

- Fully encapsulated power supplies in plastic casing for PCB mount
- Low output ripples and noise
- Fully regulated outputs
- 3000 VAC I/O-isolation
- High efficiency up to 90%
- Universal input range 90 to 264 VAC
- Operating temperature range: -25°C to +70°C max.
- Safety class II prepared
- Short circuit, overload and over voltage protection



The TMG Series of fully encapsulated 7–50 Watt AC/DC power supply modules feature a reinforced/double I/O isolation system. The low ripple and noise values allow the use in applications which are sensitive to undesired harmonics. The high efficiency and the use of highest grade components make the units suitable for an operating temperature range of -25°C to +70°C. EMI/EMC characteristics and the safety approval package qualify these modules for demanding applications in transportation systems and for equipment in industrial and commercial environment.

Models

Order Code	Output Power (max.)	Output Voltage (nom.)	Output Current (max.)	Efficiency (typ.)
TMG 07105	6.3 W	5.0 VDC	1260 mA	77 %
TMG 07112	7 W	12 VDC	583 mA	80 %
TMG 07115	7 W	15 VDC	466 mA	80 %
TMG 07124	7 W	24 VDC	292 mA	80 %
TMG 15105	15 W	5.0 VDC	3000 mA	80 %
TMG 15112	15 W	12 VDC	1250 mA	84 %
TMG 15115	15 W	15 VDC	1000 mA	84 %
TMG 15124	15 W	24 VDC	625 mA	85 %
TMG 30103	16.5 W	3.3 VDC	5000 mA	80 %
TMG 30105	25 W	5.0 VDC	5000 mA	84 %
TMG 30112	30 W	12 VDC	2500 mA	89 %
TMG 30115	30 W	15 VDC	2000 mA	86 %
TMG 30124	30 W	24 VDC	625 mA	86 %
TMG 50105	40 W	5.0 VDC	8000 mA	86 %
TMG 50112	50 W	12 VDC	4167 mA	90 %
TMG 50115	50 W	15 VDC	3333 mA	87 %
TMG 50124	50 W	24 VDC	2083 mA	88 %
TMG 50148	50 W	48 VDC	1040 mA	89 %

Input Specifications

Input voltage	– AC Input	30 W model: 90 – 305 VAC other models: 90 – 264 VAC all models: derating of 2%/V below 100 VAC required
	– DC Input	120 – 370 VDC
Input frequency		47 – 63 Hz
Leakage current		< 0.25 mA (at <240 VAC)
Inrush current*		7 W models: 20/40 A max. (115/230 VAC) 15 W models: 25/45 A max. (115/230 VAC) 30 W models: 30/60 A max. (115/230 VAC) 50 W models: 40/60 A max. (115/230 VAC)
No-load power consumption		< 0.3 W
External input fuse (required)		7 & 15 W models: 2.0 A slow blow type
		30 & 50 W models: 3.15 A slow blow type

Output Specifications

Voltage accuracy		± 2% typ.
Regulation	– Input variation	0.5% typ.
	– Load variation (10–100%)	7 & 15 W models: 1.0% typ.
	– Load variation (0–100%)	30 & 50 W models: 1.0% typ.
Minimum load		not required
Hold-up time		7 W models: 30 ms min. (230 VAC)
		15 W models: 35 ms min. (230 VAC)
		30 W models: 10 ms min. (230 VAC)
		50 W models: 10 ms min. (230 VAC)
Ripple and Noise (20MHz bandwidth) (measured with 0.1µF & 47µF parallel capacitor)		5 VDC models: 120 mVp-p max.
		other models: 1% of Vout max.
Overload protection (current limit)		hiccup, auto recovery
Short circuit current		hiccup, indefinite
Output overvoltage protection		zener diode

Max. capacitive load [µF]	Output					
	3.3 VDC	5.0 VDC	12 VDC	15 VDC	24 VDC	48 VDC
TMG 07	–	3'300	1'000	470	68	–
TMG 15	–	7'000	1'500	1'000	470	–
TMG 30	6'800	6'800	1'600	1'200	470	–
TMG 50	–	10'000	3'500	3'000	2'200	330

General Specifications

Temperature ranges	– operational (natural convection 20 LFM)	–40°C to +70°C max.
	– Storage temperature	–40°C to +85°C max.
Power derating		see derating graphs on page 3
Temperature coefficient		0.02 %/K
Cooling		convection cooling, no internal fan
Humidity (non condensing)		95% rel. H max.
Altitude during operation		2000 m max.
Switching frequency (at 230 VAC)		65 kHz
Isolation	– Input/Output	TMG 15 models: 4000 VAC
		other models: 3000 VAC

* For the 7 & 15 W models an external Thermistor has to be integrated in the circuit at the converter input L (in series).
Thermistor recommendation: 10R / 15z

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

General Specifications (continued)

MTBF (MIL-HDBK-217F, at 25 °C ground benign)

5 W models: > 500'000 h
 15 W models: > 350'000 h
 30 W models: > 400'000 h
 50 W models: > 300'000 h

Protection class

class II prepared

Safety standards

IEC/EN 60950-1
 UL 60950-1

– Certification documents

www.tracopower.com/overview/tmg

Electromagnetic compatibility (EMC), Emissions

– Conducted/Radiated RI suppression on input

EN 55022 class B

Electromagnetic compatibility (EMC), Immunity

- Electrostatic discharge (ESD)
- Radiated RF field immunity
- Electrical fast transient / burst immunity
- Surge immunity*
- Immunity to conducted RF disturbances
- Magnetic field immunity
- Mains voltage dips and interruptions

EN 55024

IEC/EN 61000-4-2 4kV / 8kV criteria A

IEC/EN 61000-4-3 10V/m criteria A

IEC/EN 61000-4-4 2kV criteria A

IEC/EN 61000-4-5 1kV criteria A

IEC/EN 61000-4-6 10V criteria A

IEC/EN 61000-4-8 30A/m criteria A

IEC/EN 61000-4-11

30% / 5000ms

criteria A

Case material

plastic (UL94V-0 rated)

Environmental compliance – Reach

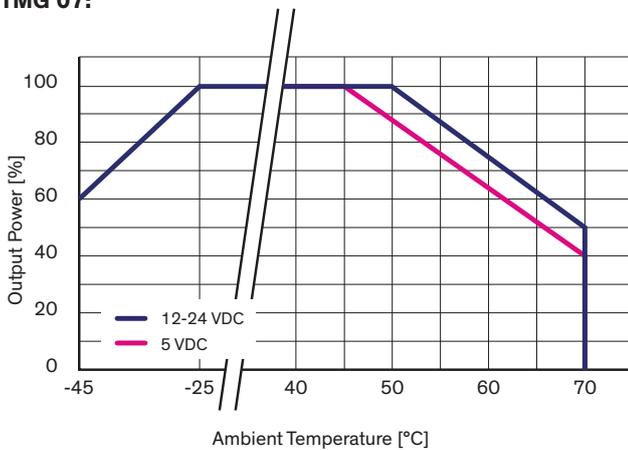
www.tracopower.com/overview/tmf

– RoHS

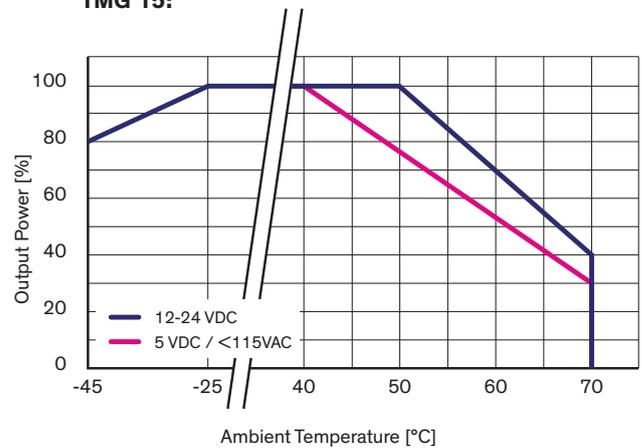
RoHS directive 2011/65/EU

* For the 7 & 15 W models an external Varistor has to be integrated in the circuit at the converter input (in parallel).
 Varistor recommendation: 14S471K

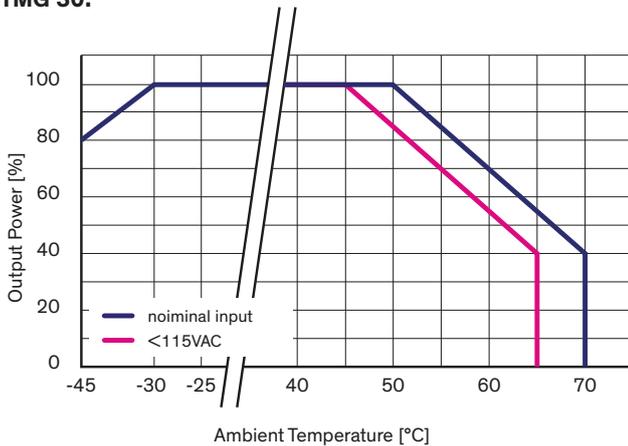
TMG 07:



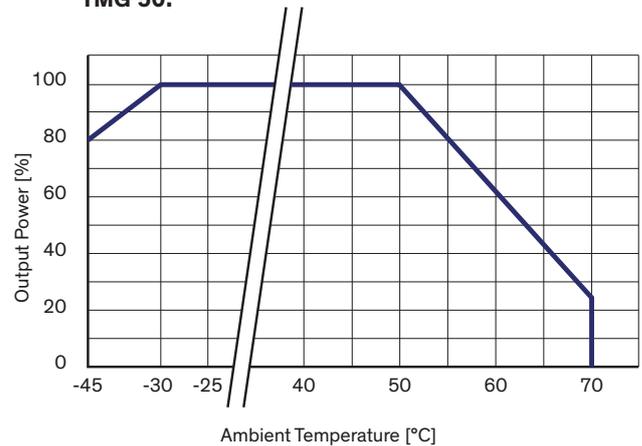
TMG 15:



TMG 30:

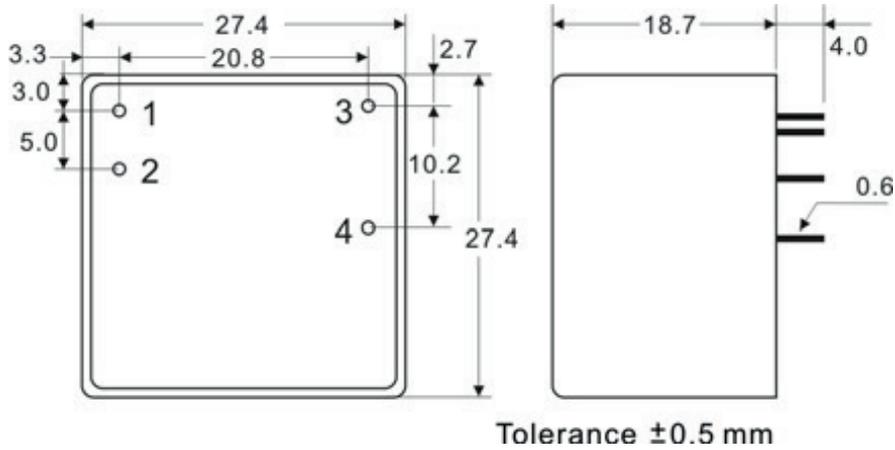


TMG 50:



Outline Dimensions

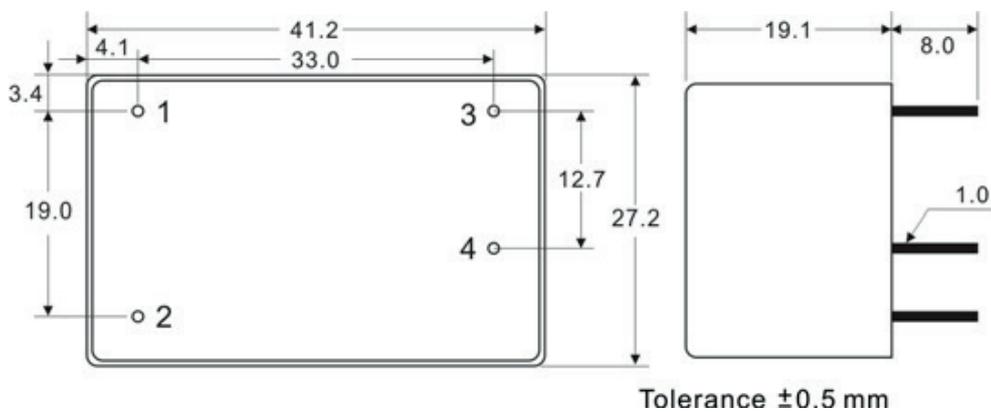
TMG 07 xxx:



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

Weight: 26 g (0.92 oz)

TMG 15 xxx:



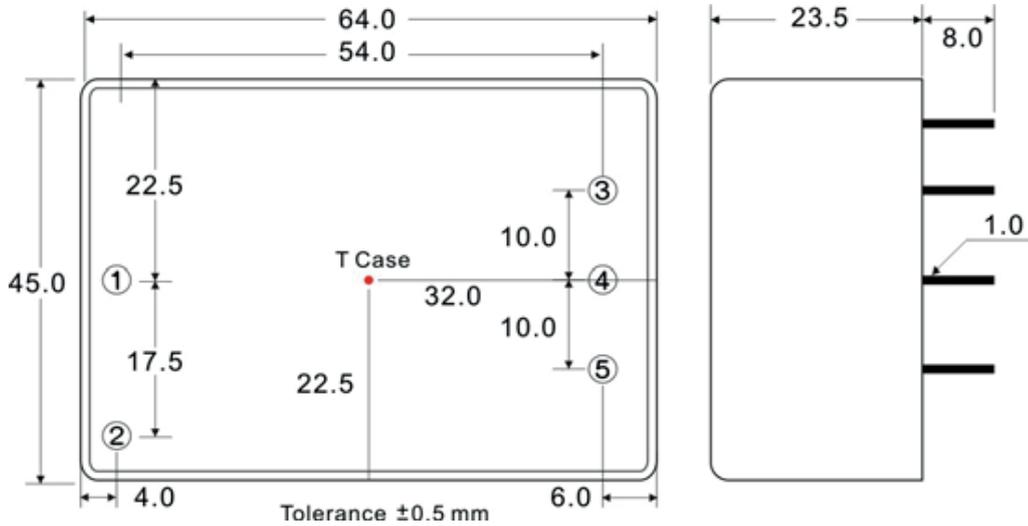
Pinout	
Pin	Single
1	AC IN (L)
2	AC IN (N)
3	+Vout
4	-Vout

Weight: 47 g (1.66 oz)

Dimensions in [mm]
 Tolerances: ± 0.5 mm
 Pin tolerances: ± 0.1 mm

Outline Dimensions (continued)

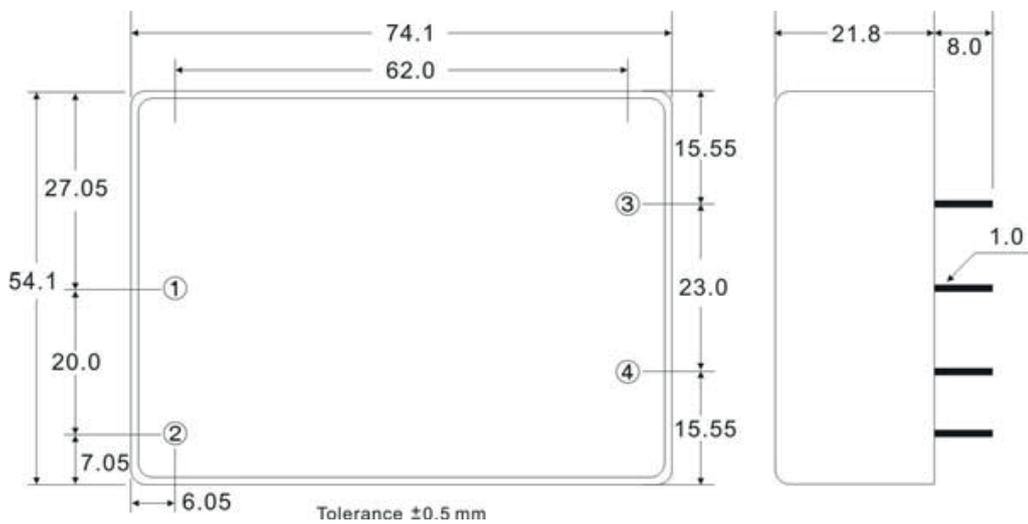
TMG 30 xxx:



Pinout	
Pin	Single
1	AC IN (N)
2	AC IN (L)
3	-Vout
4	No Pin
5	+Vout

Weight: 130 g (4.59 oz)

TMG 50 xxx:



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

Weight: 166 g (5.86 oz)

Dimensions in [mm]
 Tolerances: ± 0.5 mm
 Pin tolerances: ± 0.1 mm