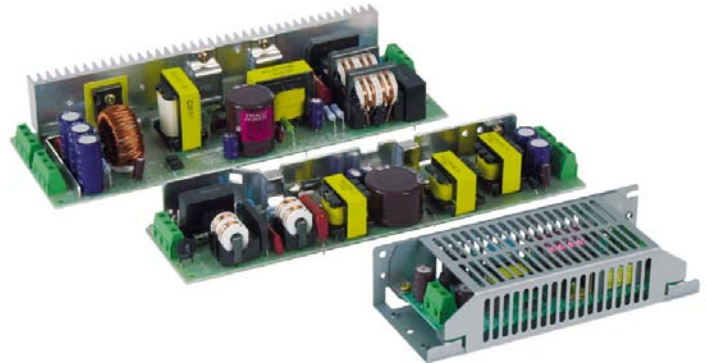


### Features

- ◆ Compact open-frame power supplies
- ◆ Easy connection via screw terminal block or molex pin connector terminal
- ◆ Universal input 85–264 VAC
- ◆ Industrial grade components
- ◆ Low ripple and noise
- ◆ Overload protection
- ◆ EMI meets EN55022, Class B
- ◆ Optional with case
- ◆ Low profile
- ◆ Lead free design, RoHS compliant
- ◆ 3-year product warranty



The TOF Series power supplies are the choice for demanding applications. They feature compact dimensions and a low profile. They are easy to instal and connect via screw terminals or pin connector. Chassi and cover kit are available as an accessory. Compliance with international safety standards (CE/UL) and EMC requirements qualify this product for worldwide use. A very high reliability is guaranteed by the use of industrial quality grade components.

### Single Output Models

| Ordercode<br>Screw Terminal Block                        | Ordercode<br>Molex Pin Connector                         | Output Power | Output Voltage                      | Output Current<br>max.                       |
|----------------------------------------------------------|----------------------------------------------------------|--------------|-------------------------------------|----------------------------------------------|
| TOF 10-05S<br>TOF 10-12S<br>TOF 10-15S<br>TOF 10-24S     | TOF 10-05SM<br>TOF 10-12SM<br>TOF 10-15SM<br>TOF 10-24SM | 10 Watt      | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 2.0 A<br>0.9 A<br>0.7 A<br>0.5 A             |
| TOF 15-05S<br>TOF 15-12S<br>TOF 15-15S<br>TOF 15-24S     | TOF 15-05SM<br>TOF 15-12SM<br>TOF 15-15SM<br>TOF 15-24SM | 15 Watt      | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 3.0 A<br>1.3 A<br>1.0 A<br>0.7 A             |
| TOF 30-05S<br>TOF 30-12S<br>TOF 30-15S<br>TOF 30-24S     | TOF 30-05SM<br>TOF 30-12SM<br>TOF 30-15SM<br>TOF 30-24SM | 30 Watt      | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 6.0 A<br>2.5 A<br>2.0 A<br>1.3 A             |
| TOF 50-05S<br>TOF 50-12S<br>TOF 50-15S<br>TOF 50-24F     | TOF 50-12SM<br>TOF 50-15SM<br>TOF 50-24FM                | 50 Watt      | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 10.0 A<br>4.3 A<br>3.5 A<br>2.1 A (3.0 A)*   |
| TOF 75-05S<br>TOF 75-12S<br>TOF 75-15S<br>TOF 75-24F     | TOF 75-12SM<br>TOF 75-15SM<br>TOF 75-24FM                | 75 Watt      | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 15.0 A<br>6.3 A<br>5.0 A<br>3.2 A (4.5 A)*   |
| TOF 100-05S<br>TOF 100-12S<br>TOF 100-15S<br>TOF 100-24F | TOF 100-12SM<br>TOF 100-15SM<br>TOF 100-24FM             | 100 Watt     | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 20.0 A<br>8.5 A<br>6.7 A<br>4.2 A (6.3 A)*   |
| TOF 150-05S<br>TOF 150-12S<br>TOF 150-15S<br>TOF 150-24F | TOF 150-12SM<br>TOF 150-15SM<br>TOF 150-24FM             | 150 Watt     | 5 VDC<br>12 VDC<br>15 VDC<br>24 VDC | 30.0 A<br>12.5 A<br>10.0 A<br>6.3 A (9.1 A)* |

\* () = Peak current for max. 10 sec.

**Triple Output Models: Not recommended for new design in!**

| Order code<br>Screw Terminal Block | Output Power max. | *Output 1            | *Output 2/3                                                  |
|------------------------------------|-------------------|----------------------|--------------------------------------------------------------|
| TOF 15-0522T<br>TOF 15-0533T       | 15 Watt           | 5 VDC/2A<br>5 VDC/2A | ±12 VDC/0.5A<br>±15 VDC/0.45A                                |
| TOF 30-0522T<br>TOF 30-0533T       | 30 Watt           | 5 VDC/4A<br>5 VDC/4A | +12 VDC/1.2A<br>–12 VDC/0.5A<br>+15 VDC/1.0A<br>–15 VDC/0.5A |

\* Total power should not exceed nominal power

**Order Codes for Chassis/Cover Kit**

| Code      | for Models | Code       | for Models | Code       | for Models  |
|-----------|------------|------------|------------|------------|-------------|
| TOF 10-MC | TOF 10-xx  | TOF 50-MC  | TOF 50-xx  | TOF 150-MC | TOF 150-xx  |
| TOF 15-MC | TOF 15-xx  | TOF 75-MC  | TOF 75-xx  | TOF 15T-MC | TOF 15-xxxT |
| TOF 30-MC | TOF 30-xx  | TOF 100-MC | TOF 100-xx | TOF 30T-MC | TOF 30-xxxT |

**Molex Mating Connectors for TOF .....M Series (to purchase on local market)**

TOF.....M units are equipped with Molex Pin Connector SPOX 5273-NA (3.96 mm pitch)

**Connector mates with**

**1x Housing 09-50-1051, 3x Crimp Terminal 08-70-1028: For all Models Input**

**1x Housing 09-50-1031, 2x Crimp Terminal 08-70-1028: For up to 50 W models output**

**2x Housing 09-50-1031, 4x Crimp Terminal 08-70-1028: For 75 and 100W models output**

**2x Housing 09-50-1051, 6x Crimp Terminal 08-70-1028: For 150W models output**

**Input Specifications**

|                                                                     |                                                                 |
|---------------------------------------------------------------------|-----------------------------------------------------------------|
| Input voltage range                                                 | 85 – 264 VAC<br>110 – 370 VDC (10...50 W single output models ) |
| Input frequency                                                     | 47 – 63 Hz                                                      |
| Recommended circuit breaker<br>(characteristic C) or slow blow fuse | 10...75 Watt models: 5.0 A<br>100 & 150 Watt models: 10.0 A     |

**Output Specifications**

|                                         |                                                                                                                                                                                            |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage adjustment range                | 10...50 Watt single output models: ±5 %<br>75...150 Watt single output models: ±10 %<br>15...30 Watt multi output models: ±15 % on output 1      ±2.5 % on output 2&3                      |
| Regulation                              | – Input variation<br>– Load variation single output mod. (10–90%)<br>– Load variation multi output mod. (10–90%)<br>0.5 % max.<br>0.5 % max.<br>2.0 % on output 1      1.0 % on output 2&3 |
| Ripple and noise (20Mhz Bandwidth)      | <1 % Vout +50 mVp-p                                                                                                                                                                        |
| Overload protection by current limit at | >105 % Inom.                                                                                                                                                                               |
| Short circuit protection                | indefinite (automatic recovery)                                                                                                                                                            |
| Overvoltage protection                  | 115 – 140 % Vout nom.                                                                                                                                                                      |
| Capacitive load                         | 10'000 µF max.                                                                                                                                                                             |

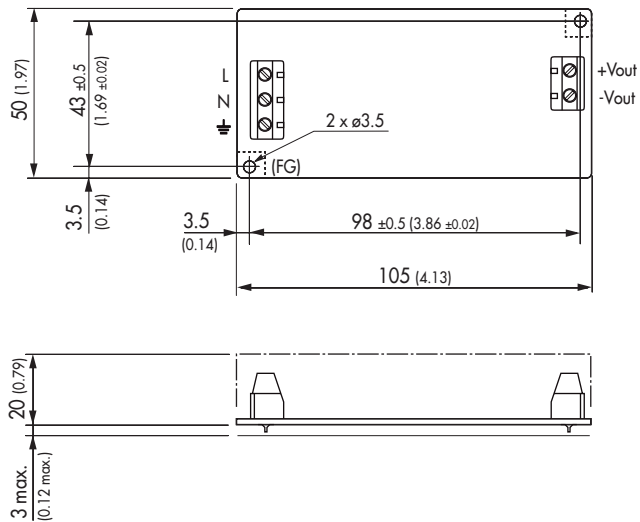
## General Specifications

|                                                                       |                                                                                                                                             |                                                                                                                                                                                    |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature ranges                                                    | <ul style="list-style-type: none"> <li>– Operating</li> <li>– Derating</li> <li>– Storage (non operating)</li> </ul>                        | –10°C to +60°C<br>above +50°C: 5 %/K<br>–20°C to +75°C                                                                                                                             |
| Temperature coefficient                                               |                                                                                                                                             | 0.02 %/K                                                                                                                                                                           |
| Efficiency                                                            | <ul style="list-style-type: none"> <li>– Single output models</li> <li>– Multi output models</li> </ul>                                     | 78 % typ.<br>70 % typ.                                                                                                                                                             |
| Humidity (non condensing)                                             |                                                                                                                                             | 85 % rel H max.                                                                                                                                                                    |
| Switching frequency                                                   | <ul style="list-style-type: none"> <li>– Single output models</li> <li>– Multi output models</li> </ul>                                     | 140 kHz typ. (puls width modulation)<br>150 kHz typ. at 50 % load (frequency modulation)                                                                                           |
| Hold-up time                                                          | <ul style="list-style-type: none"> <li>– Single output models Vin = 115/230 VAC</li> <li>– Multi output models Vin = 115/230 VAC</li> </ul> | 30 ms typ.<br>20 ms typ.                                                                                                                                                           |
| I/O Isolation voltage (60 sec.)                                       |                                                                                                                                             | 3'000 VAC                                                                                                                                                                          |
| Leakage current                                                       |                                                                                                                                             | 0.75 mA RMS typ. / 230 VAC / 50 Hz                                                                                                                                                 |
| Electromagnetic compatibility (EMC), Emissions                        | <ul style="list-style-type: none"> <li>– Conducted input RI suppression</li> <li>– Harmonic current emissions</li> </ul>                    | EN 55022, class B, FCC part 15, level B<br>IEC/EN 61000-3-2, class A (75-150 Watt models)                                                                                          |
| Electromagnetic compatibility (EMC), Immunity                         | <ul style="list-style-type: none"> <li>– Electrostatic discharge ESD</li> <li>– RF field susceptibility</li> </ul>                          | IEC/EN 61000-4-2 level 2      4 kV / 4 kV<br>IEC/EN 61000-4-3 level 2      3 V /m                                                                                                  |
|                                                                       | <ul style="list-style-type: none"> <li>– Electrical fast transients/bursts on mainsline</li> <li>– Surge</li> <li>– Voltage dip</li> </ul>  | IEC/EN 61000-4-4 level 2      1 kV<br>IEC/EN 61000-4-5 level 2      0.5 kV / 1kV<br>IEC/EN 61000-4-11                                                                              |
| Safety standards                                                      |                                                                                                                                             | IEC/EN 60950-1, cUL/UL 60950-1                                                                                                                                                     |
| Safety approvals                                                      | <ul style="list-style-type: none"> <li>– UL/cUL 60950-1</li> <li>– CB report (IEC 60950-1, 2nd edition)</li> </ul>                          | <a href="http://www.ul.com">www.ul.com</a> -> certifications -> File e141988<br><a href="http://www.tracopower.com/products/tof-cb.pdf">www.tracopower.com/products/tof-cb.pdf</a> |
| Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign) |                                                                                                                                             | >250'000 h                                                                                                                                                                         |
| Vibration                                                             |                                                                                                                                             | 10–55 Hz 0.5 mm width/ 1 minute cycle<br>(3 directions each 30 minutes)                                                                                                            |
| Shock                                                                 |                                                                                                                                             | 20 G (3 directions each 3 times)                                                                                                                                                   |
| Environmental compliance                                              | <ul style="list-style-type: none"> <li>– Reach</li> <li>– RoHS</li> </ul>                                                                   | <a href="http://www.tracopower.com/products/tof-reach.pdf">www.tracopower.com/products/tof-reach.pdf</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.

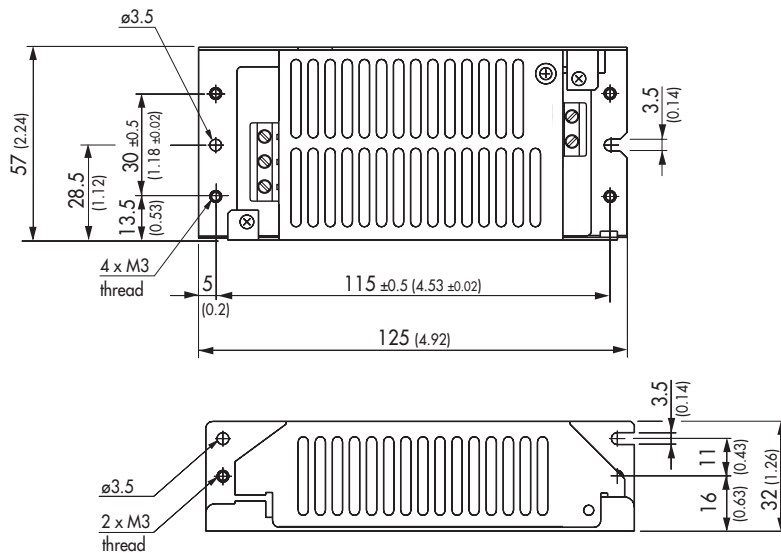
**Outline Dimensions mm (inches)**

**TOF 10 standard open frame version**



**Weight:** 75 g (2.6 oz)

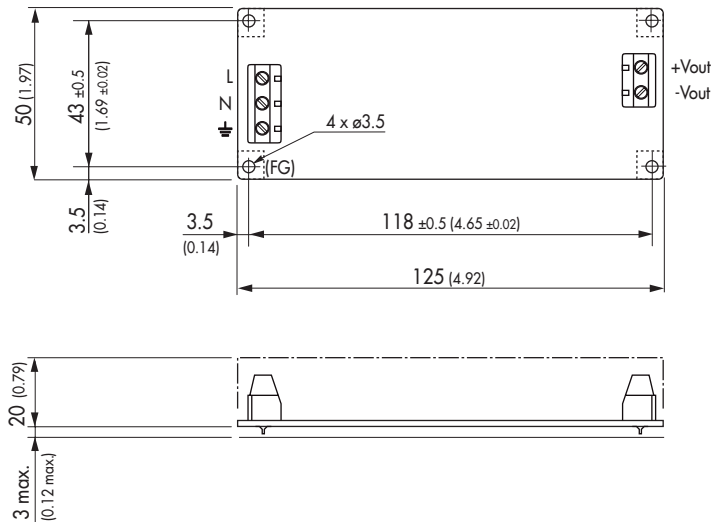
**TOF 10 with chassis / cover option**



**Weight:** 175g (6.2 oz)

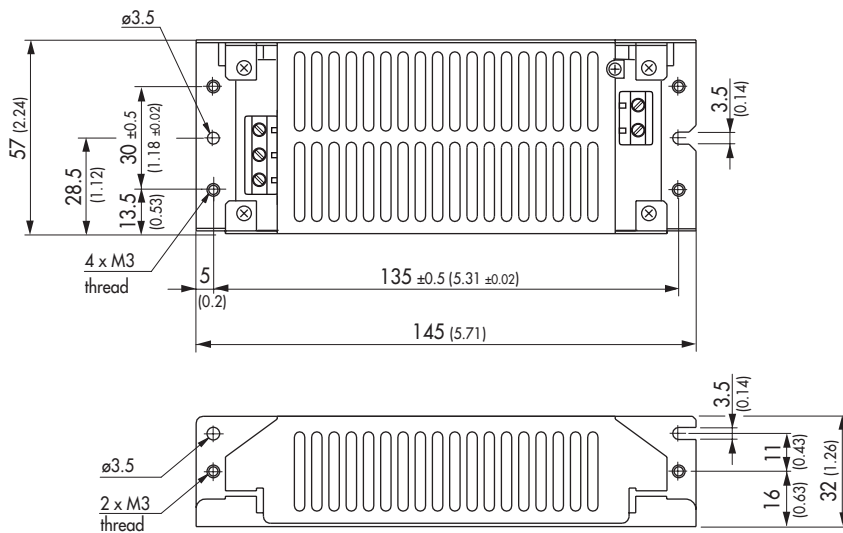
**Outline Dimensions mm (inches)**

**TOF 15 standard open frame version**



**Weight:** 90 g (3.2 oz)

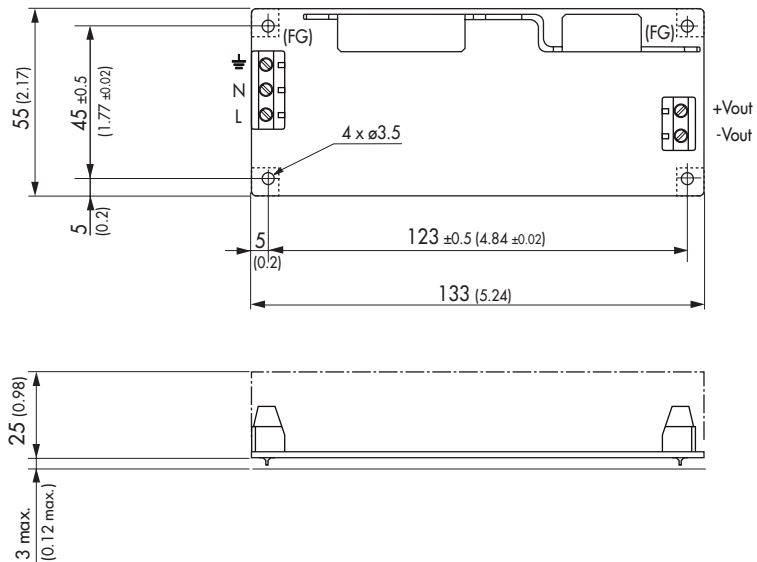
**TOF 15 with chassis / cover option**



**Weight:** 210 g (7.4 oz)

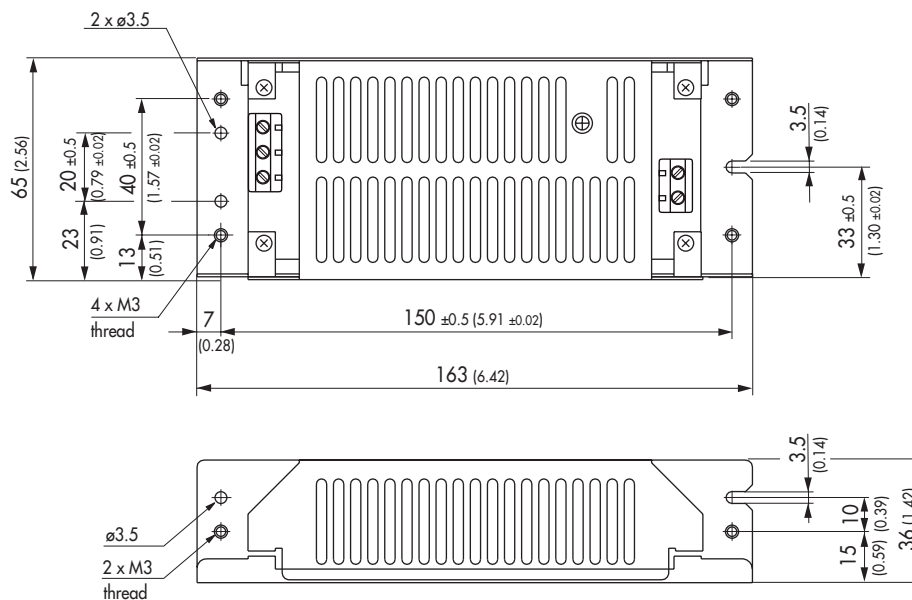
**Outline Dimensions mm (inches)**

**TOF 30 standard open frame version**



**Weight:** 170 g (6 oz)

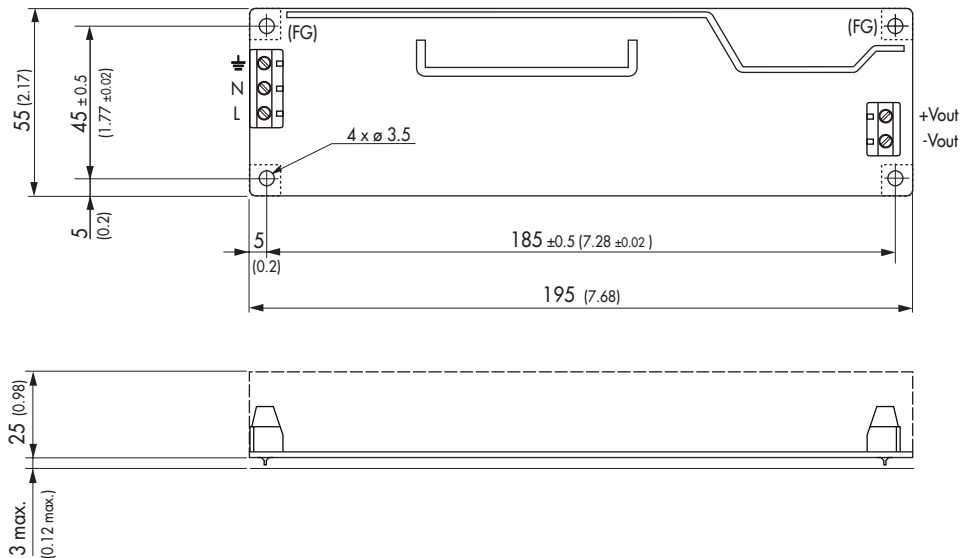
**TOF 30 with chassis / cover option**



**Weight:** 320 g (11.3 oz)

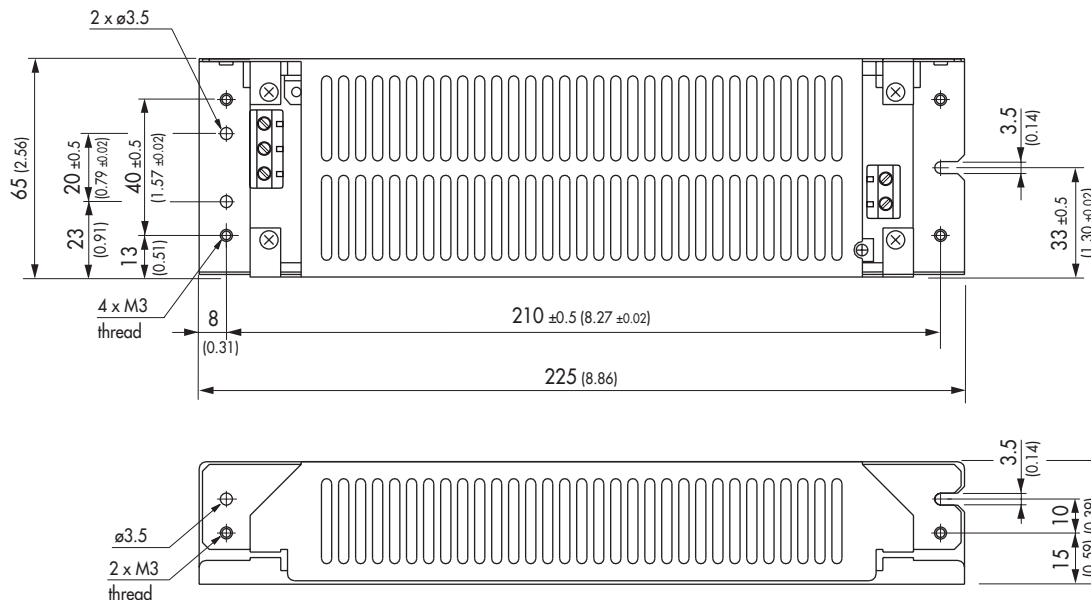
**Outline Dimensions mm (inches)**

**TOF 50 standard open frame version**



**Weight:** 245 g (8.6 oz)

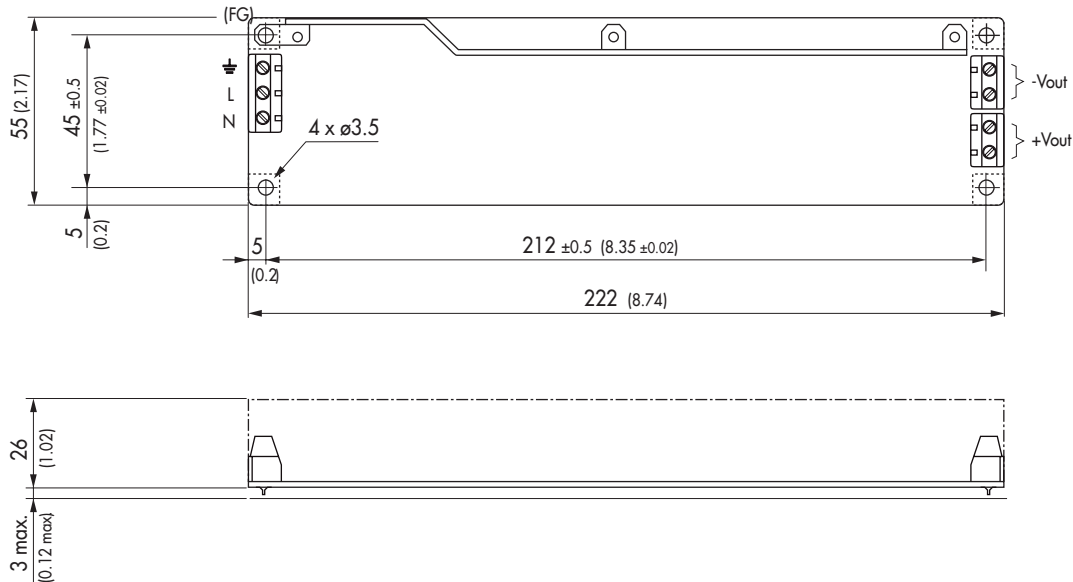
**TOF 50 with chassis / cover option**



**Weight:** 455 g (16.0 oz)

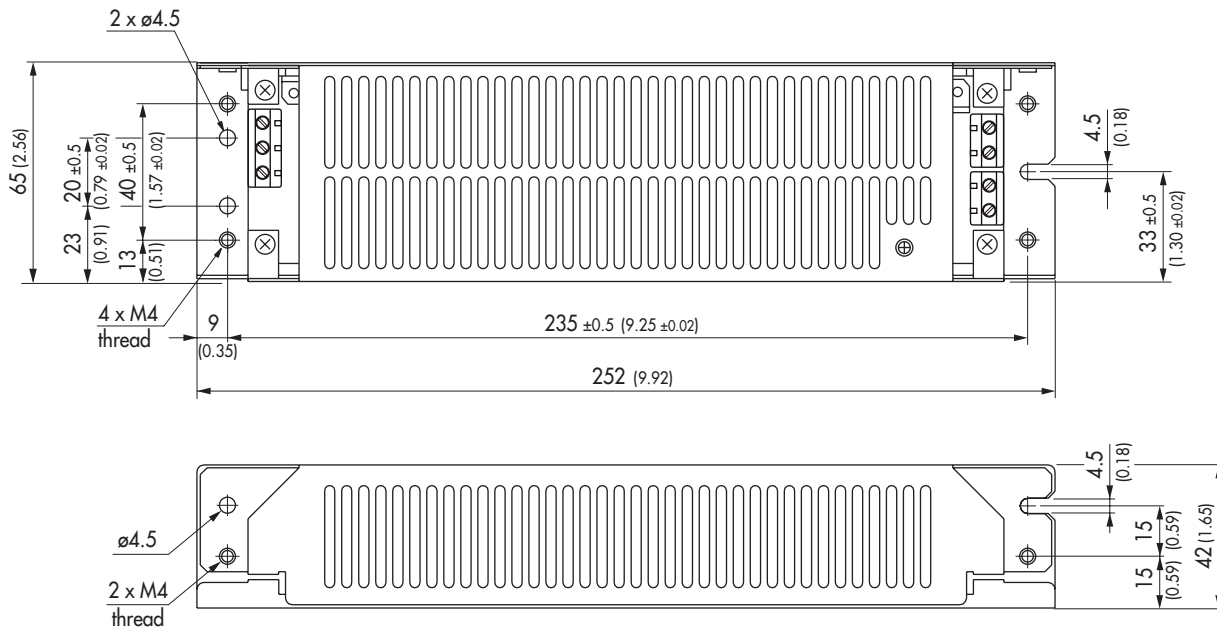
**Outline Dimensions mm (inches)**

**TOF 75 standard open frame version**



**Weight:** 280 g (9.9 oz)

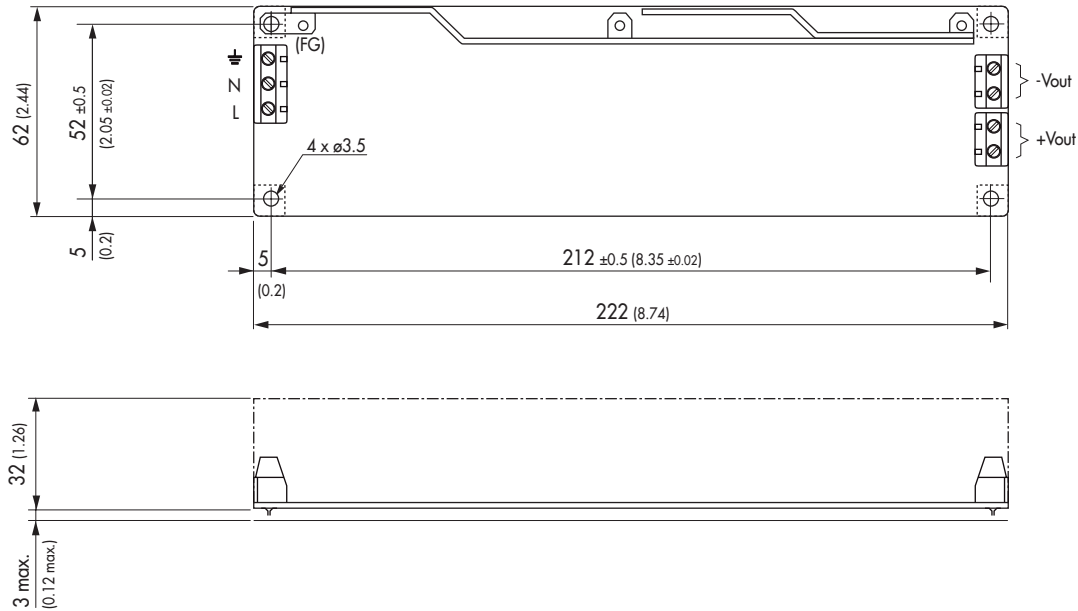
**TOF 75 with chassis / cover option**



**Weight:** 525 g (18.5 oz)

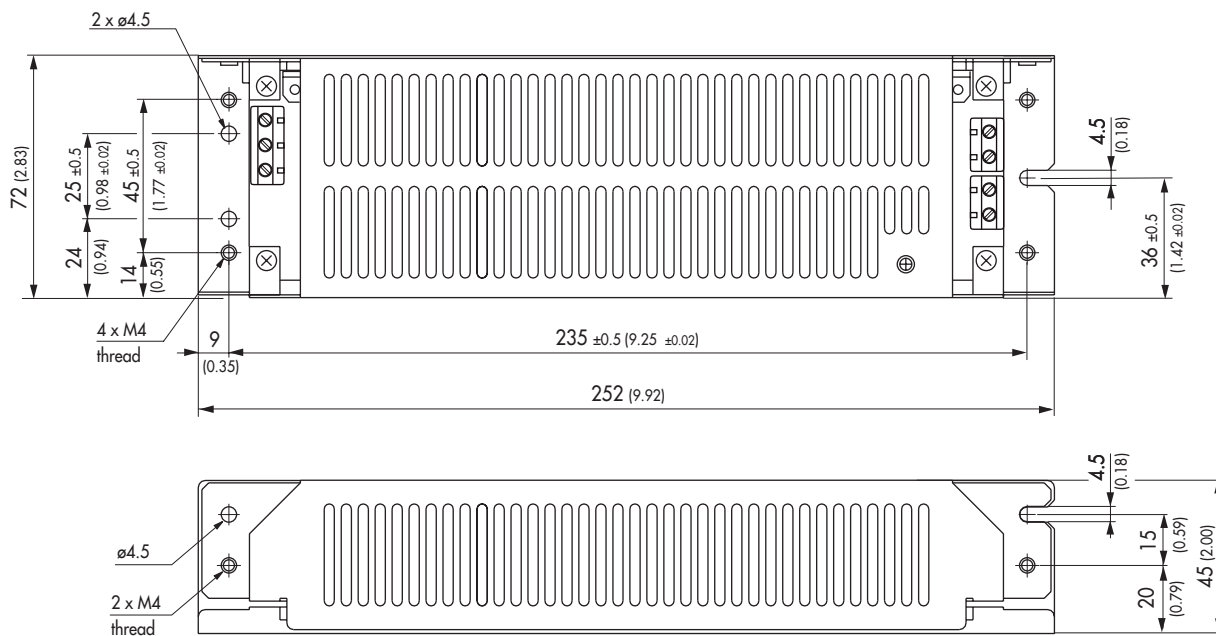
**Outline Dimensions mm (inches)**

**TOF 100 standard open frame version**



**Weight:** 380 g (13.4 oz)

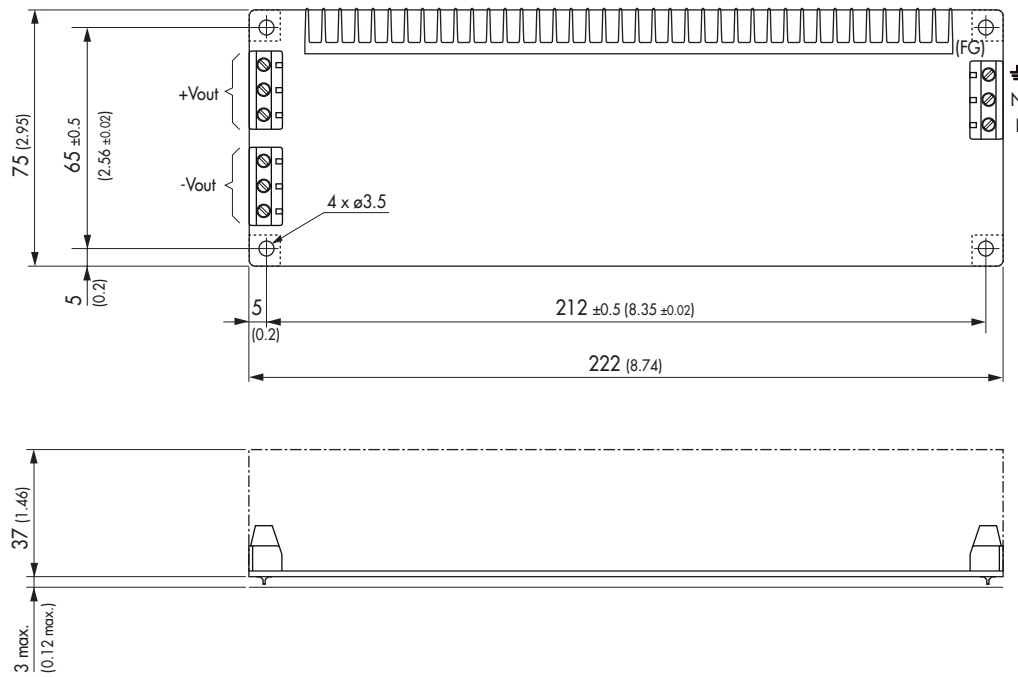
**TOF 100 with chassis / cover option**



**Weight:** 655 g (23.1 oz)

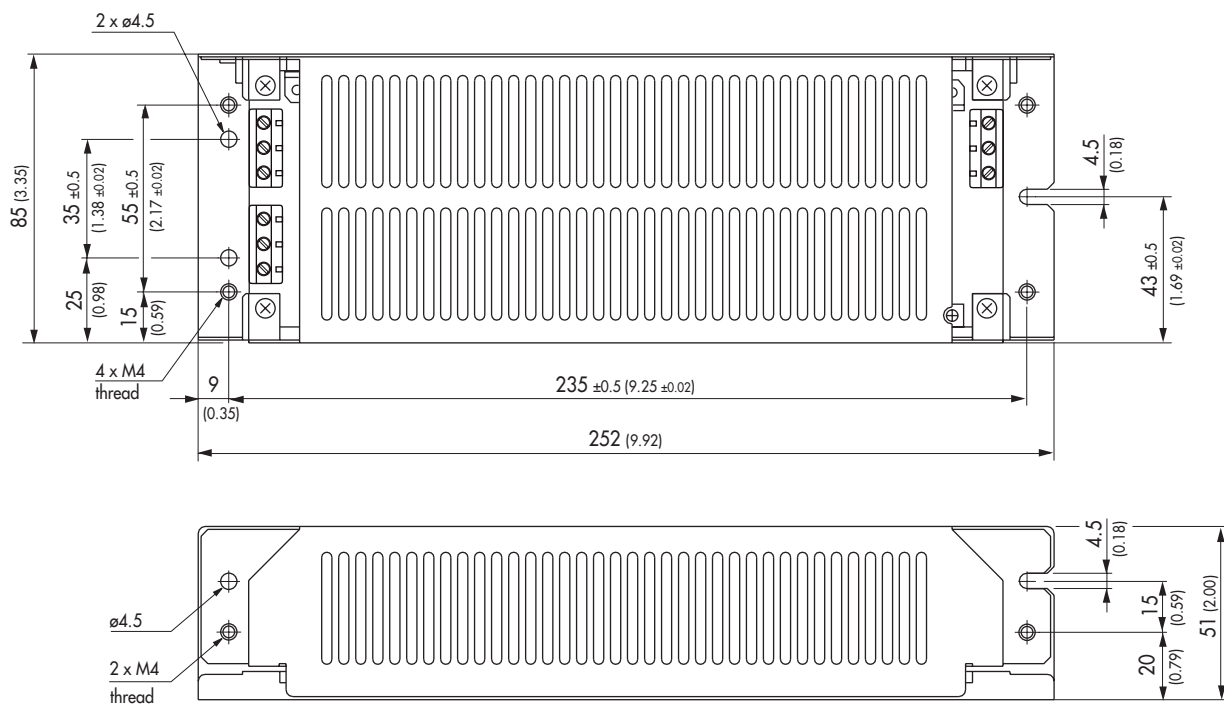
**Outline Dimensions mm (inches)**

**TOF 150 standard open frame version**



**Weight:** 540 g (19.0 oz)

**TOF 150 with chassis / cover option**

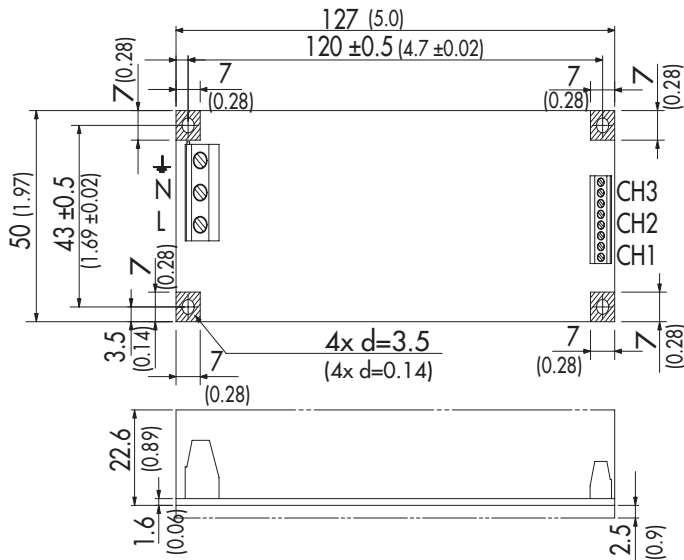


Tolerances: ±1.0 mm (±0.04)

**Weight:** 865 g (30.5 oz)

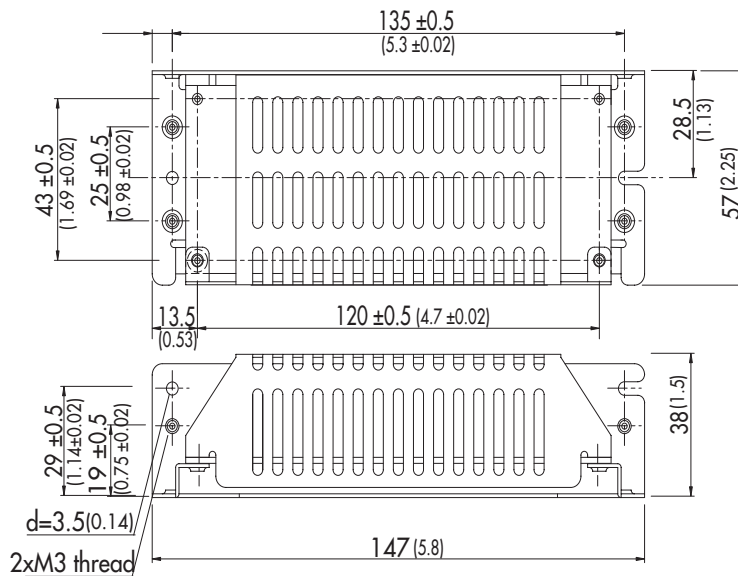
**Outline Dimensions mm (inches)**

**TOF 15-T standard open frame version**



**Weight:** 107g (3.8 oz)

**TOF 15-T with chassis / cover option**



**Weight:** 226g ( 8 oz)

Tolerances:  $\pm 1.0$  mm ( $\pm 0.04$ )

## TOF 30-T standard open frame version



**Weight:** 337g (11.9 oz)

**TRACO**  
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Rev. 10/12