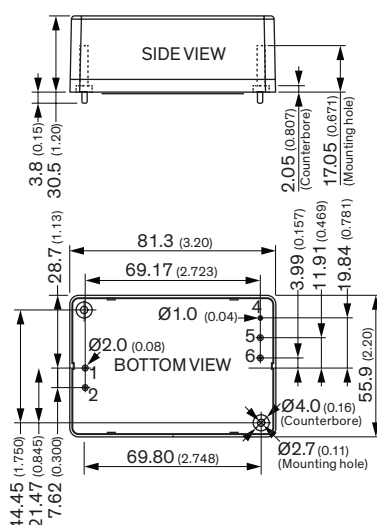




## TPP 40E-D | 40 W



- Compact encapsulated 40 Watt PCB module (3.2" x 2.2")
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature -40°C to 80°C
- EMC compliance according to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class B
- Operating up to 5000 m altitude
- 5-year product warranty

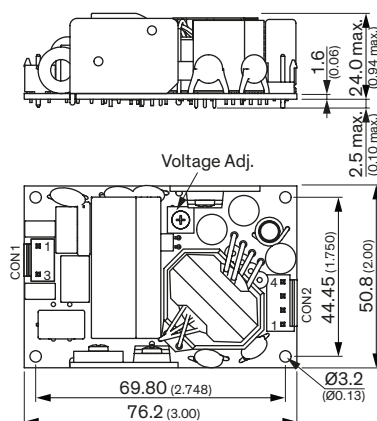


| Pinout |          |
|--------|----------|
| Pin    | Function |
| 1      | AC (N)   |
| 2      | AC (L)   |
| 4      | Trim     |
| 5      | -Vout    |
| 6      | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 40-105E-D | 5 VDC (4.5–5.5 VDC)              | 8000 mA  | 90%        |
| TPP 40-112E-D | 12 VDC (10.8–13.2 VDC)           | 3340 mA  | 92%        |
| TPP 40-115E-D | 15 VDC (13.5–16.5 VDC)           | 2670 mA  | 92%        |
| TPP 40-124E-D | 24 VDC (21.6–26.4 VDC)           | 1670 mA  | 92%        |
| TPP 40-136E-D | 36 VDC (32.4–39.6 VDC)           | 1120 mA  | 92%        |
| TPP 40-148E-D | 48 VDC (43.2–52.8 VDC)           | 840 mA   | 93%        |



## TPP 65A | 65 W



- Open frame power supply with pin connection
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Low leakage current <75 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- EMC compliance to IEC 60601-1-2 ed. 4
- Protection class I and II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.15 W no load power consumption
- 5-year product warranty

| Pin connectors |          |               |          |
|----------------|----------|---------------|----------|
| Input (CON1)   |          | Output (CON2) |          |
| Pin            | Function | Pin*          | Function |
| 1              | AC (L)   | 1, 2          | -Vout    |
| 3              | AC (N)   | 3, 4          | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 65-105A-J | 5 VDC (4.5–5.5 VDC)              | 10000 mA | 90%        |
| TPP 65-112A-J | 12 VDC (10.8–13.2 VDC)           | 5420 mA  | 93%        |
| TPP 65-124A-J | 24 VDC (21.6–26.4 VDC)           | 2710 mA  | 94%        |
| TPP 65-148A-J | 48 VDC (43.2–52.8 VDC)           | 1360 mA  | 93%        |

Note  
– Other output models are available on request.

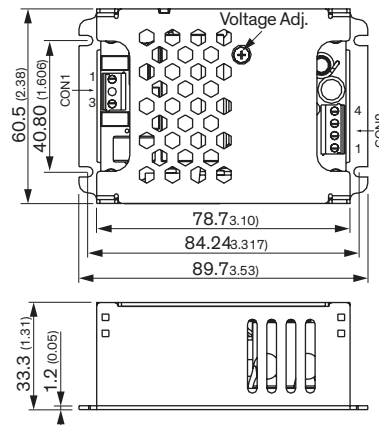
\* Terminal rated for 10 A max. (at higher current connection has to be split)

CON1: JST series  
mates with JST crimp terminal: SVH-21T-P1.1  
and terminal housing: VHR-3N

CON2: JST series  
mates with JST crimp terminal: SVH-21T-P1.1  
and terminal housing: VHR-4N



## TPP 65 | 65 W



- Enclosed power supply with screw terminal connection
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- EMC compliance to IEC 60601-1-2 ed. 4
- Protection class I and II
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.15 W no load power consumption
- 5-year product warranty

## Screw Terminal (Single Output Models)

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1, 2          | -Vout    |
| 3            | AC (N)   | 3, 4          | +Vout    |

## Screw Terminal (Multi Output Models)

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1             | Vout 3   |
| 3            | AC (N)   | 2, 3          | COM      |
|              |          | 4, 5          | Vout 2   |
|              |          | 6             | Vout 1   |

| Model        | Vout           | Iout             | Efficiency |
|--------------|----------------|------------------|------------|
| TPP 65-105   | 5 VDC          | 10.00 A          | 90%        |
| TPP 65-112   | 12 VDC         | 5.42 A           | 93%        |
| TPP 65-115   | 15 VDC         | 4.34 A           | 94%        |
| TPP 65-124   | 24 VDC         | 2.71 A           | 94%        |
| TPP 65-221   | +12/+5 VDC     | 5.42/8.00 A      | 90%        |
| TPP 65-231   | +15/+5 VDC     | 4.34/8.00 A      | 91%        |
| TPP 65-251   | +24/+5 VDC     | 2.71/8.00 A      | 89%        |
| TPP 65-321M2 | +12/+5/-12 VDC | 5.42/8.00/0.60 A | 89%        |
| TPP 65-331M3 | +15/+5/-15 VDC | 4.34/8.00/0.60 A | 90%        |
| TPP 65-3512  | +24/+5/+12 VDC | 2.71/8.00/0.60 A | 89%        |

## Note

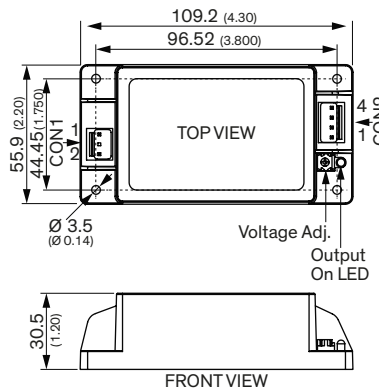
- Total Power must not exceed 65 W.
- Other output models are available on request.
- Multi output models have a common ground.

## Note (Dimensions)

- Multi output models 102.4 (4.03) length, 34.5 (1.36) height

\* Terminal rated for 10 A max. (at higher current connection has to be split)

## TPP 65E-J | 65 W



- Compact encapsulated 65 Watt Chassis mount module (4.3" × 2.2")
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature -40°C to 80°C
- EMC compliance according to IEC 60601-1-2 4<sup>th</sup> edition and EN55032 class B
- Operating up to 5000 m altitude
- 5-year product warranty

## Pin connectors

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin           | Function |
| 1            | Line     | 1, 2          | -Vout    |
| 3            | Neutral  | 3, 4          | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 65-105E-J | 5 VDC (4.5–5.5 VDC)              | 10000 mA | 90%        |
| TPP 65-112E-J | 12 VDC (10.8–13.2 VDC)           | 5420 mA  | 93%        |
| TPP 65-115E-J | 15 VDC (13.5–16.5 VDC)           | 4340 mA  | 94%        |
| TPP 65-124E-J | 24 VDC (21.6–26.4 VDC)           | 2710 mA  | 94%        |
| TPP 65-136E-J | 36 VDC (32.4–39.6 VDC)           | 1810 mA  | 93%        |
| TPP 65-148E-J | 48 VDC (43.2–52.8 VDC)           | 1360 mA  | 93%        |

## TPP40E &amp; TPP65E Series

TRACO POWER

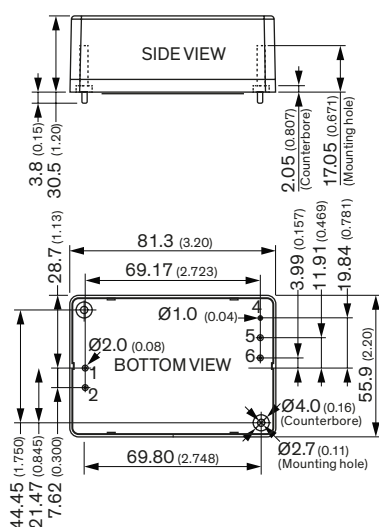




## TPP 65E-D | 65 W



- Compact encapsulated 65 Watt PCB module (3.2" x 2.2")
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Low leakage current <100 µA rated for BF applications
- Operating temperature -40°C to 80°C
- EMC compliance according to IEC 60601-1-2 4<sup>th</sup> edition and EN 55032 class B
- Operating up to 5000 m altitude
- 5-year product warranty

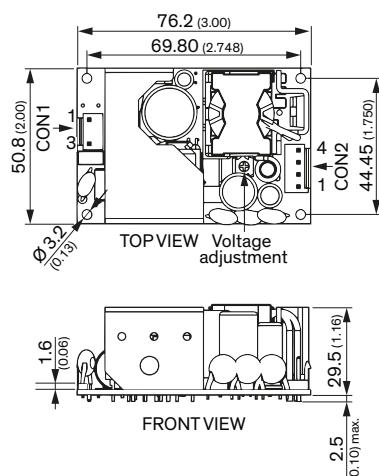


| Pinout |          |
|--------|----------|
| Pin    | Function |
| 1      | AC (N)   |
| 2      | AC (L)   |
| 4      | Trim     |
| 5      | -Vout    |
| 6      | +Vout    |

| Model         | Output Voltage nom. (adjustable) | Output 2 | Efficiency |
|---------------|----------------------------------|----------|------------|
| TPP 65-105E-D | 5 VDC (4.5–5.5 VDC)              | 10000 mA | 90%        |
| TPP 65-112E-D | 12 VDC (10.8–13.2 VDC)           | 5420 mA  | 93%        |
| TPP 65-115E-D | 15 VDC (13.5–16.5 VDC)           | 4340 mA  | 94%        |
| TPP 65-124E-D | 24 VDC (21.6–26.4 VDC)           | 2710 mA  | 94%        |
| TPP 65-136E-D | 36 VDC (32.4–39.6 VDC)           | 1810 mA  | 93%        |
| TPP 65-148E-D | 48 VDC (43.2–52.8 VDC)           | 1360 mA  | 93%        |



## TPP 100A-J | 100 W



- Open frame 100 W power supply with JST connection in 2.0" x 3.0" package
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Low leakage current <75 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Active power factor correction >0.95
- Protection class I and II prepared
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.3 W no load power consumption
- 5-year product warranty

| Pin connectors |          |               |          |
|----------------|----------|---------------|----------|
| Input (CON1)   |          | Output (CON2) |          |
| Pin            | Function | Pin*          | Function |
| 1              | AC (L)   | 1, 2          | -Vout    |
| 3              | AC (N)   | 3, 4          | +Vout    |

| Model          | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|----------------|----------------------------------|---------------------|-----------------|
| TPP 100-112A-J | 12 VDC (10.8–13.2 VDC)           | 8340 mA             | 91%             |
| TPP 100-115A-J | 15 VDC (13.5–16.5 VDC)           | 6670 mA             | 92%             |
| TPP 100-124A-J | 24 VDC (21.6–26.4 VDC)           | 4170 mA             | 92%             |
| TPP 100-128A-J | 28 VDC (25.2–30.8 VDC)           | 3580 mA             | 92%             |
| TPP 100-136A-J | 36 VDC (32.4–39.6 VDC)           | 2780 mA             | 91%             |
| TPP 100-148A-J | 48 VDC (43.2–52.8 VDC)           | 2090 mA             | 91%             |

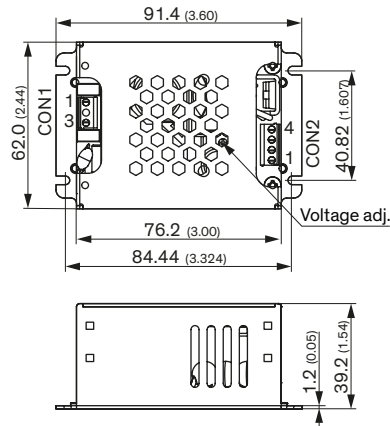
\* Terminal rated for 7 A max. (at higher current connection has to be split)

**CON1:** JST series mates with JST crimp terminal: SVH-21T-P1.1 and terminal housing: VHR-3N

**CON2:** JST series mates with JST crimp terminal: SVH-21T-P1.1 and terminal housing: VHR-4N



## TPP 100 | 100 W



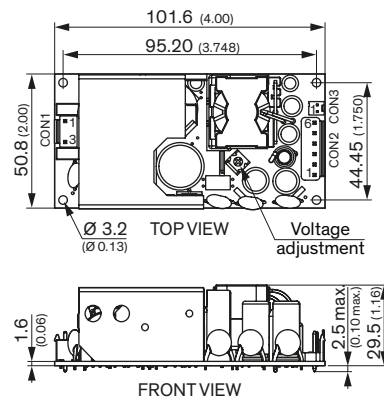
- Encased 100 W power supply with screw connection in 2.44" × 3.6" package
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <75 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Active power factor correction >0.95
- Protection class I and II prepared
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.3 W no load power consumption
- 5-year product warranty

## Screw Terminal

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1, 2          | -Vout    |
| 3            | AC (N)   | 3, 4          | +Vout    |

| Model       | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|-------------|----------------------------------|---------------------|-----------------|
| TPP 100-112 | 12 VDC (10.8–13.2 VDC)           | 8340 mA             | 91%             |
| TPP 100-115 | 15 VDC (13.5–16.5 VDC)           | 6670 mA             | 92%             |
| TPP 100-124 | 24 VDC (21.6–26.4 VDC)           | 4170 mA             | 92%             |
| TPP 100-128 | 28 VDC (25.2–30.8 VDC)           | 3580 mA             | 92%             |
| TPP 100-136 | 36 VDC (32.4–39.6 VDC)           | 2780 mA             | 91%             |
| TPP 100-148 | 48 VDC (43.2–52.8 VDC)           | 2090 mA             | 91%             |

## TPP 150A-J | 150 W



- Open frame 150 W power supply with JST connection in 2.0" × 4.0" package
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Active power factor correction >0.95
- Protection class I and II prepared
- Operating up to 5000 m altitude
- Ready to meet ErP directive, <0.3 W no load power consumption
- 5-year product warranty

## Pin connectors

| Input (CON1) |          | Output (CON2) |          |
|--------------|----------|---------------|----------|
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1–3           | -Vout    |
| 3            | AC (N)   | 4–6           | +Vout    |

## Fan (CON3)

| Pin | Function |
|-----|----------|
| 1   | -Fan     |
| 2   | +Fan     |

| Model          | Output Voltage nom. (adjustable) | Output Current max. (Forced air cooling) | Efficiency typ. |
|----------------|----------------------------------|------------------------------------------|-----------------|
| TPP 150-112A-J | 12 VDC (10.8–13.2 VDC)           | 12500 mA                                 | 91%             |
| TPP 150-115A-J | 15 VDC (13.5–16.5 VDC)           | 10000 mA                                 | 92%             |
| TPP 150-124A-J | 24 VDC (21.6–26.4 VDC)           | 6250 mA                                  | 92%             |
| TPP 150-128A-J | 28 VDC (25.2–30.8 VDC)           | 5360 mA                                  | 92%             |
| TPP 150-136A-J | 36 VDC (32.4–39.6 VDC)           | 4170 mA                                  | 92%             |
| TPP 150-148A-J | 48 VDC (43.2–52.8 VDC)           | 3130 mA                                  | 92%             |

Output Current max. (Natural convection):

8340 mA  
7340 mA  
4590 mA  
3930 mA  
3060 mA  
2090 mA

\* Terminal rated for 7 A max.  
(at higher current connection has to be split)

CON1: JST series  
mates with JST crimp terminal: SVH-21T-P1.1  
and terminal housing: VHR-3N

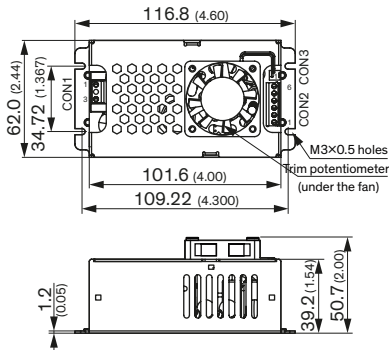
CON2: JST series  
mates with JST crimp terminal: SVH-21T-P1.1  
and terminal housing: VHR-6N

CON3: Molex series  
mates with Molex crimp terminals: 2759  
and Molex housing: 22-01-1022



TPP 150 | 150 W

CE UK CA MOPP RoHS REACH cULus CB ENEC



- Encased 150 W power supply with screw connection 2.44" × 4.6" package
- Certification according to IEC/EN/ ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Low leakage current <100 µA rated for BF applications
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Active power factor correction >0.95
- Protection class I and II prepared
- Operating up to 5000 m altitude
- 5-year product warranty

| Connections  |          |               |          |
|--------------|----------|---------------|----------|
| Input (CON1) |          | Output (CON2) |          |
| Pin          | Function | Pin*          | Function |
| 1            | AC (L)   | 1-3           | -Vout    |
| 3            | AC (N)   | 4-6           | +Vout    |

| Fan (CON3) |          |
|------------|----------|
| Pin        | Function |
| 1          | -Fan     |
| 2          | +Fan     |

| Model       | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|-------------|----------------------------------|---------------------|-----------------|
| TPP 150-112 | 12 VDC (10.8–13.2 VDC)           | 12500 mA            | 91%             |
| TPP 150-115 | 15 VDC (13.5–16.5 VDC)           | 10000 mA            | 92%             |
| TPP 150-124 | 24 VDC (21.6–26.4 VDC)           | 6250 mA             | 92%             |
| TPP 150-128 | 28 VDC (25.2–30.8 VDC)           | 5360 mA             | 92%             |
| TPP 150-136 | 36 VDC (32.4–39.6 VDC)           | 4170 mA             | 92%             |
| TPP 150-148 | 48 VDC (43.2–52.8 VDC)           | 3130 mA             | 92%             |

\* Terminal rated for 7 A max.  
(at higher current connection has to be split)

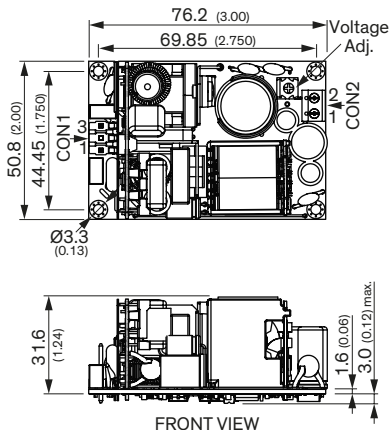
CON1: Screw Terminal

CON2: Screw Terminal

CON3: Molex series  
mates with Molex crimp terminals: 2759  
and Molex housing: 22-01-1022

TPP 180A-M | 180 W

CE UK CA MOPP RoHS REACH cULus CB ErP ready ENEC

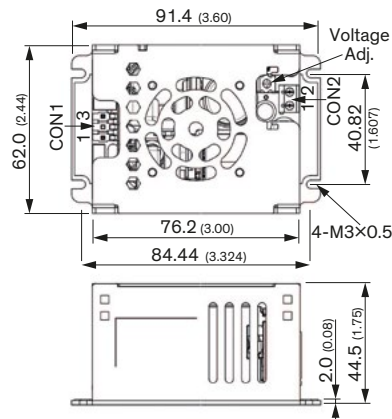


- High power-density: 180 Watt in 3" × 2" package (open frame)
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ ES 60601-1 3<sup>rd</sup> edition for 2 × MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Peak power operation up to 220 Watt for 5s
- Operating temperature –40°C to 85°C
- Active power factor correction >0.9
- Operating up to 5000 m altitude
- 5-year product warranty

| Pin connectors |            |               |          |
|----------------|------------|---------------|----------|
| Input (CON1)   |            | Output (CON2) |          |
| Pin            | Function   | Pin*          | Function |
| 1              | AC (N)/DC– | 1             | +Vout    |
| 3              | AC (L)/DC+ | 2             | –Vout    |

| Model          | Output Voltage nom.    | Output Current max. | Efficiency typ. |
|----------------|------------------------|---------------------|-----------------|
| TPP 180-112A-M | 12 VDC (11.0–13.0 VDC) | 15 A                | 92%             |
| TPP 180-115A-M | 15 VDC (13.8–16.2 VDC) | 12 A                | 92%             |
| TPP 180-124A-M | 24 VDC (22.1–25.9 VDC) | 7.5 A               | 94%             |
| TPP 180-136A-M | 36 VDC (33.1–38.9 VDC) | 5 A                 | 93%             |
| TPP 180-148A-M | 48 VDC (44.2–51.8 VDC) | 3.75 A              | 93%             |
| TPP 180-153A-M | 53 VDC (48.8–57.2 VDC) | 3.40 A              | 93%             |

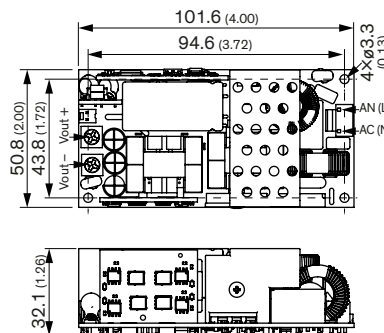


**TPP 180-M | 180 W**

- High power-density: 180 Watt in 3.6" x 2.44" package (encased)
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Peak power operation up to 220 Watt for 5s
- Operating temperature -40°C to 85°C
- Active power factor correction >0.9
- Operating up to 5000 m altitude
- 5-year product warranty

| Pinout       |            |               |          |
|--------------|------------|---------------|----------|
| Input (CON1) |            | Output (CON2) |          |
| Pin          | Function   | Pin           | Function |
| 1            | AC (N)/DC- | 1             | +Vout    |
| 3            | AC (L)/DC+ | 2             | -Vout    |

| Model         | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|---------------|----------------------------------|---------------------|-----------------|
| TPP 180-112-M | 12 VDC (11.0–13.0 VDC)           | 15 A                | 92%             |
| TPP 180-115-M | 15 VDC (13.8–16.2 VDC)           | 12 A                | 92%             |
| TPP 180-124-M | 24 VDC (22.1–25.9 VDC)           | 7.5 A               | 94%             |
| TPP 180-136-M | 36 VDC (33.1–38.9 VDC)           | 5 A                 | 93%             |
| TPP 180-148-M | 48 VDC (44.2–51.8 VDC)           | 3.75 A              | 93%             |
| TPP 180-153-M | 53 VDC (48.8–57.2 VDC)           | 3.40 A              | 93%             |

**TPP 250A | 250 W****NEW!**

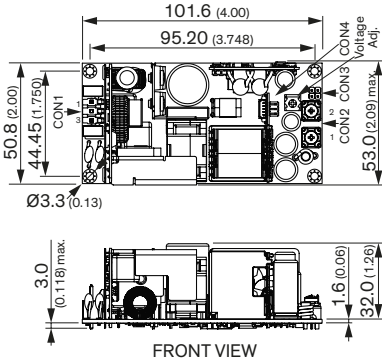
- 250 Watt open frame power supply in 4" x 2" package
- Industrial (62368-1), Medical (60601-1, 2 x MOPP) and Household (60335-1) approvals
- EMC compliance to IEC/EN 60601-1-2 4<sup>th</sup> edition
- Operating temperature range -40°C to +70°C
- Active PFC >0.95
- High efficiency up to 94%
- Isolation (4000 VAC) and leakage current (<100 µA) rated for BF applications
- Operating up to 5000 m altitude
- 5-year product warranty

| Model        | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|--------------|----------------------------------|---------------------|-----------------|
| TPP 250-112A | 12 VDC (12–12.36 VDC)            | 20.8 A              | tbd             |
| TPP 250-124A | 24 VDC (24–24.72 VDC)            | 10.4 A              | tbd             |
| TPP 250-128A | 28 VDC (28–28.84 VDC)            | 8.9 A               | tbd             |
| TPP 250-136A | 36 VDC (36–37.08 VDC)            | 7 A                 | tbd             |
| TPP 250-148A | 48 VDC (48–49.44 VDC)            | 5.2 A               | tbd             |



TPP 300A-M | 300 W

CE UK CA LAGOP RoHS cULus CB ENE ErP ready



- High power-density: 300 Watt in 4" x 2" package (open frame)
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Peak power operation up to 360 Watt for 5s
- Operating temperature -40°C to 85°C
- Active power factor correction >0.9
- Operating up to 5000 m altitude
- 5-year product warranty

| Input<br>CON1 |                 | Output<br>CON2 |          |
|---------------|-----------------|----------------|----------|
| Pin           | Function        | Pin            | Function |
| 1             | AC (L) / DC (+) | 1              | +Vout    |
| 3             | AC (N) / DC (-) | 2              | -Vout    |

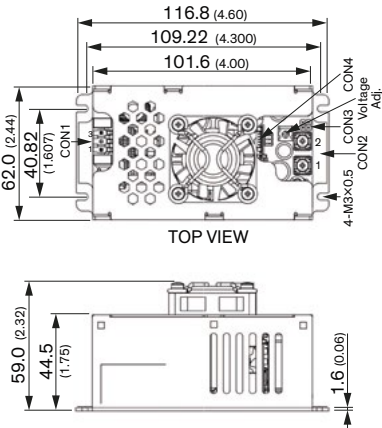
| Auxiliary<br>CON3 |          | Auxiliary<br>CON4 |          |
|-------------------|----------|-------------------|----------|
| Pin               | Function | Pin               | Function |
| 1                 | +Fan     | 1                 | +Standby |
| 2                 | -Fan     | 2                 | -Standby |
| 3                 | +Sense   | 3                 | PG       |
| 4                 | -Sense   | 4                 | -Remote  |
|                   |          | 5                 | +Remote  |

| Model          | Output Voltage nom.<br>(adjustable) | Output<br>Current max. | Efficiency<br>typ. |
|----------------|-------------------------------------|------------------------|--------------------|
| TPP 300-112A-M | 12 VDC (10.8–13.2 VDC)              | 25 A                   | 91%                |
| TPP 300-115A-M | 15 VDC (13.5–16.5 VDC)              | 20 A                   | 92%                |
| TPP 300-124A-M | 24 VDC (21.6–26.4 VDC)              | 12.5 A                 | 93%                |
| TPP 300-136A-M | 36 VDC (32.4–39.6 VDC)              | 8.3 A                  | 93%                |
| TPP 300-148A-M | 48 VDC (43.2–52.8 VDC)              | 6.25 A                 | 93%                |
| TPP 300-153A-M | 53 VDC (47.7–58.3 VDC)              | 5.67 A                 | 93%                |



TPP 300-M | 300 W

CE UK CA LAGOP RoHS cULus CB ENE



- High power-density: 300 Watt in 4.6" x 2.44" package (encased)
- I/O isolation 4000 VAC rated for 250 VAC working voltage
- Certification according to IEC/EN/ES 60601-1 3<sup>rd</sup> edition for 2 x MOPP
- Risk management process according to ISO 14971 incl. risk management file
- Acceptance criteria for electronic assemblies acc. to IPC-A-610 Level 3
- Peak power operation up to 360 Watt for 5s
- Operating temperature -40°C to 80°C
- Active power factor correction >0.9
- Operating up to 5000 m altitude
- 5-year product warranty

| Input<br>CON1 |          | Output<br>CON2 |          |
|---------------|----------|----------------|----------|
| Pin           | Function | Pin            | Function |
| 1             | AN (N)   | 1              | +Vout    |
| 2             | -        | 2              | -Vout    |
| 3             | AC (L)   |                |          |

| Auxiliary<br>CON3 |          | Auxiliary<br>CON4 |          |
|-------------------|----------|-------------------|----------|
| Pin               | Function | Pin               | Function |
| 1                 | +Fan     | 1                 | +Standby |
| 2                 | -Fan     | 2                 | -Standby |
| 3                 | +Sense   | 3                 | PG       |
| 4                 | -Sense   | 4                 | Control  |
|                   |          | 5                 | Remote   |

| Model         | Output Voltage nom.<br>(adjustable) | Output<br>Current max. | Efficiency<br>typ. |
|---------------|-------------------------------------|------------------------|--------------------|
| TPP 300-112-M | 12 VDC (10.8–13.2 VDC)              | 25 A                   | 91%                |
| TPP 300-115-M | 15 VDC (13.5–16.5 VDC)              | 20 A                   | 91%                |
| TPP 300-124-M | 24 VDC (21.6–26.4 VDC)              | 12.5 A                 | 93%                |
| TPP 300-136-M | 36 VDC (32.4–39.6 VDC)              | 8.3 A                  | 93%                |
| TPP 300-148-M | 48 VDC (43.2–52.8 VDC)              | 6.25 A                 | 93%                |
| TPP 300-153-M | 53 VDC (47.7–58.3 VDC)              | 5.67 A                 | 93%                |



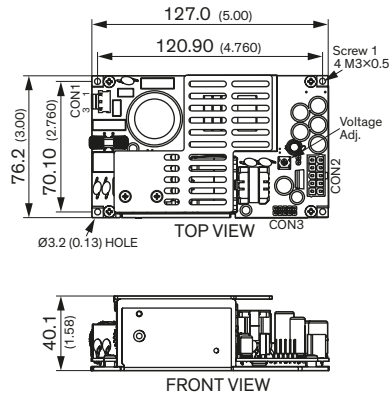
Max. screw penetration depth: 3.3 (0.130)

Setup screw locked torque: max. 2.5 kgfcm/0.25 Nm

CON2 screw locked torque: max. 16.8 kgfcm/  
1.65 Nm wires 24–14 AWG



## TPP 450BA | 450 W



- 450 Watt open frame power supply in 5" x 3" package
- 450 Watt with forced air cooling, up to 320 Watt convection cooled without derating up to 50°C
- Industrial (62368-1) and Medical (60601-1, 2xMOPP) approvals
- EMC compliance to IEC/EN 60601-1-2 4<sup>th</sup> edition
- Protection Class II prepared
- Risk management process according to ISO 14971 incl. risk management file
- Isolation (4000 VAC) and leakage current (<100 µA) rated for BF applications
- 5 V standby output, Remote On/Off, DC-OK Signal, variable fan speed
- Operating up to 5000 m altitude
- 5-year product warranty

| Input<br>CON1 |          |
|---------------|----------|
| Pin           | Function |
| 1             | AC (L)   |
| 3             | AC (N)   |

| Output<br>CON2 |          |
|----------------|----------|
| Pin*           | Function |
| 1-5            | +Vout    |
| 6-10           | -Vout    |

| Auxiliary<br>CON3 |          |
|-------------------|----------|
| Pin               | Function |
| 1                 | +Fan     |
| 2                 | +Sense   |
| 3                 | +Remote  |
| 4                 | PG       |
| 5                 | +Standby |
| 6                 | -Fan     |
| 7                 | -Sense   |
| 8                 | -Remote  |
| 9                 | No Pin   |
| 10                | -Standby |

| Model           | Output Voltage nom. (adjustable) | Output Current max. (Forced air cooling) | Efficiency typ. |
|-----------------|----------------------------------|------------------------------------------|-----------------|
| TPP 450-112BA-M | 12 VDC (11.0–13.0 VDC)           | 37500 mA                                 | 91%             |
| TPP 450-115BA-M | 15 VDC (13.8–16.2 VDC)           | 30000 mA                                 | 92%             |
| TPP 450-124BA-M | 24 VDC (22.1–25.9 VDC)           | 18750 mA                                 | 93%             |
| TPP 450-128BA-M | 28 VDC (25.8–30.2 VDC)           | 16100 mA                                 | 93%             |
| TPP 450-136BA-M | 36 VDC (33.1–38.9 VDC)           | 12500 mA                                 | 93%             |
| TPP 450-148BA-M | 48 VDC (44.2–51.8 VDC)           | 9400 mA                                  | 94%             |
| TPP 450-153BA-M | 53 VDC (48.8–57.2 VDC)           | 8550 mA                                  | 94%             |

Output Current max. (Natural convection):

20800 mA  
16600 mA  
13300 mA  
11400 mA  
8900 mA  
6650 mA  
6050 mA



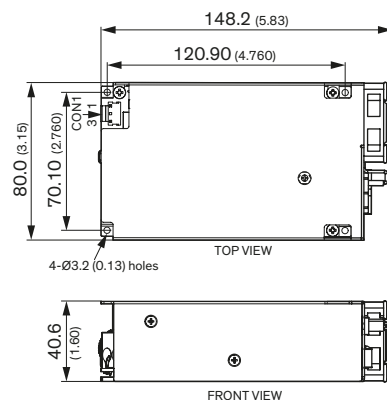
\* Terminal rated for 13 A max.  
(at higher current connection has to be split)

**CON1:**  
Molex housing:  
09-50-8031  
Molex crimp terminals:  
2478,6838,45570

**CON2:**  
Molex housing:  
39-01-2105  
Molex crimp terminals:  
5556,45750

**CON3:**  
Molex housing:  
90143-0010  
Molex crimp terminals:  
90119

## TPP 450B | 450 W



- 450 Watt encased power supply in 5.8" x 3" package
- 450 Watt with forced air cooling, up to 320 Watt convection cooled without derating up to 50°C
- Industrial (62368-1) and Medical (60601-1, 2xMOPP) approvals
- EMC compliance to IEC/EN 60601-1-2 4<sup>th</sup> edition
- Protection Class II prepared
- Risk management process according to ISO 14971 incl. risk management file
- Isolation (4000 VAC) and leakage current (<100 µA) rated for BF applications
- 5 V standby output, Remote On/Off, DC-OK Signal, variable fan speed
- Operating up to 5000 m altitude
- 5-year product warranty

| Input<br>CON1 |          |
|---------------|----------|
| Pin           | Function |
| 1             | AC (L)   |
| 3             | AC (N)   |

| Output<br>CON2 |          |
|----------------|----------|
| Pin*           | Function |
| 1-5            | -Vout    |
| 6-10           | +Vout    |

| Auxiliary<br>CON3 |          |
|-------------------|----------|
| Pin               | Function |
| 1                 | +Fan     |
| 2                 | +Sense   |
| 3                 | +Remote  |
| 4                 | PG       |
| 5                 | +Standby |
| 6                 | -Fan     |
| 7                 | -Sense   |
| 8                 | -Remote  |
| 9                 | No Pin   |
| 10                | -Standby |

| Model          | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
|----------------|----------------------------------|---------------------|-----------------|
| TPP 450-112B-M | 12 VDC (11.0–13.0 VDC)           | 37500 mA            | 91%             |
| TPP 450-115B-M | 15 VDC (13.8–16.2 VDC)           | 30000 mA            | 92%             |
| TPP 450-124B-M | 24 VDC (22.1–25.9 VDC)           | 18750 mA            | 93%             |
| TPP 450-128B-M | 28 VDC (25.8–30.2 VDC)           | 16100 mA            | 93%             |
| TPP 450-136B-M | 36 VDC (33.1–38.9 VDC)           | 12500 mA            | 93%             |
| TPP 450-148B-M | 48 VDC (44.2–51.8 VDC)           | 9400 mA             | 94%             |
| TPP 450-153B-M | 53 VDC (48.8–57.2 VDC)           | 8550 mA             | 94%             |



\* Terminal rated for 13 A max.  
(at higher current connection has to be split)

**CON1:**  
Molex housing:  
09-50-8031  
Molex crimp terminals:  
2478,6838,45570

**CON2:**  
Molex housing:  
39-01-2105  
Molex crimp terminals:  
5556,45750

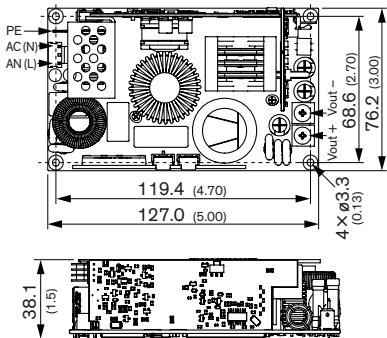
**CON3:**  
Molex housing:  
90143-0010  
Molex crimp terminals:  
90119



TPP 600A | 600 W

NEW!

EMC CE UK CB cULUS CB



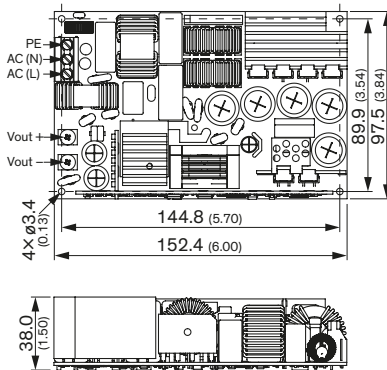
- 600 Watt open frame power supply in 5" x 3" package
- Industrial (62368-1), Medical (60601-1, 2 x MOPP) and Household (60335-1) approvals
- EMC compliance to IEC/EN 60601-1-2 4<sup>th</sup> edition
- Operating temperature range -40°C to +70°C
- Active PFC >0.95
- High efficiency up to 94%
- Isolation (4000 VAC) and leakage current (<100 µA) rated for BF applications
- Operating up to 5000 m altitude
- 5-year product warranty

| Model        | Output Voltage nom. (ajustable) | Output Current max. | Efficiency typ. |
|--------------|---------------------------------|---------------------|-----------------|
| TPP 600-124A | 24 VDC (24–24.72 VDC)           | 25 A                | tbd             |
| TPP 600-128A | 28 VDC (28–28.84 VDC)           | 21.4 A              | tbd             |
| TPP 600-136A | 36 VDC (36–37.08 VDC)           | 16.7 A              | tbd             |
| TPP 600-148A | 48 VDC (48–49.44 VDC)           | 12.5 A              | tbd             |

TPP 850L | 850 W

NEW!

CE CB cULUS UK CB



- 850 Watt open frame power supply in 6" x 4" package
- Industrial (62368-1), Medical (60601-1, 2 x MOPP) and Household (60335-1) approvals
- EMC compliance to IEC/EN 60601-1-2 4<sup>th</sup> edition
- Operating temperature range -40°C to +70°C
- Active PFC > 0.95
- High efficiency up to 94%
- Isolation (4000 VAC) and leakage current (<100 µA) rated for BF applications
- Operating up to 5000 m altitude
- 5-year product warranty

| Model        | Output Voltage nom. (ajustable) | Output Current max. | Efficiency typ. |
|--------------|---------------------------------|---------------------|-----------------|
| TPP 850-124L | 24 VDC (24–24.72 VDC)           | 35.4 A              | tbd             |
| TPP 850-128L | 28 VDC (28–28.84 VDC)           | 30.4 A              | tbd             |
| TPP 850-136L | 36 VDC (36–37.08 VDC)           | 23.6 A              | tbd             |
| TPP 850-148L | 48 VDC (48–49.44 VDC)           | 17.7 A              | tbd             |

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

TRACO POWER dedicated to design and production of high quality, state-of-the-art DC/DC & AC/DC power conversion products. Our mission is to provide optimal power supply solutions for specific applications with regard to performance, quality, cost and functionality.

TRACO POWER stocks an average of USD 25+ million in available finished goods inventory for immediate shipment through our distribution partners.

TRACO POWER offers extended product life-cycles, typically 10+ years, and our products are supported by a 3 or 5 year product warranty. We understand our customers require a high quality solution as well as a diverse product offering, availability from stock, extended life-cycles and a strong commitment to quality in the form of extended warranty to support their business.

## Our other selection guides / catalogues

### Product Portfolio



### Railway Power Solutions



### Industrial Power Solutions



### Household / Building Technology



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