



Features

- ◆ Ultra compact, low profile plastic case
- ◆ 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
- ◆ Short circuit and overload protection
- ◆ 3-year product warranty



The TMP series AC/DC Power Modules is a new range of fully encapsulated power supplies in an ultra-compact module. 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.

Single Output Models 7 to 15 Watt

Order code		Output power max.	Output
PCB-mount with solder pins	Chassis mount with screw terminal block		
TMP 07103		4.6 W	3.3 VDC / 1400 mA
TMP 07105			5.0 VDC / 1400 mA
TMP 07112		7 W	12 VDC / 585 mA
TMP 07115			15 VDC / 465 mA
TMP 07124			24 VDC / 290 mA
TMP 10103		6.6 W	3.3 VDC / 2000 mA
TMP 10105			5.0 VDC / 2000 mA
TMP 10112		10 W	12 VDC / 830 mA
TMP 10115			15 VDC / 665 mA
TMP 10124			24 VDC / 415 mA
TMP 15105	TMP 15105C	15 W	5 VDC / 3000 mA
TMP 15112	TMP 15112C		12 VDC / 1250 mA
TMP 15115	TMP 15115C		15 VDC / 1000 mA
TMP 15124	TMP 15124C		24 VDC / 625 mA
TMP 15148	TMP 15148C		48 VDC / 310 mA

30 & 60 Watt and multi output models see next page ->

Single Output Models 30 to 60 Watt

Order code		Output power max.	Output
PCB-mount with solder pins	Chassis mount with screw terminal block		
TMP 30105 TMP 30112 TMP 30115 TMP 30124 TMP 30148	TMP 30105C TMP 30112C TMP 30115C TMP 30124C TMP 30148C	30 W	5 VDC / 6000 mA 12 VDC / 2500 mA 15 VDC / 2000 mA 24 VDC / 1250 mA 48 VDC / 625 mA
TMP 60105 TMP 60112 TMP 60115 TMP 60124 TMP 60136 TMP 60148	TMP 60105C TMP 60112C TMP 60115C TMP 60124C TMP 60136C TMP 60148C		5.1 VDC / 10'000 mA 12 VDC / 5000 mA 15 VDC / 4000 mA 24 VDC / 2500 mA 36 VDC / 1665 mA 48 VDC / 1250 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				
TMP 10212 TMP 10215		10 Watt	+12 VDC/380 mA +15 VDC/300 mA	-12 VDC/380 mA -15 VDC/300 mA	
TMP 15212 TMP 15215 TMP 15252 TMP 15512 TMP 15515	TMP 15212C TMP 15215C TMP 15252C TMP 15512C TMP 15515C	15 Watt	+12 VDC/650 mA +15 VDC/500 mA 5.0 VDC/1500 mA 5.0 VDC/2000 mA 5.0 VDC/2000 mA	-12 VDC/650 mA -15 VDC/500 mA 12 VDC/625 mA +12 VDC/200 mA +15 VDC/150 mA	-12 VDC/200 mA -15 VDC/150 mA
TMP 30212 TMP 30215 TMP 30252 TMP 30512 TMP 30515 TMP 30522 TMP 30316 TMP 30317	TMP 30212C TMP 30215C TMP 30252C TMP 30512C TMP 30515C TMP 30522C TMP 30316C TMP 30317C	30 Watt	+12 VDC/1300 mA +15 VDC/1000 mA 5.0 VDC/3000 mA ¹⁾ 5.0 VDC/3000 mA ¹⁾ 5.0 VDC/3000 mA ¹⁾ 5.0 VDC/3000 mA ¹⁾ 3.3 VDC/4000 mA ²⁾ 5.0 VDC/4500 mA ³⁾	-12 VDC/1300 mA -15 VDC/1000 mA 12 VDC/1250 mA ⁴⁾ +12 VDC/600 mA ⁵⁾ +15 VDC/500 mA ⁶⁾ +12 VDC/1000 mA ⁷⁾ +5.0 VDC/1500 mA ⁸⁾ +3.3 VDC/1000 mA ⁷⁾	-12 VDC/600 mA ⁵⁾ -15 VDC/500 mA ⁶⁾ -12 VDC/250 mA ⁹⁾ +12 VDC/250 mA ⁹⁾ +12 VDC/250 mA ⁹⁾

Peak current: ¹⁾4500 mA ²⁾5300 mA ³⁾6000 mA ⁴⁾1800 mA ⁵⁾900 mA ⁶⁾750 mA ⁷⁾1500 mA ⁸⁾2000 mA ⁹⁾500 mA
 Total load not to exceed 30 Watt.

Input Specifications

Input voltage	– nominal – range	100 – 240 VAC 85 – 264 VAC (universal input) 120 – 370 VDC (not for TMP 60 models)
Input frequency		47 – 400 Hz 47 – 63 Hz for TMP 60 models

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

Input Specifications

Input current at full load (115 VAC / 230 VAC)	7 W models: 150 mA / 100 mA typ. 10 W models: 200 mA / 130 mA typ. 15 W models: 300 mA / 190 mA typ. 30 W models: 550 mA / 330 mA typ. 60 W models: 1050 mA / 670 mA typ.
Input current at no load (115 VAC / 230 VAC)	15 mA / 20 mA typ.
Inrush current (< 2ms, cold start at 115 VAC / 230 VAC)	7 – 10 W models: 10 A / 20 A 15 W models: 15 A / 30 A 30 W models: 20 A / 40 A 60 W models: 30 A / 50 A
External input fuse required (recommended value)	7 – 30 W models: 1.5 A slow blow other models: 3.0 A slow blow

Output Specifications

Voltage set accuracy	±2 % max.
Regulation	<ul style="list-style-type: none"> – Input variation: 1 % max. – Load variation: <ul style="list-style-type: none"> single output models (10–100%): 1 % max. dual output models balanced load (10–100%): 2.5 % max. dual output models unbalanced load (20/100%): 5.0 % max. triple output models main output (10–100%): 1.0 % max. triple output models auxiliary outputs (10–100%): 4.0 % max.
Minimum load	<ul style="list-style-type: none"> single an dual output models: 10 % of rated max. current triple output models main output: 10 % of rated max. current triple output models auxiliary outputs: 20 % of rated max. current <p>operation at lower load condition will not damage these power supplies, however, they may not meet all listed specifications.</p>

Max. capacitive load [µF]		Model series				
	Output:	TMP 07	TMP 10	TMP 15	TMP 30	TMP 60
Single output models:	3.3 VDC	2200	3900	-	-	-
	5.0 / 5.1 VDC	2200	3300	3900	8000	8000
	12 / 15 VDC	1000	2200	2200	3900	3900
	24 VDC	680	1000	1000	1500	1500
	36 VDC	-	-	-	-	1000
	48 VDC	-	-	680	1000	800
Dual output models:	5 VDC	-	-	2000	3900	-
	+12 / -12 / +15 / -15 VDC	-	1000	1500	1500	-
Triple output models:	3.3 / 5.0 VDC	-	-	2200	2200	-
	+12 / -12 / +15 / -15 VDC	-	-	1500	1500	-

Ripple and noise (20MHz bandwidth)	3.3 VDC & 5.0 VDC outputs: 1.8% of Vout [mVpk-pk] other outputs: 1.3% of Vout [mVpk-pk]
Overload protection by current limit	120% – 180% 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.
Rise time	200 ms typ.
Hold-up time	20 ms typ.

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

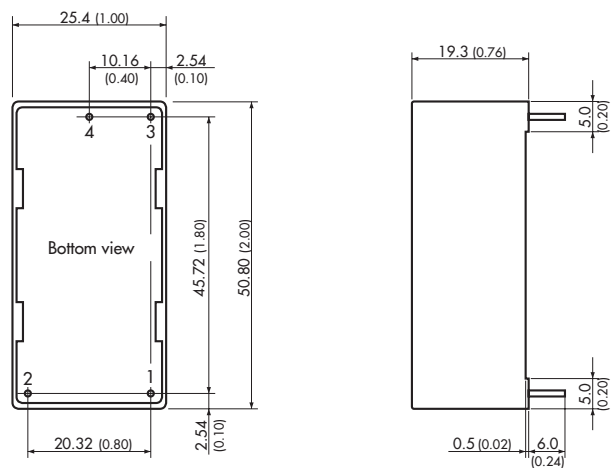
General Specifications

Temperature ranges	<ul style="list-style-type: none"> – Operating – Storage (non-operating) 	–25°C to +70°C –40°C to +85°C
Power derating		3.75 %/K above +50°C 2.5 %/K above +40°C for TMP 60105(C)
Temperature coefficient		0.02 %/K
Humidity (non-condensing)		95 % rel. H max.
Efficiency		78 % typ.
Switching frequency		100 kHz typ. (fixed)
Isolation voltage (60 sec.)	– Input/Output	3'000 VAC
Isolation resistance	– Input/Output	100 MOhm (at 500 VDC)
Electromagnetic compatibility (EMC), Emissions		EN 61000-6-3: 2007 EN 61204-3: 2000, class A EN 55022, level B, FCC Part 15 level B
Electromagnetic compatibility (EMC), Immunity	<ul style="list-style-type: none"> – Electrostatic discharge ESD – RF field susceptibility – Electrical fast transient / burst immunity input – Electrical fast transient / burst immunity output – Surge immunity line – neutral – Surge immunity output – Immunity to conducted RF disturbances – Mains voltage dips and interruptions 	EN 61000-6-2: 2005 EN 61204-3: 2000, class A EN 61000-4-2 8 kV / 4 kV, criteria B EN 61000-4-3 10 V/m, criteria A EN 61000-4-4 ±2 kV, criteria B EN 61000-4-4 ±2 kV, criteria B EN 61000-4-5, ±1 kV, criteria B EN 61000-4-5 ±0.5 kV, criteria B EN 61000-4-6 10 V, criteria B EN 61000-4-11 30 % 10 ms, criteria B 60 % 100 ms, criteria C 95 % 5000 ms, criteria C
EMC test certificates		www.tracopower.com/products/tmp-emc.pdf
Protection class II		to IEC/EN 60536
Safety standards	– Information technology equipment	IEC/EN 60950-1, UL 60950-1
Safety approvals	<ul style="list-style-type: none"> – CB certificate for IEC 60950-1 (TMP 60 models pending) – UL approvals for UL 60950-1 	www.tracopower.com/products/tmp-cb.pdf www.ul.com -> certifications -> File: E188913
Reliability /calculated MTBF (MIL-HDBK-217F, at 25 °C, ground benign)	TMP 07 models: TMP 10 models: TMP 15 models: TMP 30 models: TMP 60 models:	>330'000 h >300'000 h >280'000 h >250'000 h >125'000 h
Case material		plastic resin + fiberglass (UL 94V-0 rated)

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

Outline Dimensions

TMP 07 models for PCB mount:

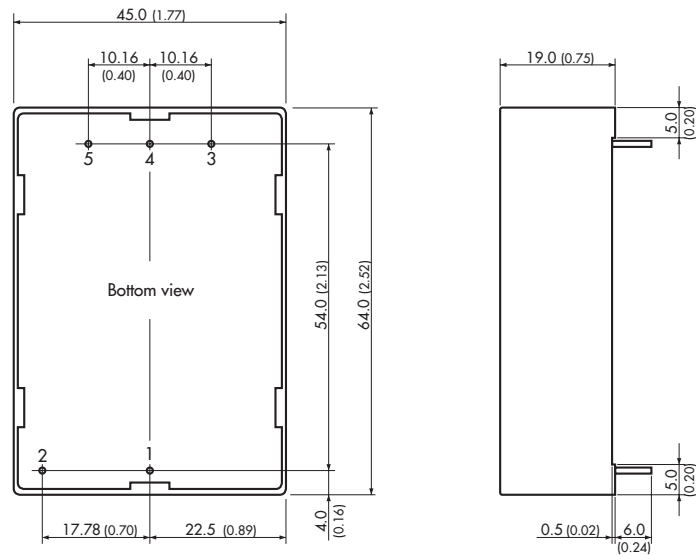


Pin-Out	
Pin	Single
1	AC (N)
2	AC (L)
3	+Vout
4	-Vout

Pin diameter: 1.0 (0.04)

Weight: 44 g (1.55 oz)

TMP 10 models for PCB mount:



Pin-Out		
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)

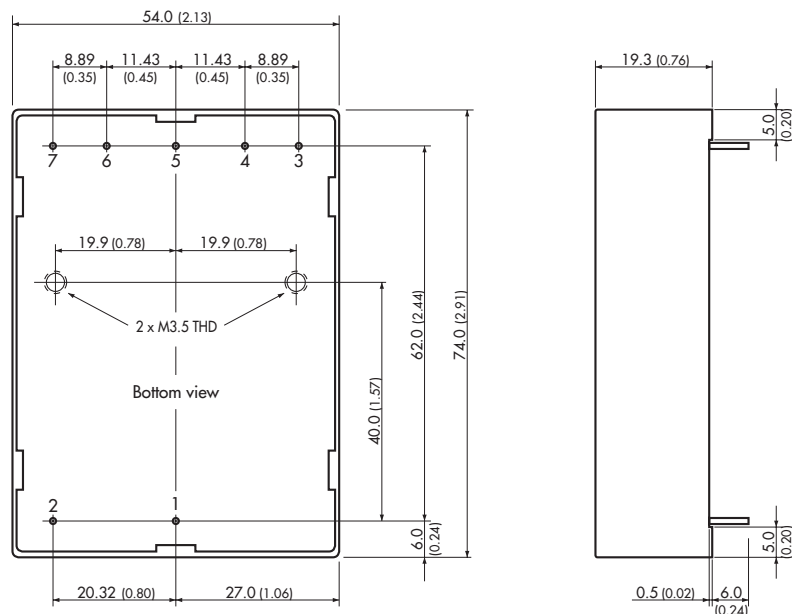
Dimensions in [mm], () = Inches

Case tolerances: ± 0.5 (0.02)

Pin pitch tolerance: ± 0.25 (0.01)

Outline Dimensions

TMP 15 models for PCB mount:

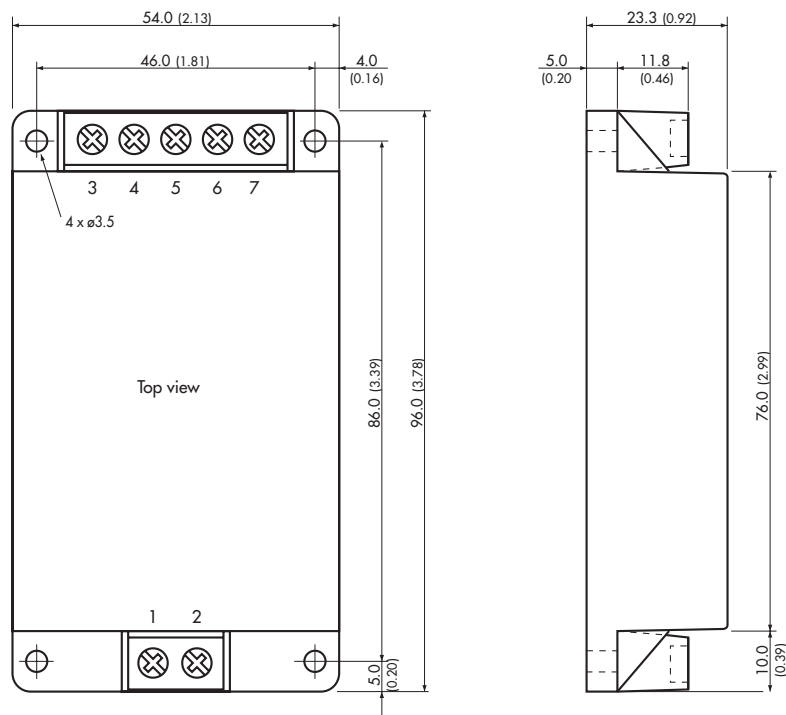


Pin-Out				
Pin	Single	Dual sym.	Dual asym.	Triple
1	AC (N)			
2	AC (L)			
3	no pin			Vout 3
4	−Vout	Vout 2	−Vout 2	com.2/3
5	no pin	com.1/2	+Vout 2	Vout 2
6	+Vout	Vout 1	−Vout 1	−Vout 1
7	no pin		+Vout 1	+Vout 1

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	not to connect			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	not to connect		+Vout 1	+Vout 1

(ntc = not to connect)

Weight: 162 g (5.71 oz)

Dimensions in [mm], () = Inches

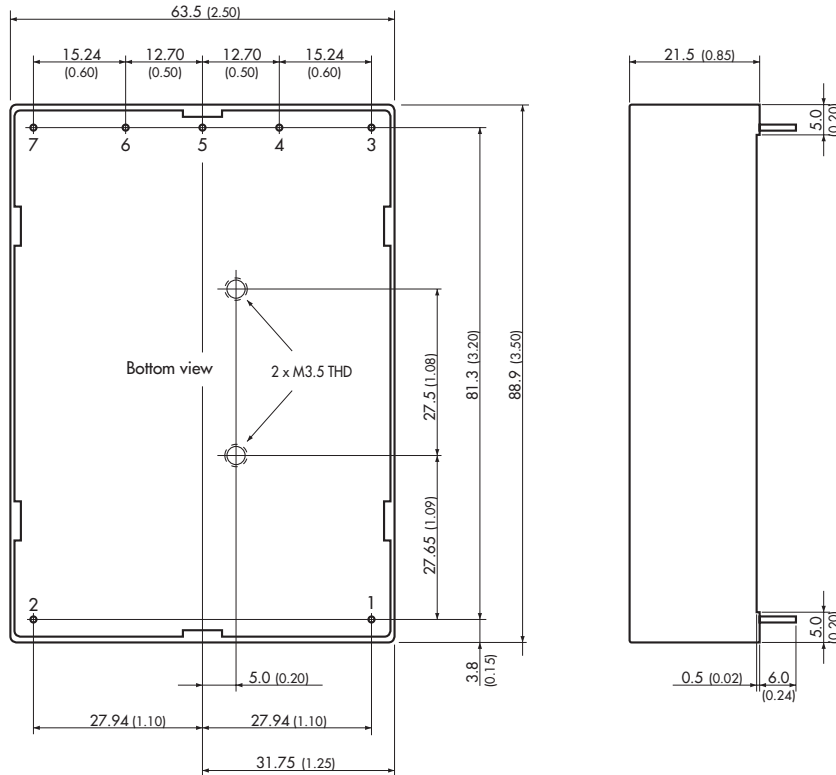
Case tolerances: ± 0.5 (0.02)

Pin pitch tolerance: ± 0.25 (0.01)

Mounting hole tolerance: ± 0.25 (0.02)

Outline Dimensions

TMP 30 models for PCB mount:



Pin diameter: 1.0 (0.04)

Weight: 177 g (6.24 oz)

Pin-Out

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

(ntc = not to connect)

Dimensions in [mm], () = Inches

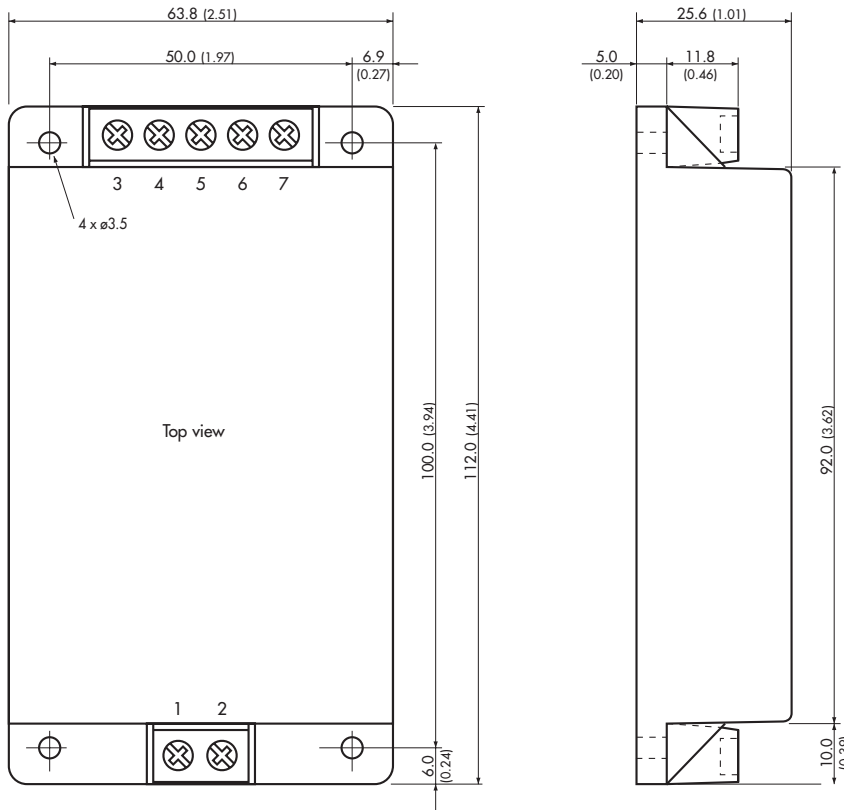
Case tolerances: ± 0.5 (0.02)

Pin pitch tolerance: ± 0.25 (0.01)

Mounting hole tolerance: ± 0.25 (0.02)

Outline Dimensions

TMP 30 models for chassis mount:



Weight: 191 g (6.74 oz)

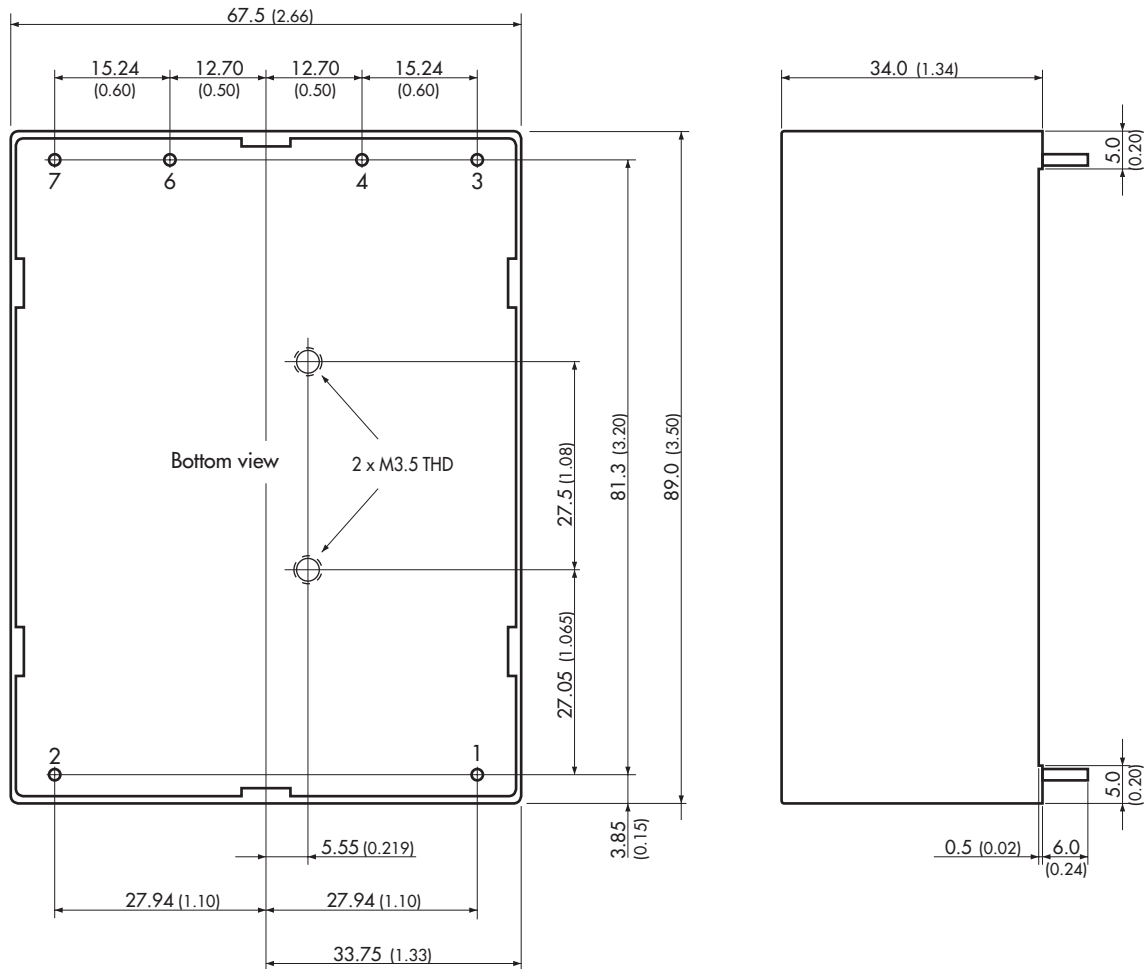
Connection				
Pin	Single	Dual sym.	Dual asym.	Triple
1	AC (N)			
2	AC (L)			
3	+Vout	Vout 1	+Vout 2	Vout 2
4	not to connect		+Vout 1	+Vout 1
5	-Vout	com.1/2	-Vout 2	com 2/3
6	not to connect		-Vout 1	-Vout 1
7	ntc	Vout 2	ntc	Vout 3

(ntc = not to connect)

Dimensions in [mm], () = Inches
Case tolerances: ± 0.5 (0.02)
Mounting hole tolerance: ± 0.25 (0.02)

Outline Dimensions

TMP 60 models for PCB mount:



Pin diameter: 2.0 (0.08)

Weight: 345 g (12.17 oz)

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

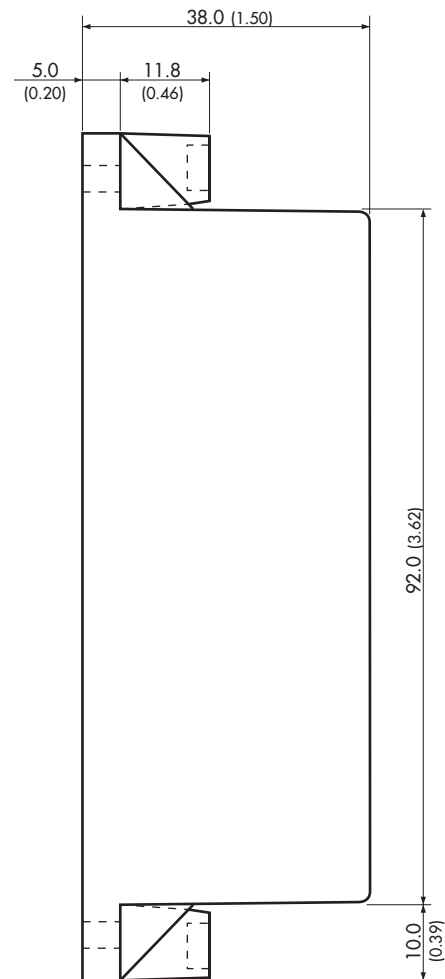
Dimensions in [mm], () = Inches

Case tolerances: ± 0.5 (0.02)

Pin pitch tolerance: ± 0.25 (0.01)

Mounting hole tolerance: ± 0.25 (0.02)

TMP 60 models for chassis mount:



Weight: 357 g (12.95 oz)

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

(ntc = not to connect)

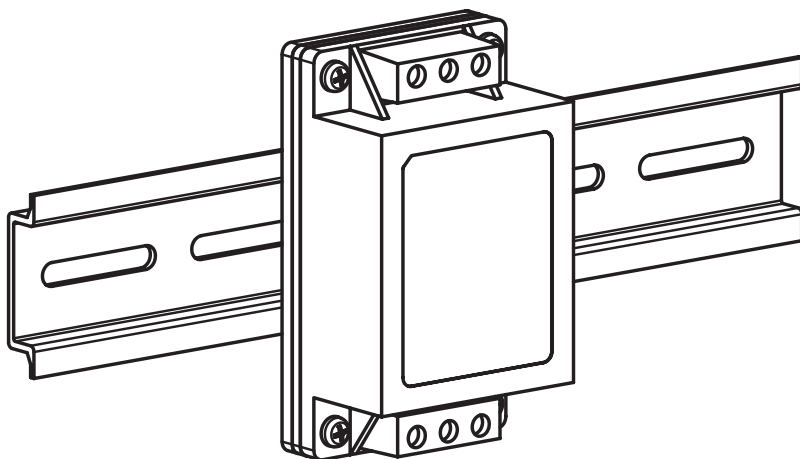
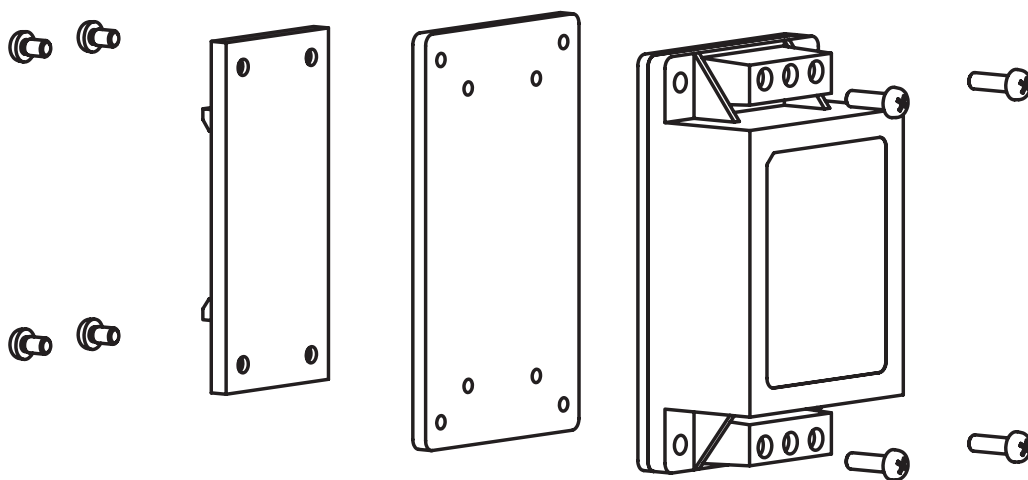
Dimensions in [mm], () = Inches

Case tolerances: ± 0.5 (0.02)

Mounting hole tolerance: ± 0.25 (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 any time without notice.