



### Features

- ◆ Ultra compact, low profile plastic casing
- ◆ Fully encapsulated (pollution/dust)
- ◆ Single-, dual- and triple output models
- ◆ 2 package versions:
  - Screw terminal block for chassis mount
  - Solder pins for direct PCB mount
- ◆ DIN-rail mount adaptor (optional)
- ◆ Universal input 85-264 VAC, 47-440 Hz
- ◆ Protection class II
- ◆ IEC/EN/UL 60950-1 approval, CB-report
- ◆ Over-temperature protection
- ◆ Protection against short circuit and overload
- ◆ 3-year product warranty



The TMP & TMPM series AC/DC Power Modules is a new range of fully encapsulated power supplies in an ultra-compact casing. They feature easy chassis mounting with screw terminal block connection or direct PCB mounting with solder pins. Full compliance with International safety standards for industrial control equipment qualifies the products for worldwide markets.

These power supplies offer a cost effective solution for many space critical applications in commercial and industrial electronic equipment and for polluted and dusty environment.

### Single Output Models 4 to 10 Watt

| Order code                 |            | Output power max. | Output            | Efficiency |
|----------------------------|------------|-------------------|-------------------|------------|
| PCB-mount with solder pins |            |                   |                   | typ.       |
| TMPM 04103                 |            | 4 W               | 3.3 VDC / 1200 mA | 70 %       |
| TMPM 04105                 |            |                   | 5.0 VDC / 800 mA  | 72 %       |
| TMPM 04109                 |            |                   | 9.0 VDC / 444 mA  | 75 %       |
| TMPM 04112                 |            |                   | 12 VDC / 333 mA   | 76 %       |
| TMPM 04115                 |            |                   | 15 VDC / 267 mA   | 76 %       |
| TMPM 04124                 |            |                   | 24 VDC / 167 mA   | 77 %       |
| TMP 07103                  |            | 4.6 W             | 3.3 VDC / 1400 mA | 70 %       |
| TMP 07105                  |            | 7 W               | 5.0 VDC / 1400 mA | 73 %       |
| TMP 07112                  |            |                   | 12 VDC / 583 mA   | 78 %       |
| TMP 07115                  |            |                   | 15 VDC / 466 mA   | 78 %       |
| TMP 07124                  |            |                   | 24 VDC / 291 mA   | 78 %       |
| Small footprint            | TMPM 10103 | 8.3 W             | 3.3 VDC / 2500 mA | 70 %       |
|                            | TMPM 10105 | 10 W              | 5.0 VDC / 2000 mA | 72 %       |
|                            | TMPM 10112 |                   | 12 VDC / 833 mA   | 76 %       |
|                            | TMPM 10115 |                   | 15 VDC / 667 mA   | 75 %       |
|                            | TMPM 10124 |                   | 24 VDC / 417 mA   | 72 %       |
| Low profile                | TMP 10103  | 6.6 W             | 3.3 VDC / 2000 mA | 70 %       |
|                            | TMP 10105  | 10 W              | 5.0 VDC / 2000 mA | 73 %       |
|                            | TMP 10112  |                   | 12 VDC / 833 mA   | 76 %       |
|                            | TMP 10115  |                   | 15 VDC / 666 mA   | 76 %       |
|                            | TMP 10124  |                   | 24 VDC / 416 mA   | 76 %       |

15 to 60 Watt and multi output models see next page ->

**Single Output Models 15 to 60 Watt**

| Order code                 |                               | Output power max. | Output              | Efficiency<br>typ. |
|----------------------------|-------------------------------|-------------------|---------------------|--------------------|
| PCB-mount with solder pins | Chassis mount, screw terminal |                   |                     |                    |
| TMP 15105                  | TMP 15105C                    | 15 W              | 5 VDC / 3000 mA     | 75 %               |
| TMP 15112                  | TMP 15112C                    |                   | 12 VDC / 1250 mA    | 79 %               |
| TMP 15115                  | TMP 15115C                    |                   | 15 VDC / 1000 mA    | 79 %               |
| TMP 15124                  | TMP 15124C                    |                   | 24 VDC / 625 mA     | 79 %               |
| TMP 15148                  | TMP 15148C                    |                   | 48 VDC / 310 mA     | 79 %               |
| TMP 30105                  | TMP 30105C                    | 30 W              | 5 VDC / 6000 mA     | 78 %               |
| TMP 30112                  | TMP 30112C                    |                   | 12 VDC / 2500 mA    | 80 %               |
| TMP 30115                  | TMP 30115C                    |                   | 15 VDC / 2000 mA    | 80 %               |
| TMP 30124                  | TMP 30124C                    |                   | 24 VDC / 1250 mA    | 80 %               |
| TMP 30148                  | TMP 30148C                    |                   | 48 VDC / 625 mA     | 80 %               |
| TMP 60105                  | TMP 60105C                    | 60 W              | 5.1 VDC / 10'000 mA | 79 %               |
| TMP 60112                  | TMP 60112C                    |                   | 12 VDC / 5000 mA    | 82 %               |
| TMP 60115                  | TMP 60115C                    |                   | 15 VDC / 4000 mA    | 83 %               |
| TMP 60124                  | TMP 60124C                    |                   | 24 VDC / 2500 mA    | 84 %               |
| TMP 60136                  | TMP 60136C                    |                   | 36 VDC / 1665 mA    | 84 %               |
| TMP 60148                  | TMP 60148C                    |                   | 48 VDC / 1250 mA    | 84 %               |

**Multi Output Models 4 to 30 Watt**

| Order code                                               |               | Output power | Output 1                        | Output 2                         | Output 3                       | Eff. typ.                      |      |
|----------------------------------------------------------|---------------|--------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|------|
| PCB-mount                                                | Chassis mount |              |                                 |                                  |                                |                                |      |
| Models with common ground                                |               |              |                                 |                                  |                                |                                |      |
| TMPM 04212                                               |               | 4 W          | +12 VDC / 166 mA                | -12 VDC / 166 mA                 |                                | 77 %                           |      |
| TMPM 04215                                               |               |              | +15 VDC / 133 mA                | -15 VDC / 133 mA                 |                                | 77 %                           |      |
| TMPM 04253                                               |               |              | +5.0 VDC / 600 mA               | +3.3 VDC / 150 mA                |                                | 72 %                           |      |
| TMPM 04225                                               |               |              | +12 VDC / 250 mA                | +5.0 VDC / 120 mA                |                                | 75 %                           |      |
| TMP 10212                                                |               | 10 W         | +12 VDC / 380 mA                | -12 VDC / 380 mA                 |                                | 77 %                           |      |
| TMP 10215                                                |               |              | +15 VDC / 300 mA                | -15 VDC / 300 mA                 |                                | 77 %                           |      |
| TMP 15212                                                | TMP 15212C    | 15 W         | +12 VDC / 650 mA                | -12 VDC / 650 mA                 |                                | 79 %                           |      |
| TMP 15215                                                | TMP 15215C    |              | +15 VDC / 500 mA                | -15 VDC / 500 mA                 |                                | 79 %                           |      |
| TMP 30212                                                | TMP 30212C    | 30 W         | +12 VDC / 1300 mA               | -12 VDC / 1300 mA                |                                | 80 %                           |      |
| TMP 30215                                                | TMP 30215C    |              | +15 VDC / 1000 mA               | -15 VDC / 1000 mA                |                                | 80 %                           |      |
| Models with output 1 isolated from output 2/3 (floating) |               |              |                                 |                                  |                                |                                |      |
| TMP 15252                                                | TMP 15252C    | 15 W         | 5.0 VDC / 1500 mA               | 12 VDC / 625 mA                  | -12 VDC / 200 mA               | 72 %                           |      |
| TMP 15512                                                | TMP 15512C    |              | 5.0 VDC / 2000 mA               | +12 VDC / 200 mA                 |                                | 74 %                           |      |
| TMP 15515                                                | TMP 15515C    |              | 5.0 VDC / 2000 mA               | +15 VDC / 150 mA                 |                                | -15 VDC / 150 mA               | 74 % |
| TMP 30252                                                | TMP 30252C    | 30 W         | 5.0 VDC / 3000 mA <sup>2)</sup> | 12 VDC / 1250 mA <sup>2)</sup>   | -12 VDC / 600 mA <sup>2)</sup> | 76 %                           |      |
| TMP 30512                                                | TMP 30512C    |              | 5.0 VDC / 3000 mA <sup>2)</sup> | +12 VDC / 600 mA <sup>2)</sup>   |                                | 76 %                           |      |
| TMP 30515                                                | TMP 30515C    |              | 5.0 VDC / 3000 mA <sup>2)</sup> | +15 VDC / 500 mA <sup>2)</sup>   |                                | -15 VDC / 500 mA <sup>2)</sup> | 76 % |
| TMP 30522                                                | TMP 30522C    |              | 5.0 VDC / 3000 mA <sup>2)</sup> | +12 VDC / 1000 mA <sup>2)</sup>  |                                | -12 VDC / 250 mA <sup>3)</sup> | 76 % |
| TMP 30316                                                | TMP 30316C    |              | 3.3 VDC / 4000 mA <sup>1)</sup> | +5.0 VDC / 1500 mA <sup>1)</sup> |                                | +12 VDC / 250 mA <sup>3)</sup> | 71 % |
| TMP 30317                                                | TMP 30317C    |              | 5.0 VDC / 4500 mA <sup>1)</sup> | +3.3 VDC / 1000 mA <sup>2)</sup> |                                | +12 VDC / 250 mA <sup>3)</sup> | 71 % |

Peak current, total power not to exceed 30 Watt: <sup>1)</sup> 133 %

<sup>2)</sup> 150 %

<sup>3)</sup> 200 %

## Input Specifications

|                                                  |                                                                                                                       |                                                                                                                                                                                                                         |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage                                    | <ul style="list-style-type: none"> <li>– nominal</li> <li>– AC range (universal input)</li> <li>– DC range</li> </ul> | 100 – 240 VAC<br>85 – 264 VAC<br>120 – 370 VDC                                                                                                                                                                          |
| Input frequency                                  | <ul style="list-style-type: none"> <li>– nominal</li> <li>– range</li> </ul>                                          | 50 / 60 Hz<br>4 – 30 W models: 47 – 440 Hz<br>60 W models: 47 – 63 Hz                                                                                                                                                   |
| Input current at full load                       | – 115 VAC / 230 VAC input                                                                                             | 4 W models: 80 mA / 55 mA typ.<br>7 W models: 150 mA / 100 mA typ.<br>10 W models: 200 mA / 130 mA typ.<br>15 W models: 300 mA / 190 mA typ.<br>30 W models: 550 mA / 330 mA typ.<br>60 W models: 1050 mA / 670 mA typ. |
| External input fuse required (recommended value) |                                                                                                                       | 4 W models: 1.0 A slow blow<br>7 – 15 W models: 2.0 A slow blow<br>30 W models: 3.5 A slow blow<br>60 W models: 6.3 A slow blow                                                                                         |

## Output Specifications

|                                                           |                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage set accuracy                                      |                                                                                                                                                                                                                                                                                                                                         | ±2 % max.                                                                                                                                                                                                                                                 |
| Regulation                                                | <ul style="list-style-type: none"> <li>– Input variation Output 1</li> <li>– Input variation Output 2/3</li> <li>– Load variation TPM 04103 model (0–100%):</li> <li>single and floating outputs (10–100%):</li> <li>common ground outputs balanced load (10–100%):</li> <li>common ground outputs unbalanced load (20/90%):</li> </ul> | 1 % max.<br>3 % max.<br>1.5 % max.<br>1 % max. (0–100% for TPM 04 models)<br>2.5 % max.<br>5.0 % max.                                                                                                                                                     |
| Minimum load                                              | TPM 04 single and sym.dual models:<br>TPM 04 asym. dual models:<br>single and dual output models:<br>triple output models main output:<br>triple output models auxiliary outputs:                                                                                                                                                       | not required<br>25% per output<br>10 % of rated max. current<br>10 % of rated max. current<br>20 % of rated max. current<br>operation at lower load condition will not damage these power supplies, however, they may not meet all listed specifications. |
| Ripple and noise (20MHz bandwidth)                        | 3.3 VDC & 5.0 VDC outputs:<br>other outputs:                                                                                                                                                                                                                                                                                            | 1.8 % of Vout [mVp-p]<br>1.0 % of Vout [mVp-p]                                                                                                                                                                                                            |
| Overload protection by current limit                      |                                                                                                                                                                                                                                                                                                                                         | 105 % min. of Inom, fold back, automatic recovery (long term overload condition may cause damage to the power supply)                                                                                                                                     |
| Overvoltage protection by Zehner diode (main output only) |                                                                                                                                                                                                                                                                                                                                         | 120 % of Vout typ.                                                                                                                                                                                                                                        |
| Start-up time                                             |                                                                                                                                                                                                                                                                                                                                         | 400 ms typ.                                                                                                                                                                                                                                               |
| Hold-up time                                              |                                                                                                                                                                                                                                                                                                                                         | 20 ms typ.                                                                                                                                                                                                                                                |

| Max. capacitive load [µF] |                           | Model series |        |        |        |        |        |        |
|---------------------------|---------------------------|--------------|--------|--------|--------|--------|--------|--------|
|                           | Output:                   | TPM 04       | TPM 07 | TPM 10 | TPM 10 | TPM 15 | TPM 30 | TPM 60 |
| Single output models:     | 3.3 VDC                   | 1200         | 2200   | 2200   | 3900   | -      | -      | -      |
|                           | 5.0 / 5.1 VDC             | 800          | 2200   | 2200   | 3300   | 3900   | 8000   | 8000   |
|                           | 9.0 VDC                   | 440          | -      | -      | -      | -      | -      | -      |
|                           | 12 / 15 VDC               | 260          | 1000   | 1000   | 2200   | 2200   | 3900   | 3900   |
|                           | 24 VDC                    | 160          | 680    | 680    | 1000   | 1000   | 1500   | 1500   |
|                           | 36 VDC                    | -            | -      | -      | -      | -      | -      | 1000   |
|                           | 48 VDC                    | -            | -      | -      | -      | 680    | 1000   | 800    |
| Dual output models:       | 3.3 / 5.0 VDC             | 4700         | -      | -      | -      | 2000   | 3900   | -      |
|                           | +12 / -12 / +15 / -15 VDC | 260          | -      | -      | 1000   | 1500   | 1500   | -      |
| Triple output models:     | 3.3 / 5.0 VDC             | -            | -      | -      | -      | 2200   | 2200   | -      |
|                           | +12 / -12 / +15 / -15 VDC | -            | -      | -      | -      | 1500   | 1500   | -      |

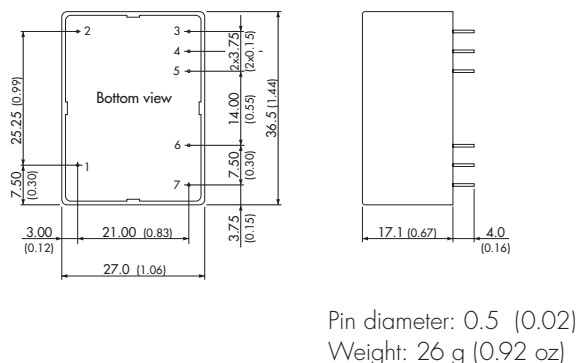
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

## General Specifications

|                                                                          |                           |                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature ranges                                                       | – Operating               | TMPM 04 models:                                                      | –25°C to +60°C (no derating)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                          |                           | TMP 10 models:                                                       | –25°C to +50°C (no derating)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                          | – Storage (non-operating) | other models:                                                        | –25°C to +70°C (with derating)<br>–40°C to +85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Power derating                                                           |                           |                                                                      | 3.3 %/K above +50°C to +65°C<br>5.0 %/K above +65°C to +70°C<br>(no derating approved for TMPM04 and TMP10 models)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Over temperature protection                                              |                           |                                                                      | at 90°C (automatic recovery at 67°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Temperature coefficient                                                  |                           |                                                                      | 0.02 %/K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Humidity (non-condensing)                                                |                           |                                                                      | 95 % rel. H max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Switching frequency                                                      |                           |                                                                      | 100 kHz typ. fixed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Isolation voltage (60 sec.)                                              |                           | – Input/Output                                                       | 3'000 VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Isolation resistance                                                     |                           | – Input/Output                                                       | 100 MOhm (at 500 VDC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Altitude during operation                                                |                           | TMP 10, TMPM 04 & 10, :                                              | 2'000 m max. (6'560 ft) approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                          |                           | other models:                                                        | 3'000 m max. (9'840 ft) approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Electromagnetic compatibility (EMC), Emissions                           |                           |                                                                      | EN 61000-6-3: 2007<br>EN 61204-3: 2000, class A<br>EN 55022, level B, FCC Part 15 level B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Electromagnetic compatibility (EMC), Immunity                            |                           |                                                                      | EN 61000-6-2: 2005<br>EN 61204-3: 2000, class A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                          |                           | – Electrostatic discharge ESD                                        | EN 61000-4-2 8 kV / 4 kV, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                          |                           | – RF field susceptibility                                            | EN 61000-4-3 10 V/m, criteria A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                          |                           | – Electrical fast transient / burst immunity input                   | EN 61000-4-4 ±2 kV, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                          |                           | – Electrical fast transient / burst immunity output                  | EN 61000-4-4 ±2 kV, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                          |                           | – Surge immunity line – neutral                                      | EN 61000-4-5, ±1 kV, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                          |                           | – Surge immunity output                                              | EN 61000-4-5 ±0.5 kV, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                          |                           | – Immunity to conducted RF disturbances                              | EN 61000-4-6 10 V, criteria B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                          |                           | – Mains voltage dips and interruptions                               | EN 61000-4-11 30 % 10 ms, criteria B<br>60 % 100 ms, criteria C<br>95 % 5000 ms, criteria C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EMC test certificates                                                    |                           |                                                                      | <a href="http://www.tracopower.com/products/tmp-emc.pdf">www.tracopower.com/products/tmp-emc.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Protection class II                                                      |                           |                                                                      | to IEC/EN 60536                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Safety standards                                                         |                           | – Information technology equipment<br>– Industrial control equipment | IEC/EN 60950-1, UL 60950-1<br>UL/cUL 508 (chassis mount single and symetric dual output models only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Safety approvals                                                         |                           | – CB certificate for IEC 60950-1                                     | TMPM 04 models: <a href="http://www.tracopower.com/products/tmpm04-cb.pdf">www.tracopower.com/products/tmpm04-cb.pdf</a><br>TMP 07 models: <a href="http://www.tracopower.com/products/tmp07-cb.pdf">www.tracopower.com/products/tmp07-cb.pdf</a><br>TMP 10 models: <a href="http://www.tracopower.com/products/tmp10-cb.pdf">www.tracopower.com/products/tmp10-cb.pdf</a><br>TMPM 10 models: <a href="http://www.tracopower.com/products/tmpm10-cb.pdf">www.tracopower.com/products/tmpm10-cb.pdf</a><br>TMP 15 models: <a href="http://www.tracopower.com/products/tmp15-cb.pdf">www.tracopower.com/products/tmp15-cb.pdf</a><br>TMP 30 single output models: <a href="http://www.tracopower.com/products/tmp30-cb.pdf">www.tracopower.com/products/tmp30-cb.pdf</a><br>TMP 30 dual / triple output models: <a href="http://www.tracopower.com/products/tmp30-cb2.pdf">www.tracopower.com/products/tmp30-cb2.pdf</a><br>TMP 60 models: <a href="http://www.tracopower.com/products/tmp60-cb.pdf">www.tracopower.com/products/tmp60-cb.pdf</a> |
|                                                                          |                           | – UL approvals for UL 60950-1                                        | <a href="http://www.ul.com">www.ul.com</a> -> certifications -> File: e188913                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                          |                           | – UL approval for UL 508 (chassis mount models only)                 | <a href="http://www.ul.com">www.ul.com</a> -> certifications -> File: e322109                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Reliability /calculated MTBF<br>(MIL-HDBK-217F, at +25°C, ground benign) |                           | TMP 07, TMPM 04 & 10 models:                                         | >330'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                          |                           | TMP 10 models:                                                       | >300'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                          |                           | TMP 15 models:                                                       | >280'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                          |                           | TMP 30 models:                                                       | >250'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                          |                           | TMP 60 models:                                                       | >125'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Casing material                                                          |                           |                                                                      | plastic resin + fiberglass (UL 94V-0 rated)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Environmental compliance                                                 |                           | – Reach<br>– RoHS                                                    | <a href="http://www.tracopower.com/overview/tmp">www.tracopower.com/overview/tmp</a><br>RoHS directive 2011/65/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

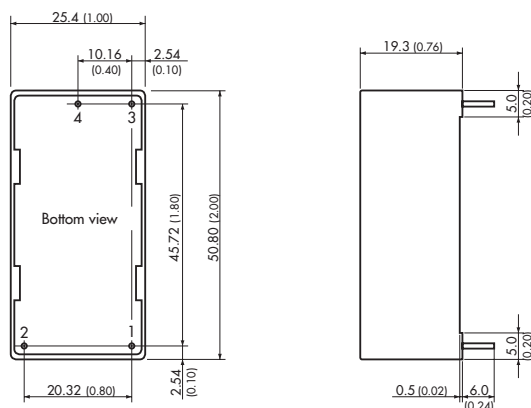
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

## Outline Dimensions

**TMPM 04 models:**


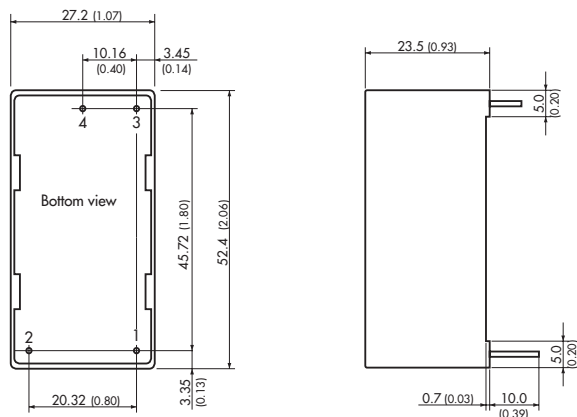
| Pinout |        |         |
|--------|--------|---------|
| Pin    | Single | Dual    |
| 1      | ntc    |         |
| 2      | ntc    |         |
| 3      | +Vout  | Vout 1  |
| 4      | -Vout  | com.1/2 |
| 5      | no pin | Vout 2  |
| 6      | AC (N) |         |
| 7      | AC (L) |         |

(ntc = not to connect)

**TMP 07 models:**


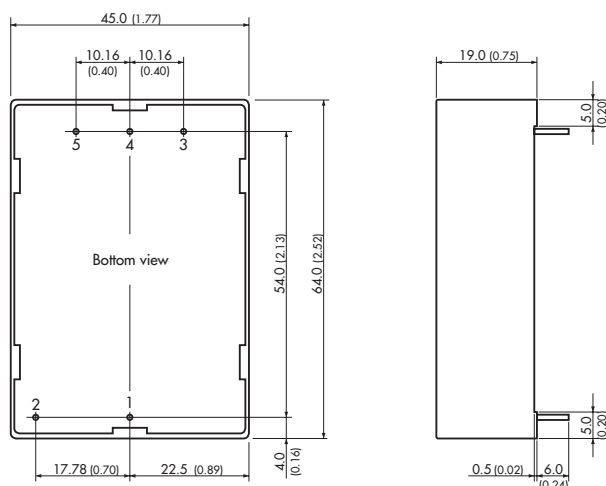
| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (N) |
| 2      | AC (L) |
| 3      | +Vout  |
| 4      | -Vout  |

Pin diameter: 1.0 (0.04)  
 Weight: 44 g (1.55 oz)

**TMPM 10 models:**


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

Pin diameter: 1.0 (0.04)  
 Weight: 54 g (1.90 oz)

**TMP 10 models:**


| Pinout |        |         |
|--------|--------|---------|
| Pin    | Single | Dual    |
| 1      | AC (N) | AC (N)  |
| 2      | AC (L) | AC (L)  |
| 3      | -Vout  | Vout 2  |
| 4      | ntc    | com.1/2 |
| 5      | +Vout  | Vout 1  |

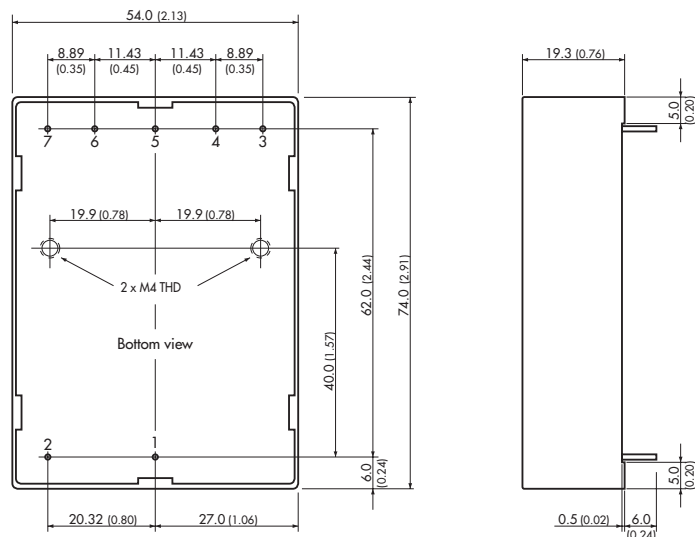
(ntc = not to connect)

Pin diameter: 1.0 (0.04)  
 Weight: 92 g (3.25 oz)

Dimensions in [mm], ( ) = Inches  
 Case tolerances:  $\pm 0.5$  ( $\pm 0.02$ )  
 Pin pitch tolerance:  $\pm 0.25$  ( $\pm 0.01$ )

## Outline Dimensions

### TMP 15 models for PCB mount:



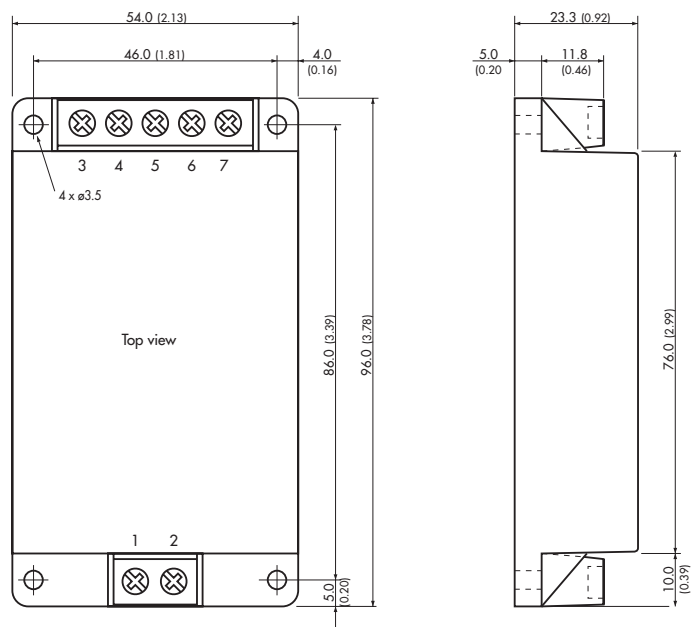
| Pin-Out |        |           |            |         |
|---------|--------|-----------|------------|---------|
| Pin     | Single | Dual sym. | Dual asym. | Triple  |
| 1       | AC (N) |           |            |         |
| 2       | AC (L) |           |            |         |
| 3       | no pin |           |            | Vout 3  |
| 4       | -Vout  | Vout 2    | -Vout 2    | com.2/3 |
| 5       | no pin | com.1/2   | +Vout 2    | Vout 2  |
| 6       | +Vout  | Vout 1    | -Vout 1    | -Vout 1 |
| 7       | no pin |           | +Vout 1    | +Vout 1 |

Max Screw penetration: 5.5 (0.21)

Pin diameter: 1.0 (0.04)

Weight: 114 g (4.02 oz)

### TMP 15 models for chassis mount:



| Connection |        |           |            |         |
|------------|--------|-----------|------------|---------|
| Pin        | Single | Dual sym. | Dual asym. | Triple  |
| 1          | AC (N) |           |            |         |
| 2          | AC (L) |           |            |         |
| 3          | ntc    |           |            | Vout 3  |
| 4          | -Vout  | Vout 2    | -Vout 2    | com.2/3 |
| 5          | ntc    | com.1/2   | +Vout 2    | Vout 2  |
| 6          | +Vout  | Vout 1    | -Vout 1    | -Vout 1 |
| 7          | ntc    |           | +Vout 1    | +Vout 1 |

(ntc = not to connect)

Weight: 162 g (5.71 oz)

Dimensions in [mm], ( ) = Inches

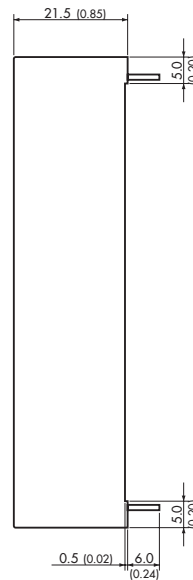
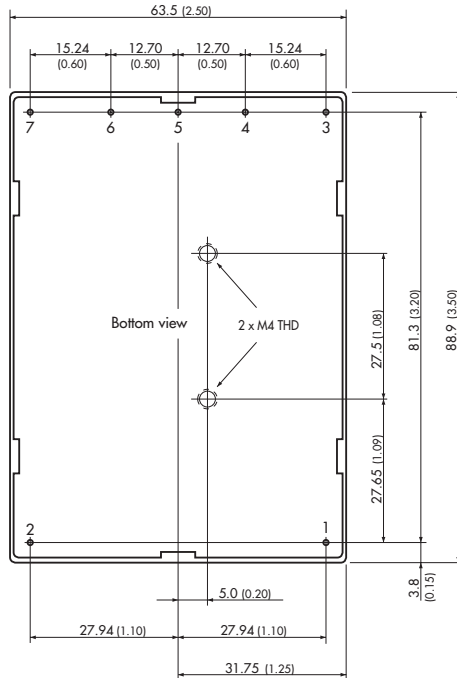
Case tolerances:  $\pm 0.5$  ( $\pm 0.02$ )

Pin pitch tolerance:  $\pm 0.25$  ( $\pm 0.01$ )

Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

## Outline Dimensions

**TMP 30 models for PCB mount:**



| Pinout / Connection |              |           |            |            |
|---------------------|--------------|-----------|------------|------------|
| Pin                 | Single       | Dual sym. | Dual asym. | Triple     |
| 1                   | AC (N)       |           |            |            |
| 2                   | AC (L)       |           |            |            |
| 3                   | +Vout        | Vout 1    | +Vout 2    | Vout 2     |
| 4                   | no pin / ntc |           | +Vout 1    | +Vout 1    |
| 5                   | -Vout        | com.1/2   | -Vout 2    | com<br>2/3 |
| 6                   | no pin / ntc |           | -Vout 1    | -Vout 1    |
| 7                   | ntc          | Vout 2    | ntc        | Vout 3     |

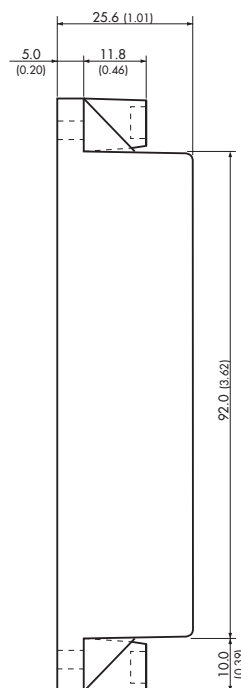
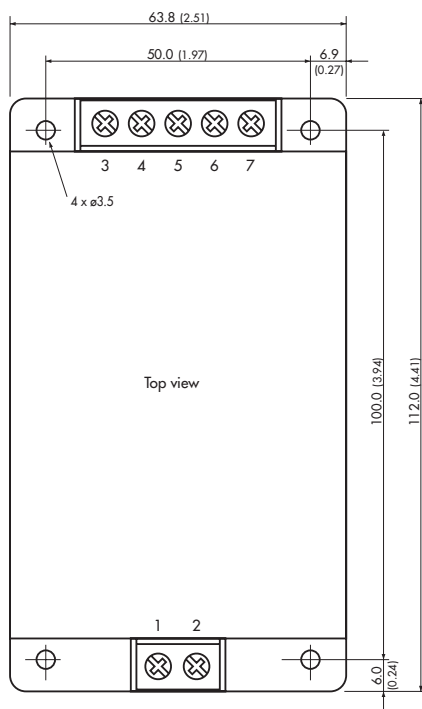
(ntc = not to connect)

Max Screw penetration: 5.5 (0.21)

Pin diameter: 1.0 (0.04)

Weight: 177 g (6.24 oz)

**TMP 30 models for chassis mount:**



Weight: 191 g (6.74 oz)

Dimensions in [mm], ( ) = Inches

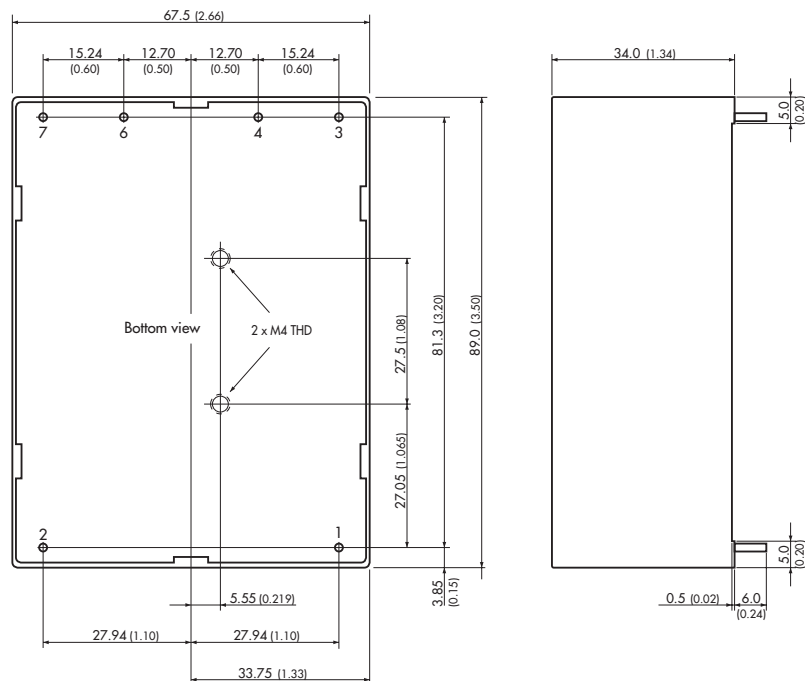
Case tolerances:  $\pm 0.5$  ( $\pm 0.02$ )

Pin pitch tolerance:  $\pm 0.25$  ( $\pm 0.01$ )

Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

## Outline Dimensions

### TMP 60 models for PCB mount:



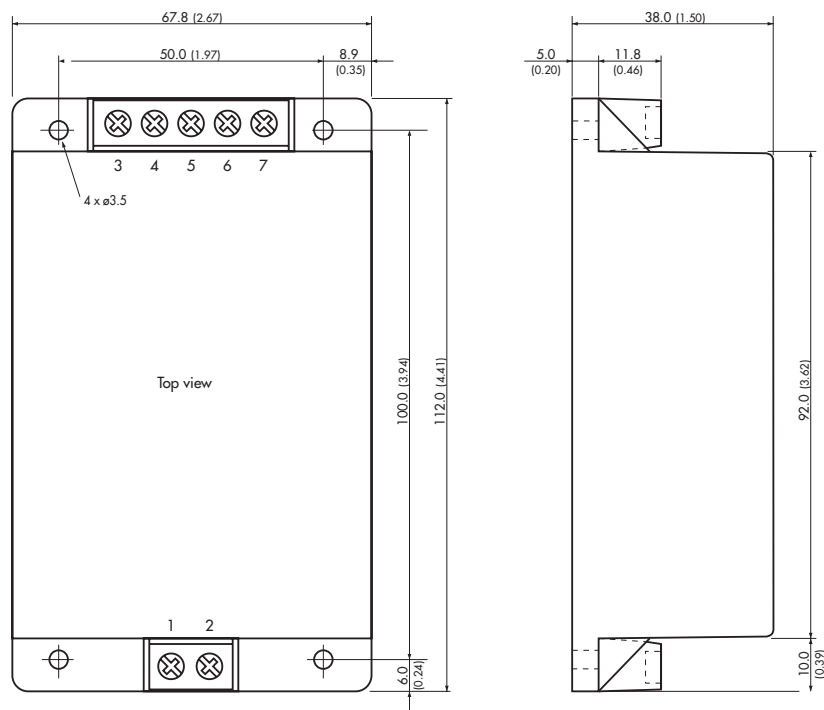
| Pinout |        |
|--------|--------|
| Pin    | Single |
| 1      | AC (N) |
| 2      | AC (L) |
| 3      | no pin |
| 4      | +Vout  |
| 6      | -Vout  |
| 7      | no pin |

Max Screw penetration: 5.5 (0.21)

Pin diameter: 1.0 (0.04)

Weight: 345 g (12.17 oz)

### TMP 60 models for chassis mount:



| Connection |        |
|------------|--------|
| Pin        | Single |
| 1          | AC (N) |
| 2          | AC (L) |
| 3          | ntc    |
| 4          | +Vout  |
| 5          | ntc    |
| 6          | -Vout  |
| 7          | ntc    |

(ntc = not to connect)

Weight: 357 g (12.95 oz)

Dimensions in [mm], ( ) = Inches

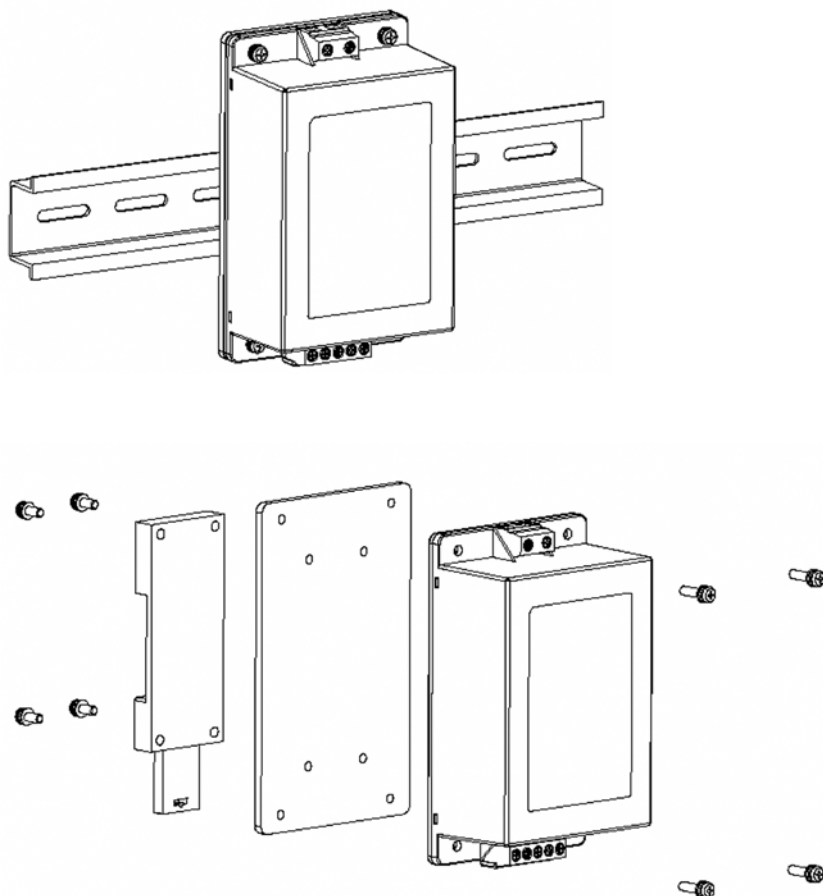
Case tolerances:  $\pm 0.5$  ( $\pm 0.02$ )

Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )



**DIN-Rail Mounting Kit**

Adapter for mounting on DIN-rails as per EN 50022-35 (snap-on mounting)


**DIN-Rail Mounting Kit**

| Order code | For models              |
|------------|-------------------------|
| TMP-MK1    | TMP 15xxxC              |
| TMP-MK2    | TMP 30xxxC & TMP 60xxxC |

Kit contains interface plate, DIN-rail clip and necessary screws.

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at [www.tracopower.com](http://www.tracopower.com)