

**Features**

- Ultraminiature AC/DC Switching Power Supply Modules
- Fully encapsulated Plastic Package
- Universal Input 85-264 VAC, 50/60 Hz
- High Efficiency
- Low Ripple and Noise
- Overload Protection
- EMI meets EN 55022, Class B and FCC, Level B
- 3 Package Styles available:
  - for PCB Mounting with Solder Pins
  - for Chassis Mounting with FASTON-Tabs
  - for Chassis Mounting with Screw Terminals
- 2 Year Product Warranty



The TMS series switching power supplies offers high power density in a low profile package. This makes these modules the best choice for all space critical applications. A further feature is the easy installation provided by flexible connection systems (solderpins, terminalblock, FASTON-tabs). EMC specifications and safety standards compliance with international requirement qualify the product for worldwide use. SMD-construction and industrial quality grade components guarantee a high reliability of the MicroSwitcher power modules.

Standard Models								
Ordercode		Output Power max.	Output 1 Inom	Output 2 Inom				
PCB-mounting with solder pins	Chassis mounting with FASTON-tabs					Chassis mounting with screw terminals		
TMS 06105 TMS 06112 TMS 06115 TMS 06124 TMS 06212 TMS 06215		6 Watt	5 VDC / 1200 mA 12 VDC / 500 mA 15 VDC / 400 mA 24 VDC / 250 mA +12 VDC / 250 mA +15 VDC / 200 mA					
TMS 10105 TMS 10112 TMS 10115 TMS 10124 TMS 10212 TMS 10215	TMS 10105F TMS 10112F TMS 10115F TMS 10124F TMS 10212F TMS 10215F		10 Watt	5 VDC / 2000 mA 12 VDC / 900 mA 15 VDC / 700 mA 24 VDC / 450 mA +12 VDC / 450 mA +15 VDC / 350 mA	-12 VDC / 450 mA -15 VDC / 350 mA			
TMS 15105 TMS 15112 TMS 15115 TMS 15124 TMS 15212 TMS 15215	TMS 15105F TMS 15112F TMS 15115F TMS 15124F TMS 15212F TMS 15215F			15 Watt	5 VDC / 3000 mA 12 VDC / 1300 mA 15 VDC / 1000 mA 24 VDC / 650 mA +12 VDC / 650 mA +15 VDC / 500 mA	-12 VDC / 650 mA -15 VDC / 500 mA		
TMS 25105 TMS 25112 TMS 25115 TMS 25124 TMS 25212 TMS 25215	TMS 25105F TMS 25112F TMS 25115F TMS 25124F TMS 25212F TMS 25215F				25 Watt <sup>1</sup>	5 VDC / 4600 mA 12 VDC / 2000 mA 15 VDC / 1600 mA 24 VDC / 1000 mA +12 VDC / 1000 mA +15 VDC / 800 mA	-12 VDC / 1000 mA 15 VDC / 800 mA	

<sup>1</sup> 10 % Power reduction at 115 VAC operation

## Input Specifications

Input voltage range	85 – 264 VAC (110 – 375 VDC)
Input frequency	47 – 63 Hz
External input fuse (recommended)	1 A slow blow

## Output Specifications

Voltage set accuracy	± 2 %
Regulation	<ul style="list-style-type: none"> <li>– Input variation ± 0.4 % max.</li> <li>– Load variation (10 – 90 %)                             <ul style="list-style-type: none"> <li>– Single output models ± 1 % max.</li> <li>– Dual output models (min. load 10 %) ± 2 % typ. / 5 % max. (symmetric load)</li> </ul> </li> </ul>
Ripple and noise (20Mhz Bandwidth)	100 mV pp typ.
Overload protection by current limit at	>130 % Inom. (long term short circuit operation may cause damage to the unit)

## General Specifications

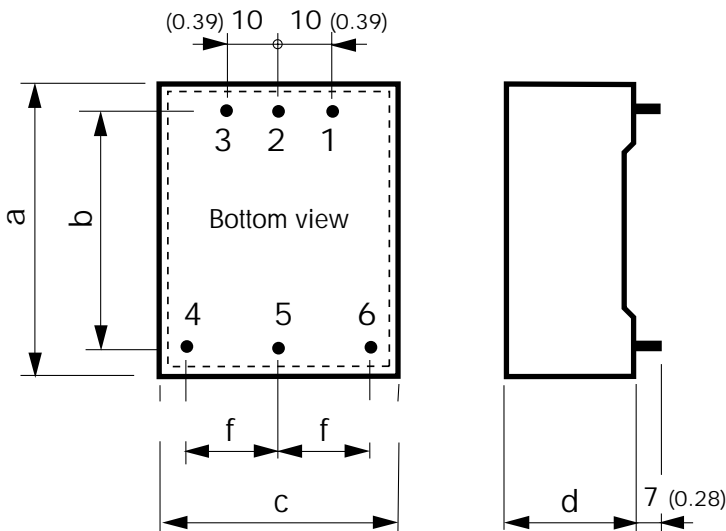
Temperature ranges	<ul style="list-style-type: none"> <li>– Operating – 25 °C...+60 °C ambient temp. max.</li> <li>– Case temperature + 90 °C max.</li> <li>– Storage (non operating) – 25 °C...+105 °C</li> </ul>
Derating	<ul style="list-style-type: none"> <li>– 5 Vout models above + 40°C: 2.5 % / °C</li> <li>– all other models above + 50°C: 5 % / °C</li> </ul>
Temperature coefficient	0.02 % / °C
Efficiency	78 % typ.
Humidity (non condensing)	85 % rel max.
Switching frequency	100 kHz typ.
Hold-up time	<ul style="list-style-type: none"> <li>– Vin = 115 VAC 20 ms typ.</li> <li>– Vin = 230 VAC 100 ms typ.</li> </ul>
I/O-Isolation voltage	3'000 VAC
Leakage current	0.3 mA RMS typ. / 230 VAC / 50 Hz
EMI / RFI conducted	EN 55022, level B, FCC Part 15 level B
EMC compliance	<ul style="list-style-type: none"> <li>– Electrostatic discharge ESD IEC / EN 61000-4-2 level 3 6 kV / 8 kV</li> <li>– RF field susceptibility IEC / EN 61000-4-3 10 V / m</li> <li>– Electrical fast transients/bursts on mainsline IEC / EN 61000-4-4 level 3 2 kV</li> <li>– Surge IEC / EN 61000-4-5 level 3 1 kV / 2 kV</li> </ul>
Safety standards	UL 1950, EN 60950, IEC 60950
Safety approvals	UL / cUL File E 141988
Case material	CELANEX (UL 94-V0)
Reliability, calculated MTBF (MIL-HDBK-217E)	> 250'000 h at 25°C

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

**Outline Dimensions mm (inches)**

**PCB-mounting with solder pins**

**TMS 6/10/15 W**

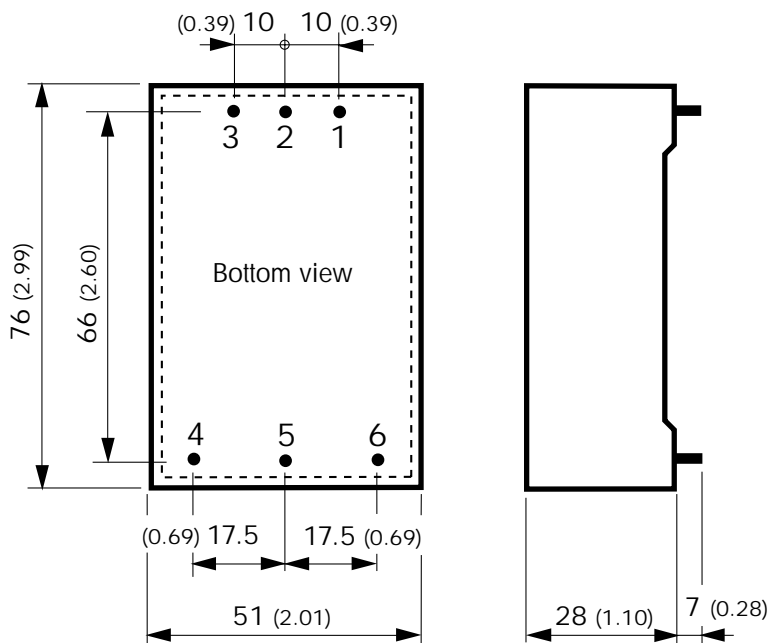


Dimensions			
	TMS 6	TMS 10	TMS 15
a	50 (1.97)	55 (2.17)	64 (2.52)
b	42 (1.65)	47 (1.85)	54 (2.13)
c	40 (1.57)	45 (1.77)	45 (1.77)
d	20 (0.79)	24 (0.94)	24 (0.94)
f	15.5 (0.61)	17.5 (0.69)	17.5 (0.69)

Pin diameter  $\varnothing$  1.0  $\pm$  0.1 (0.04  $\pm$  0.004)

Weight	TMS 6	45 g (1.6 oz)
	TMS 10	75 g (2.7 oz)
	TMS 15	95 g (3.4 oz)
	TMS 25	135 g (4.8 oz)

**TMS 25 W**



Pin diameter  $\varnothing$  1.0  $\pm$  0.1 (0.04  $\pm$  0.004)

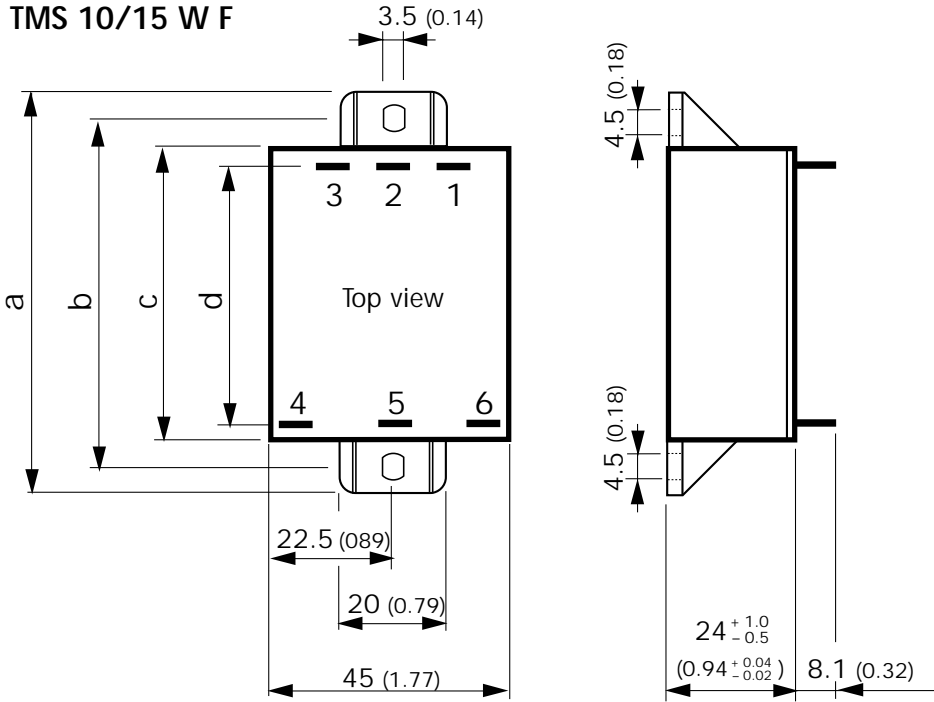
Pin-Out		
Pin	Single	Dual
1	-V out	-V out
2	No Pin	Common
3	+V out	+V out
4	AC in	AC in
5	AC in	AC in
6	FG	FG

FG = field ground

**Outline Dimensions mm (inches)**

**Chassis mounting with FASTON-tabs**

**TMS 10/15 W F**

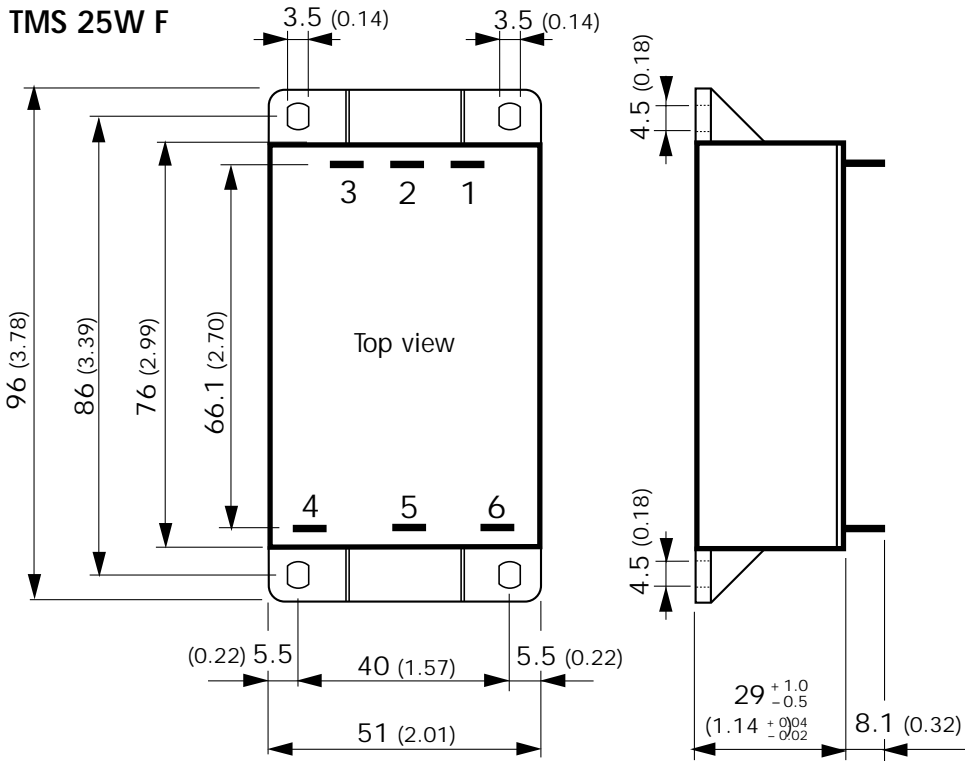


Dimensions		
	TMS 10	TMS 15
a	75 (2.95)	84 (3.31)
b	65 (2.56)	74 (2.91)
c	55 (2.17)	64 (2.52)
d	47.6 (1.87)	55.1 (2.17)

Faston no 187 / 4.75 x 0.51 mm (0.187 x 0.02)

Weight	TMS 10	80 g (2.8 oz)
	TMS 15	100 g (3.5 oz)
	TMS 25	150 g (5.3 oz)

**TMS 25W F**



Faston no 187 / 4.75 x 0.51 mm (0.187 x 0.02)

Pin-Out		
Pin	Single	Dual
1	-V out	-V out
2	No Tab	Common
3	+V out	+V out
4	AC in	AC in
5	AC in	AC in
6	FG	FG

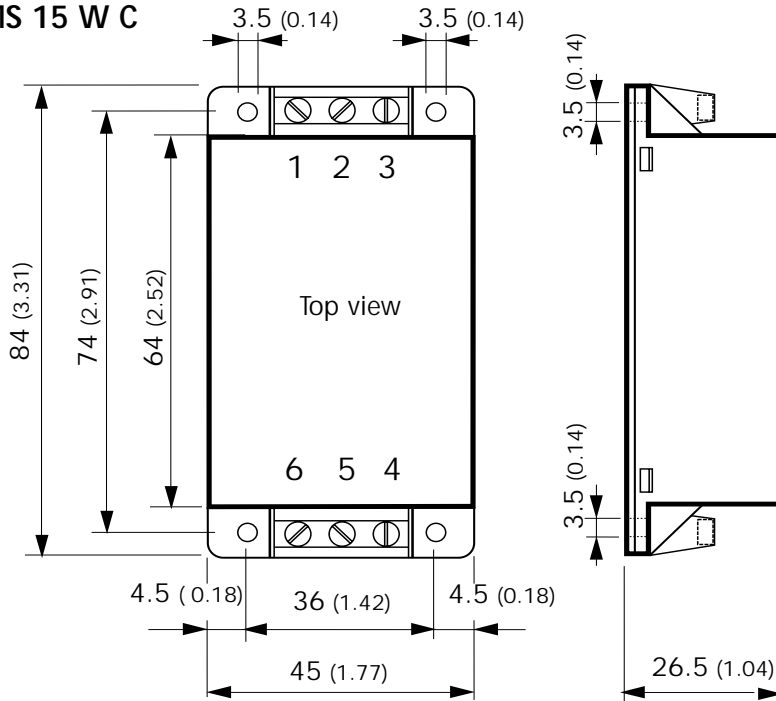
FG = field ground

Specifications can be changed without notice

**Outline Dimensions mm (inches)**

**Chassis mounting with screw terminals**

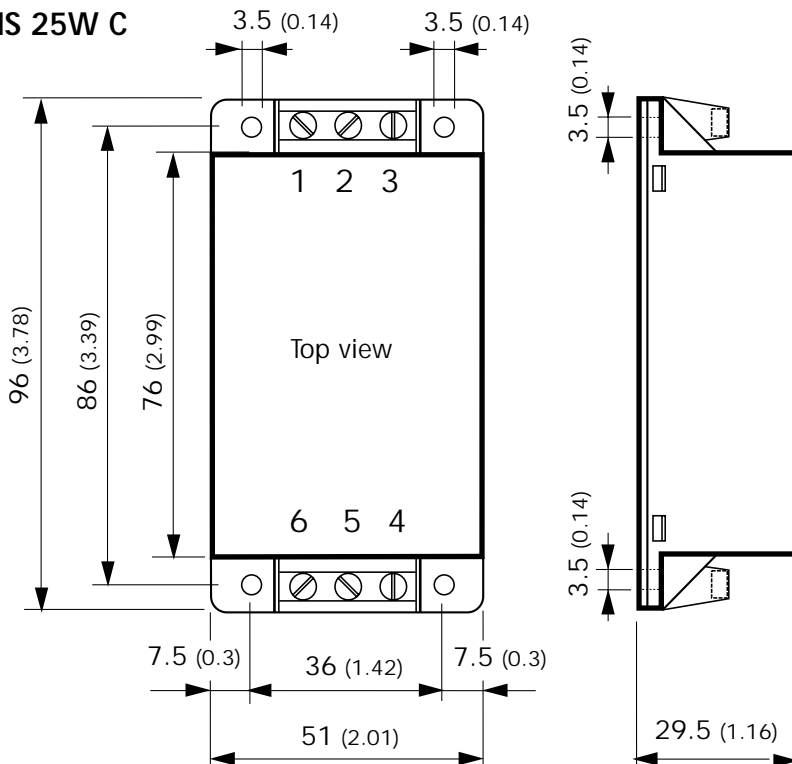
**TMS 15 W C**



Input- and output screw terminal block: GMKDS 1.5/3-7.62 (Phoenix)

Weight	TMS 15	105 g (3.7 oz)
	TMS 25	165 g (5.8 oz)

**TMS 25W C**



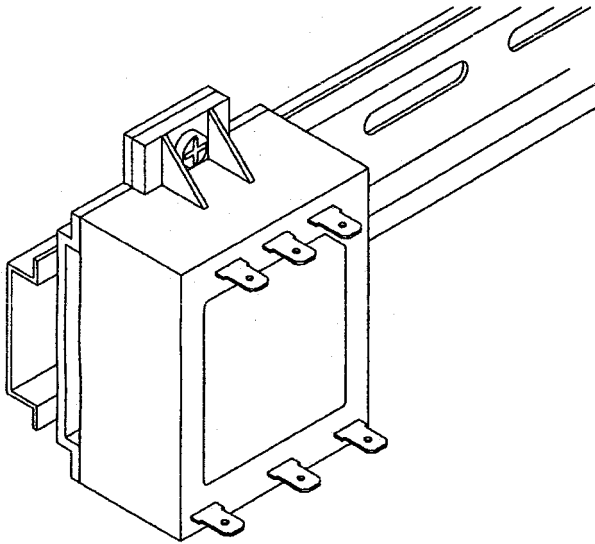
Input- and output screw terminal block: GMKDS 1.5/3-7.62 (Phoenix)

Pin-Out		
Pin	Single	Dual
1	-V out	-V out
2	No function	Common
3	+V out	+V out
4	AC in	AC in
5	AC in	AC in
6	FG	FG

FG = field ground

Specifications can be changed without notice

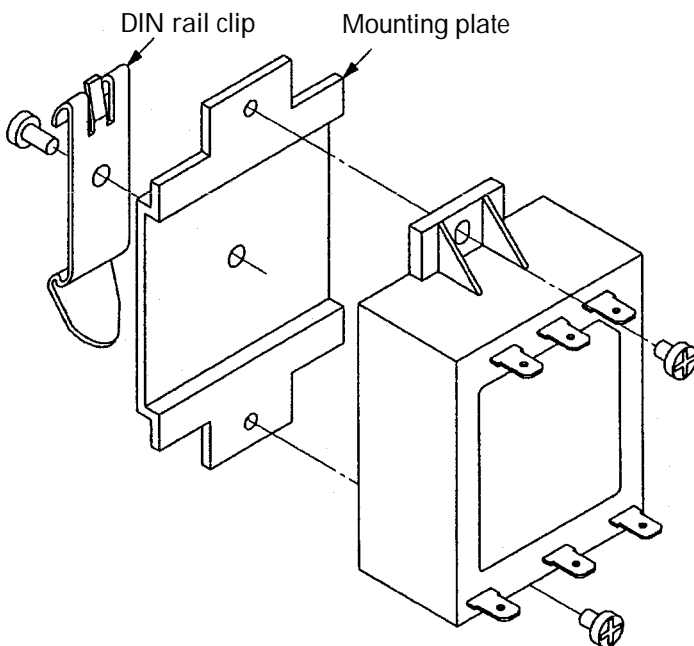
**DIN-Rail Mounting**



**Mounting kit\***

	Order code
TMS 10 Series	<b>TMS-DM10</b>
TMS 15 Series	<b>TMS-DM15</b>
TMS 25 Series	<b>TMS-DM25</b>

\*includes mounting plate, clip and screws



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