



### Features

- ◆ Ultra compact, fully encapsulated plastic case
- ◆ Single-, dual- and triple output models
- ◆ 2 package styles:
  - with screw terminal block for chassis mount
  - with solder pins for PCB mount
- ◆ DIN-rail mount adaptor (option)
- ◆ Universal Input 85-264VAC, 50/60Hz
- ◆ Protection class II
- ◆ Approved to IEC/UL 60950-1 safety standard
- ◆ UL 508 listed (chassis mount version)
- ◆ EMI according to EN 55022, class B and FCC level B
- ◆ Short circuit and overload protection
- ◆ Lead-free design – RoHS compliant
- ◆ 3-year product warranty



The TMT series power modules are AC/DC power supplies in compact fully encapsulated module. They feature easy installation with screw terminals and optional DIN-rail mounting adaptor or direct PCB mounting with solder pins. Compliance with international safety standards including UL 508 listing qualify these products for worldwide markets.

These AC/DC modules offer an interesting power supply solution for many space critical applications in commercial and industrial electronic equipment.

The series is approved to medical standard IEC60601-1 ed.3.0. A re-approval to IEC60601-1 ed.3.1 is not scheduled.

### Single Output Models

| Order Code                                                    |                                                                    | Output Power max. | Output 1                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| PCB-Mount with Solder Pins                                    | Chassis Mount with Screw Terminal Block                            |                   |                                                                                       |
| TMT 10105<br>TMT 10112<br>TMT 10115<br>TMT 10124              |                                                                    | 10 Watt           | 5 VDC/2000 mA<br>12 VDC/840 mA<br>15 VDC/670 mA<br>24 VDC/420 mA                      |
| TMT 15105<br>TMT 15112<br>TMT 15115<br>TMT 15124              | TMT 15105C<br>TMT 15112C<br>TMT 15115C<br>TMT 15124C               |                   | 5 VDC/3000 mA<br>12 VDC/1250 mA<br>15 VDC/1000 mA<br>24 VDC/625 mA                    |
| TMT 30105<br>TMT 30112<br>TMT 30115<br>TMT 30124              | TMT 30105C<br>TMT 30112C<br>TMT 30115C<br>TMT 30124C               | 30 Watt           | 5 VDC/6000 mA<br>12 VDC/2500 mA<br>15 VDC/2000 mA<br>24 VDC/1250 mA                   |
| TMT 50105<br>TMT 50112<br>TMT 50115<br>TMT 50124<br>TMT 50148 | TMT 50105C<br>TMT 50112C<br>TMT 50115C<br>TMT 50124C<br>TMT 50148C |                   | 5 VDC/9000 mA<br>12 VDC/4200 mA<br>15 VDC/3400 mA<br>24 VDC/2300 mA<br>48 VDC/1150 mA |

### Dual- and Triple Output Models

| Order Code                 |                                         | Output Power max. | Output 1                       | Output 2                       | Output 3                     |
|----------------------------|-----------------------------------------|-------------------|--------------------------------|--------------------------------|------------------------------|
| PCB-Mount with Solder Pins | Chassis Mount with Screw Terminal Block |                   |                                |                                |                              |
| TMT 15212                  | TMT 15212C                              | 15 Watt           | +12 VDC/625 mA                 | -12 VDC/625 mA                 |                              |
| TMT 15215                  | TMT 15215C                              |                   | +15 VDC/500 mA                 | -15 VDC/500 mA                 |                              |
| TMT 30212                  | TMT 30212C                              | 30 Watt           | +12 VDC/1250 mA                | -12 VDC/1250 mA                |                              |
| TMT 30215                  | TMT 30215C                              |                   | +15 VDC/1000 mA                | -15 VDC/1000 mA                |                              |
| TMT 30252                  | TMT 30252C*                             |                   | +5 VDC/3000 mA <sup>1)</sup>   | +12 VDC/1200 mA <sup>4)</sup>  |                              |
| TMT 30522                  | TMT 30522C*                             |                   | +5 VDC/3000 mA <sup>1)</sup>   | +12 VDC/1000 mA <sup>5)</sup>  | -12 VDC/250 mA <sup>7)</sup> |
| TMT 30515                  | TMT 30515C*                             |                   | +5 VDC/3000 mA <sup>1)</sup>   | +15 VDC/500 mA                 | -15 VDC/500 mA               |
| TMT 30503                  |                                         |                   | +3.3 VDC/6000 mA <sup>2)</sup> | +5 VDC/1500 mA <sup>5)</sup>   | +12 VDC/250 mA <sup>7)</sup> |
| TMT 30505                  |                                         |                   | +5 VDC/5000 mA <sup>3)</sup>   | +3.3 VDC/1000 mA <sup>6)</sup> | +12 VDC/250 mA <sup>7)</sup> |
|                            |                                         |                   |                                |                                |                              |

\* EOL announcement May 2016  
[www.tracopower.com/overview/tmt-c](http://www.tracopower.com/overview/tmt-c)

<sup>1)</sup> 4500 mA

<sup>2)</sup> 7500 mA

<sup>3)</sup> 6000 mA

<sup>4)</sup> 1800 mA

<sup>5)</sup> 2000 mA

<sup>6)</sup> 1500 mA

<sup>7)</sup> 500 mA

Peak current <30 sec., 10 % duty cycle max, total load not to exceed 30 Watt.

### Input Specifications

|                                                   |                      |                                                                                                                                                                                   |
|---------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage                                     | – nominal<br>– range | 115 / 230 VAC<br>85 – 264 VAC<br>85 – 370 VDC<br>below 110 VDC: 1.2%/V output power derating                                                                                      |
| Input frequency                                   |                      | 47 – 63 Hz                                                                                                                                                                        |
| Input current full load                           |                      | 115 VAC / 230 VAC<br>10 watt models: 210 mA / 140 mA typ.<br>15 watt models: 280 mA / 180 mA typ.<br>30 watt models: 570 mA / 360 mA typ.<br>50 watt models: 870 mA / 540 mA typ. |
| Inrush current                                    |                      | 115 VAC / 230 VAC<br>24 A / 36 A                                                                                                                                                  |
| External input fuse required (recommended values) |                      | 10–15 watt models: 1.0 A slow blow<br>30 watt models: 2.0 A slow blow<br>50 watt models: 3.15 A slow blow                                                                         |

### Output Specifications

|                                      |                                                |                                                                                                 |
|--------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Voltage set accuracy                 |                                                | ±2 %                                                                                            |
| Regulation                           | – Input variation<br>– Load variation          | 20 mV max.                                                                                      |
|                                      | single output models (0–100%):                 | 50 mV max.                                                                                      |
|                                      | dual and triple output models (min. load 10%): | 500 mV max.                                                                                     |
| Ripple and noise (20MHz bandwidth)   |                                                | 150 mVpk-pk max.                                                                                |
| Overload protection by current limit |                                                | >105 % I <sub>nom</sub> (long term overload condition may cause damage)                         |
| Capacitive load                      |                                                | 10'000 µF max.                                                                                  |
| Rise time                            |                                                | 200 ms typ.                                                                                     |
| Hold-up time                         |                                                | 115 VAC / 230 VAC<br>15/50 watt models: 25 ms / 130 ms min.<br>other models: 17 ms / 93 ms min. |

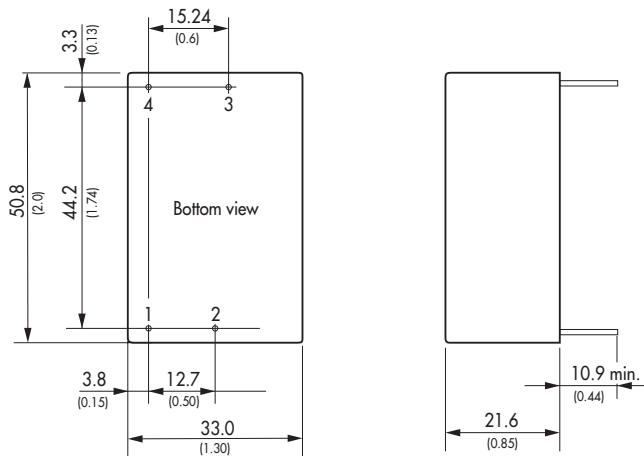
## General Specifications

|                                                          |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                        |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature ranges                                       | <ul style="list-style-type: none"> <li>– Operating</li> <li>– Storage (non operating)</li> </ul>                                                                                                                                                                                                                    | –25°C to +50°C max.<br>–25°C to +85°C                                                                                                                                                                                                                  |
| Derating                                                 |                                                                                                                                                                                                                                                                                                                     | 5 %/K above +40°C                                                                                                                                                                                                                                      |
| Temperature coefficient                                  |                                                                                                                                                                                                                                                                                                                     | 0.02 %/K                                                                                                                                                                                                                                               |
| Humidity (non condensing)                                |                                                                                                                                                                                                                                                                                                                     | 85 % rel. H max.                                                                                                                                                                                                                                       |
| Efficiency                                               |                                                                                                                                                                                                                                                                                                                     | 83 % typ.                                                                                                                                                                                                                                              |
| Switching frequency                                      |                                                                                                                                                                                                                                                                                                                     | 100 kHz typ. (fixed)                                                                                                                                                                                                                                   |
| Isolation voltage                                        | – Input/Output                                                                                                                                                                                                                                                                                                      | 4'000 VAC                                                                                                                                                                                                                                              |
| Isolation resistance                                     | – Input/Output                                                                                                                                                                                                                                                                                                      | 100 MOhm (500 VDC)                                                                                                                                                                                                                                     |
| Isolation capacitance                                    | – Input/Output                                                                                                                                                                                                                                                                                                      | 4'700 pF                                                                                                                                                                                                                                               |
| Electromagnetic compatibility (EMC), Emissions           |                                                                                                                                                                                                                                                                                                                     | EN 55022, level B, FCC Part 15 level B<br>UL/EN 60601-1-2 (for medical equipment)                                                                                                                                                                      |
| Electromagnetic compatibility (EMC), Immunity            | <ul style="list-style-type: none"> <li>– Electrostatic discharge ESD</li> <li>– RF field susceptibility</li> <li>– Electrical fast transients / bursts on mains line</li> <li>– Surge</li> <li>– Immunity to conducted RF disturbances</li> <li>– Power frequency field immunity</li> <li>– Voltage sags</li> </ul> | IEC/EN 60601-1-2<br>IEC/EN 61000-4-2, 8 kV/8 kV<br>IEC/EN 61000-4-3, 3 V/m<br>IEC/EN 61000-4-4, 2 kV<br>IEC/EN 61000-4-5, 1 kV<br>IEC/EN 61000-4-6, 10 V/m<br>IEC/EN 61000-4-8, 3 A/m<br>IEC/EN 61000-4-11                                             |
| Protection class                                         |                                                                                                                                                                                                                                                                                                                     | class II (in closed cabinets)                                                                                                                                                                                                                          |
| Safety standards                                         | <ul style="list-style-type: none"> <li>– Information technology equipment</li> <li>– Industrial control equipment</li> <li>– Medical equipment*</li> </ul>                                                                                                                                                          | IEC/EN 60950-1, UL 60950-1,<br>CSA-C22.2 No. 60950-1-03<br>UL/cUL 508 (chassis mount version only)<br>IEC/EN 60601-1, ed.3.0 (for 2 x MOOP),<br>UL 60601-1<br>no re-approval according latest medical<br>standards scheduled!                          |
| Safety approvals                                         | <ul style="list-style-type: none"> <li>– CB certificates</li> <li>– UL approvals for UL 60950-1 and UL 60601</li> <li>– UL approval for UL 508</li> </ul>                                                                                                                                                           | <a href="http://www.tracopower.com/overview/tmt">www.tracopower.com/overview/tmt</a><br><a href="http://www.ul.com">www.ul.com</a> -> certifications -> File: e188913<br><a href="http://www.ul.com">www.ul.com</a> -> certifications -> File: e322109 |
| Reliability, calculated MTBF, at +25°C acc. to IEC 61709 |                                                                                                                                                                                                                                                                                                                     | >1.8 Mio h.                                                                                                                                                                                                                                            |
| Environment                                              | <ul style="list-style-type: none"> <li>– Vibration</li> <li>– Shock</li> </ul>                                                                                                                                                                                                                                      | 3 axes, sine sweep, 0.5 mm,<br>10 – 55Hz, 1 oct. / min, 30 min.<br>20 g (3 directions each 3 times)                                                                                                                                                    |
| casing                                                   |                                                                                                                                                                                                                                                                                                                     | plastic with silicone rubber compound<br>(UL 94V-0 rated)                                                                                                                                                                                              |
| Environmental compliance                                 | <ul style="list-style-type: none"> <li>– Reach</li> <li>– RoHS</li> </ul>                                                                                                                                                                                                                                           | <a href="http://www.tracopower.com/overview/tmt">www.tracopower.com/overview/tmt</a><br>RoHS directive 2011/65/EU                                                                                                                                      |
| Soldering temperature                                    |                                                                                                                                                                                                                                                                                                                     | 265°C max. / 10 sec.                                                                                                                                                                                                                                   |

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

## Outline Dimensions

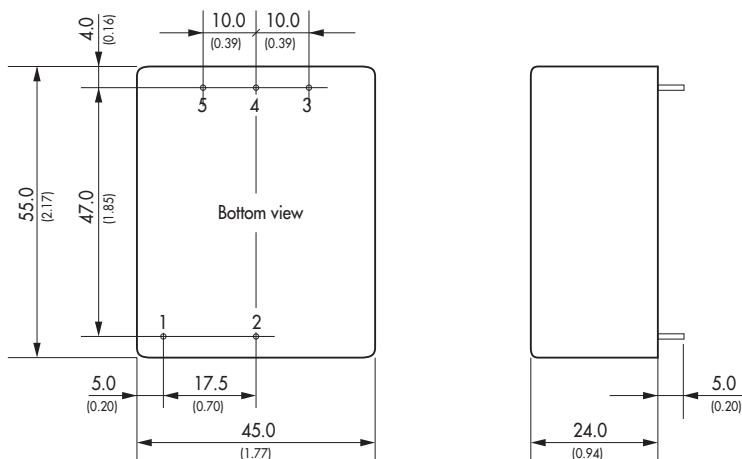
### TMT 10 models



| Connection |        |
|------------|--------|
| Pin        |        |
| 1          | AC in  |
| 2          | AC in  |
| 3          | -V out |
| 4          | +V out |

Weight: 52 g (1.8 oz)

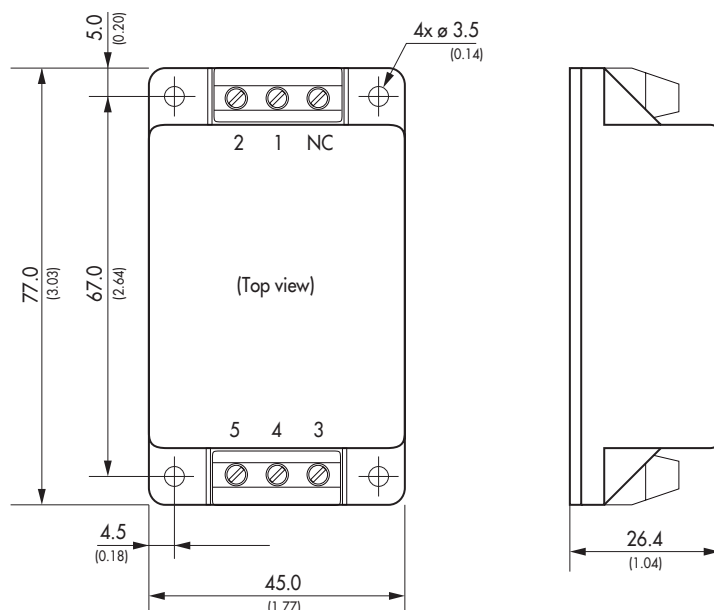
### TMT 15 models with solder pins



Weight: 75 g (2.6 oz)

| Connection |            |        |
|------------|------------|--------|
| Pin        | Single     | Dual   |
| 1          | AC in      | AC in  |
| 2          | AC in      | AC in  |
| 3          | -V out     | -V out |
| 4          | No pin/con | Common |
| 5          | +V out     | +V out |

### TMT 15C models with screw terminal block

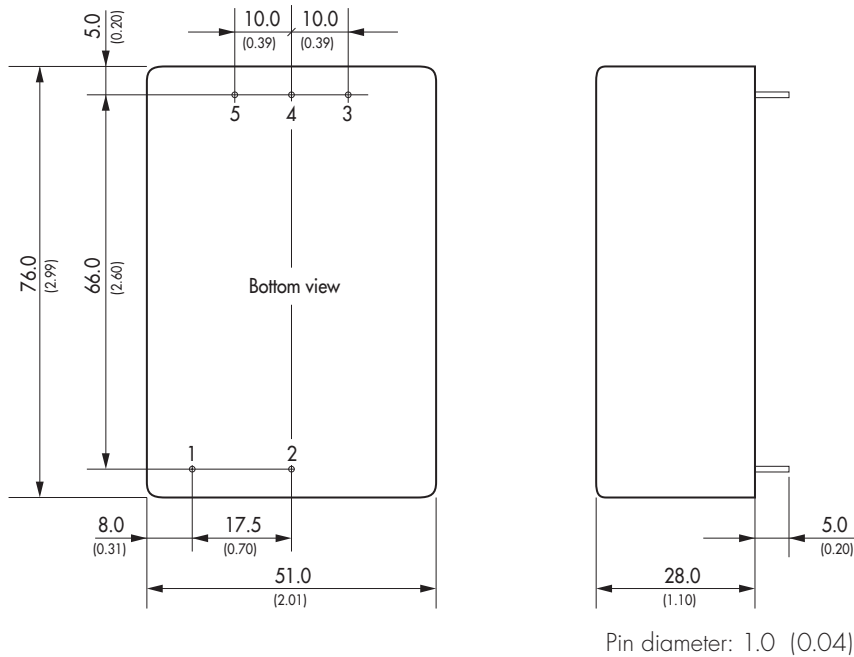


Weight: 90 g (3.2oz)

Dimensions in [mm], ( ) = Inches  
Case tolerances:  $\pm 1.0$  ( $\pm 0.04$ )  
Pin pitch tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

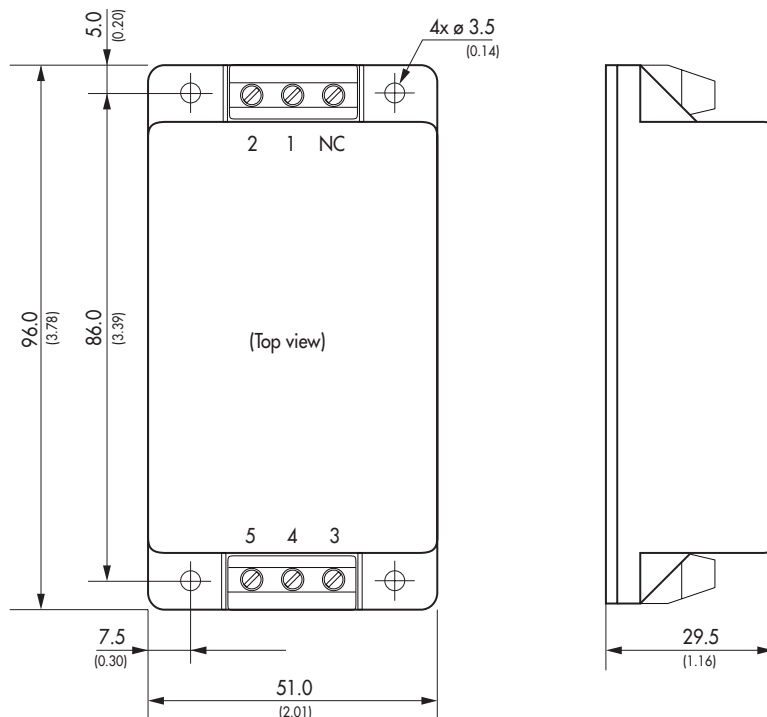
## Outline Dimensions

TMT 30 single output models and TMT 30212 & TMT 30215 (solder pins)



**Weight:** 165 g (5.8 oz)

TMT 30C single output models and TMT 30212C & TMT 30215C (screw terminal block)



### Connection

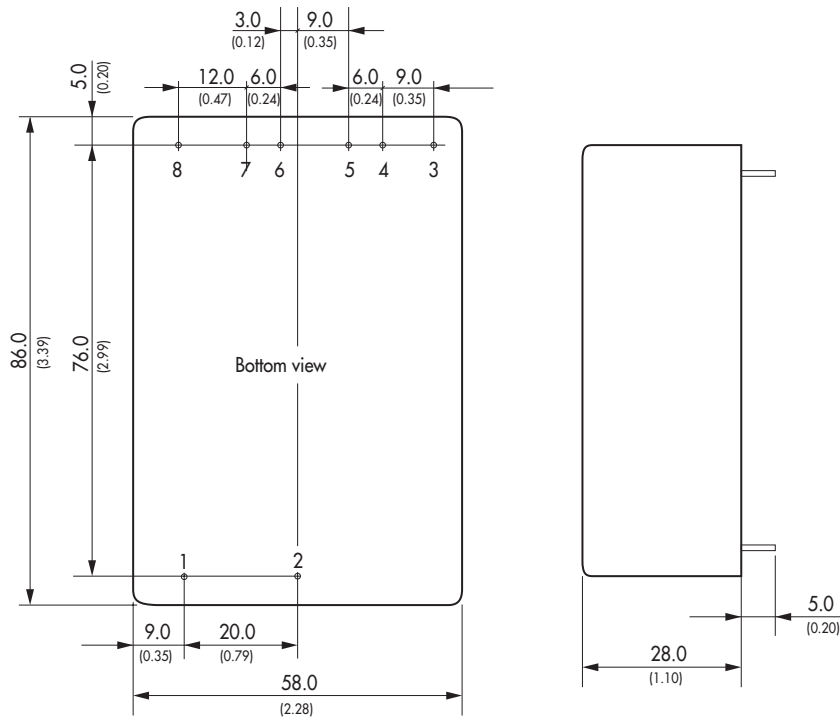
| Pin | Single     | Dual   |
|-----|------------|--------|
| 1   | AC in      | AC in  |
| 2   | AC in      | AC in  |
| 3   | -V out     | -V out |
| 4   | No pin/con | Common |
| 5   | +V out     | +V out |

**Weight:** 180 g (6.3 oz)

Dimensions in [mm], ( ) = Inches  
Case tolerances:  $\pm 1.0$  ( $\pm 0.04$ )  
Pin pitch tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

## Outline Dimensions

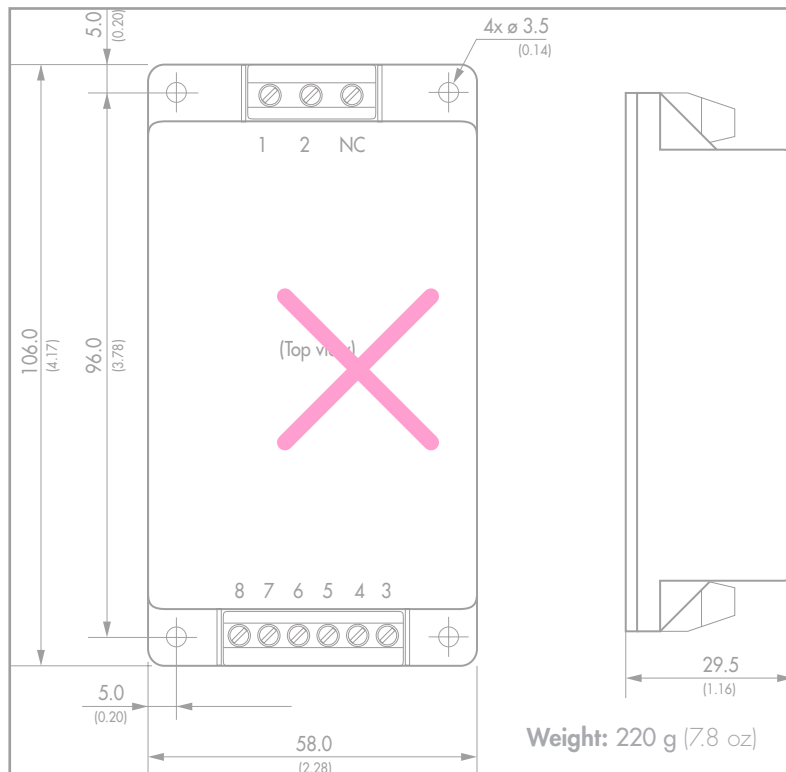
### TMT 30 triple output models and TMT 30252 (solder pins)



| Connection |             |          |
|------------|-------------|----------|
| Pin        | Dual        | Triple   |
| 1          | AC in       | AC in    |
| 2          | AC in       | AC in    |
| 3          | No pin/con. | -V out 3 |
| 4          | No pin/con. | +V out 3 |
| 5          | -V out 2    | -V out 2 |
| 6          | +V out 2    | +V out 2 |
| 7          | -V out 1    | -V out 1 |
| 8          | +V out 1    | +V out 1 |

### TMT 30C triple output models and TMT 30252C (screw terminal block)

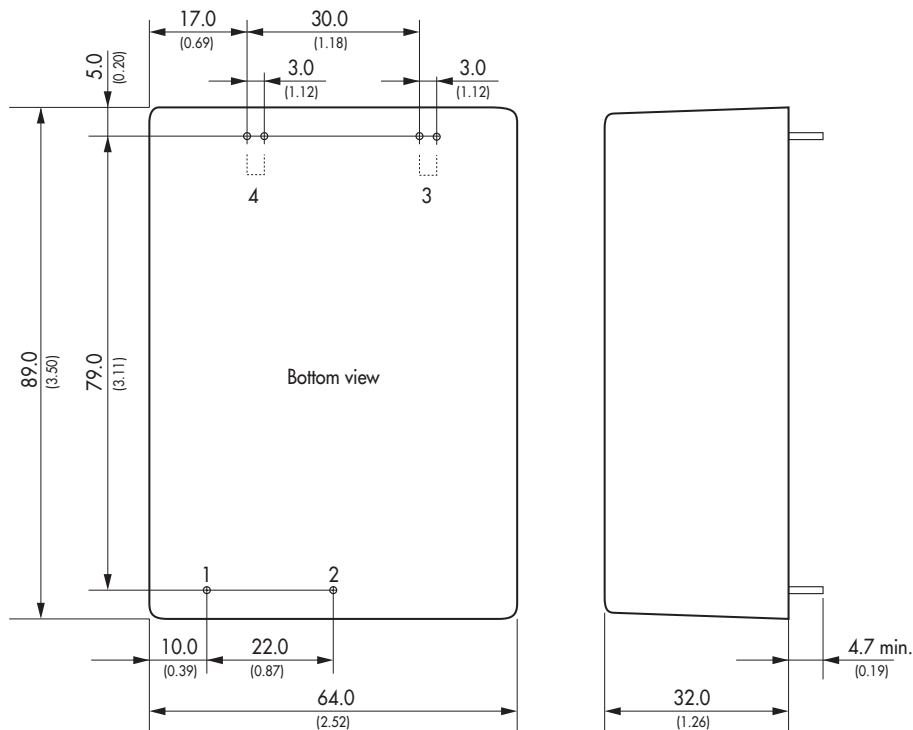
EOL announcement May 2016 [www.tracopower.com/overview/tmt-c](http://www.tracopower.com/overview/tmt-c)



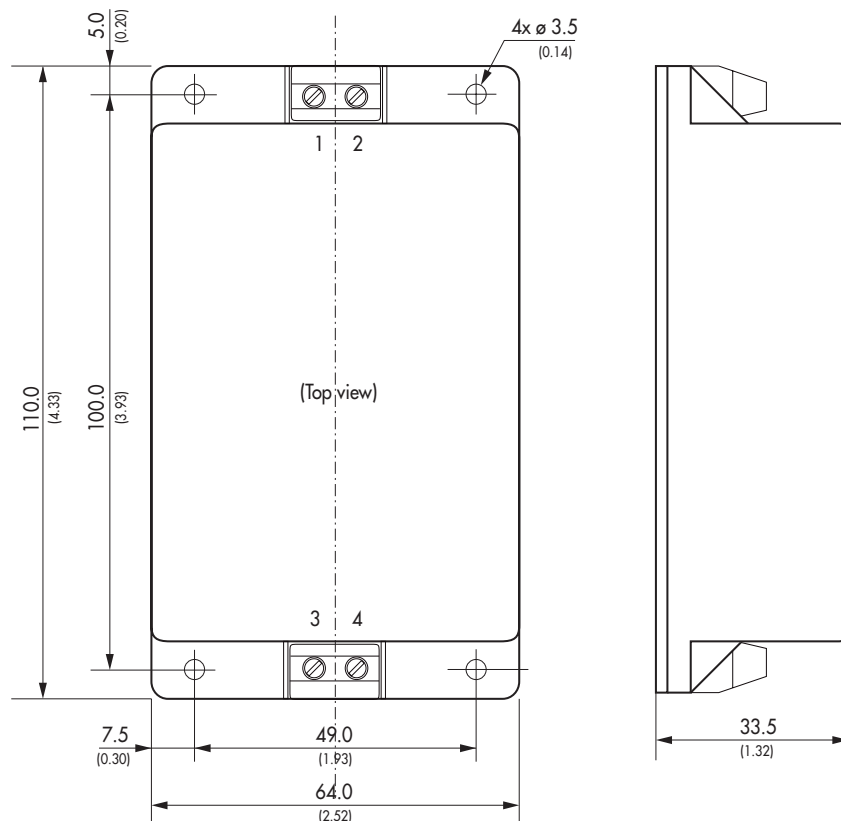
Dimensions in [mm], ( ) = Inches  
 Casing tolerances:  $\pm 1.0$  ( $\pm 0.04$ )  
 Pin pitch tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
 Mounting hole tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

## Outline Dimensions

### TMT 50 models with solder pins



### TMT 50C models with screw terminal block

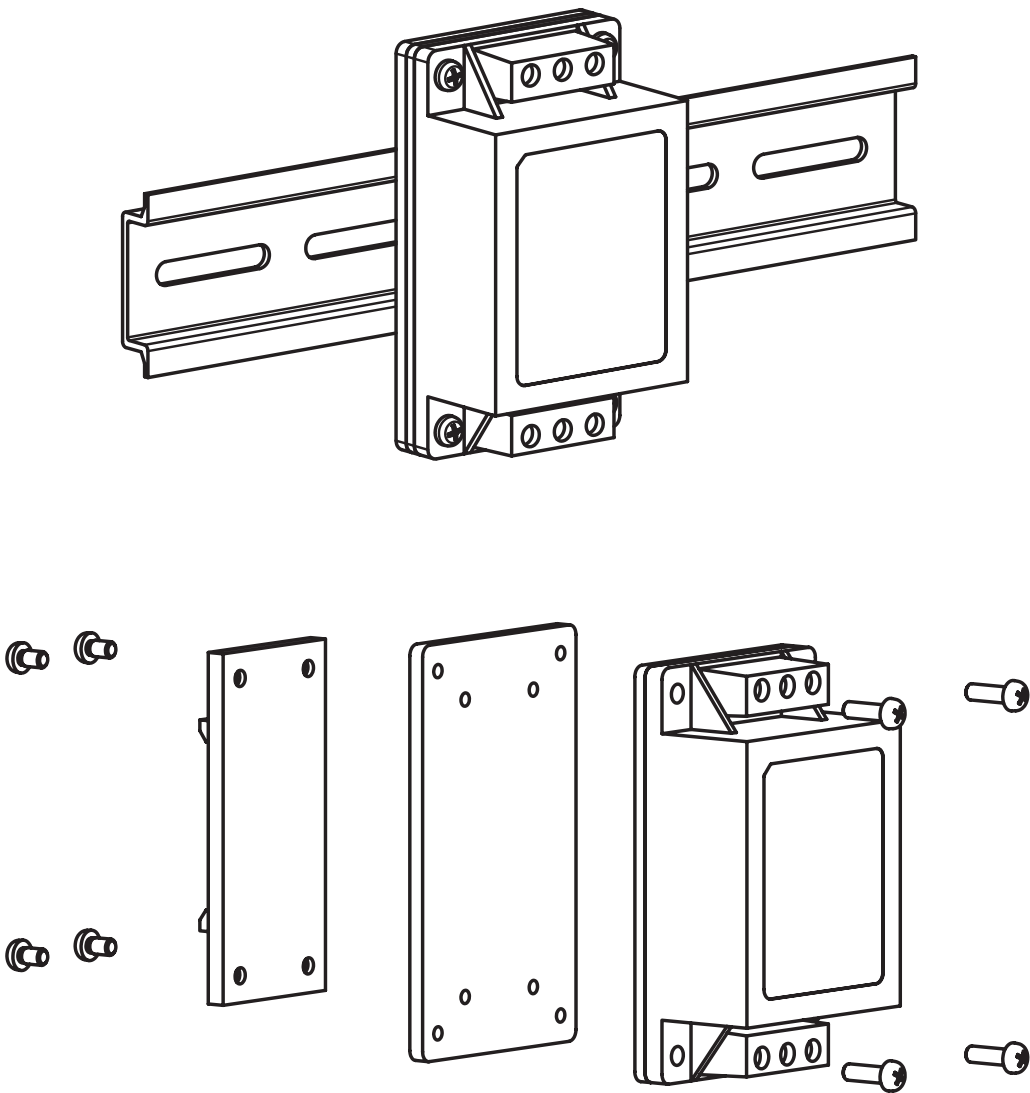


| Connection |        |
|------------|--------|
| Pin        | Single |
| 1          | AC in  |
| 2          | AC in  |
| 3          | -V out |
| 4          | +V out |

Dimensions in [mm], ( ) = Inches  
 Case tolerances:  $\pm 1.0$  ( $\pm 0.04$ )  
 Pin pitch tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
 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                                 |
| TMT-MK1               | TMT 15xxxC                                 |
| TMT-MK2               | TMT 30xxxC single & $\pm 12/\pm 15$ VDC    |
| TMT-MK3               | For triple and dual asymmetric output -EOL |
| TMT-MK5               | TMT 50xxxC                                 |

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)

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