

Features

- ◆ Fully encapsulated low profile plastic case
- ◆ Ultra wide 4:1 input voltage range
- ◆ Operating temperature range
-40°C to +85°C
- ◆ Reinforced I/O isolation 2500 VDC
- ◆ Excellent efficiency up to 92 %
- ◆ Input filter to meet EN 55022, class A
- ◆ Optional DIN-Rail mount adapter
- ◆ No minimum load required
- ◆ Input polarity protection
- ◆ Power good LED indicator
- ◆ Remote On/Off
- ◆ 3-year product warranty



The TMDC 60 Series is a range of encapsulated high performance DC/DC converter modules with ultra wide input voltage ranges. With a very high efficiency of up to 92% and the use of highest grade components these 60 W converters can be operated in an ambient temperature range of -40°C up to 70°C with full load and up to 85°C with 50% load reduction. The EMC immunity is aligned for industrial applications and DIN-rail mount adapters are available as option. Input polarity protection remote On/Off function and power good LED indicator makes this unit to a practical and reliable DC source for any application - Fit and forget!

Models

| Order code | Input voltage range | Output voltage | Output current max. | Efficiency |
|--------------|---------------------------------|----------------|---------------------|------------|
| TMDC 60-2411 | 9 – 36 VDC (nominal 24 VDC) | 5.1 VDC | 12'000 mA | 90 % |
| TMDC 60-2412 | | 12 VDC | 5'000 mA | 91 % |
| TMDC 60-2415 | | 24 VDC | 2500 mA | 91 % |
| TMDC 60-2418 | | 48 VDC | 1250 mA | 91 % |
| TMDC 60-4811 | 18 – 75 VDC (nominal 48 VDC) | 5.1 VDC | 12'000 mA | 91 % |
| TMDC 60-4812 | | 12 VDC | 5'000 mA | 92 % |
| TMDC 60-4815 | | 24 VDC | 2500 mA | 91 % |
| TMDC 60-4818 | | 48 VDC | 1250 mA | 91 % |

Input Specifications

| | | |
|--|----------|---|
| Input current at no load (nominal input voltage) | – 24 Vin | 5.1 & 12 VDC models: 100 mA typ. 24 VDC models: 110 mA typ. 48 VDC models: 60 mA typ. |
| | – 48 Vin | 5.1 VDC models: 40 mA typ. 12 & 24 VDC models: 60 mA typ. 48 VDC models: 50 mA typ. |
| Surge voltage (100 msec. max.) | | 24 Vin models: 50 V max. 48 Vin models: 100 V max. |
| Start up time | | 50 ms max. |
| Conducted noise (input) | | EN 55022 class A, FCC part 15 class A (without external components) |
| Start-up voltage / under voltage lockout | | 24 Vin models: 9 VDC max./ 7.5 VDC typ. 48 Vin models: 18 VDC max./ 16 VDC typ. |
| ESD (electrostatic discharge) | | EN 61000-4-2, air ± 8 kV, contact ± 4 kV, perf. criteria A |
| Radiated immunity | | EN 61000-4-3, 10 V/m, perf. criteria A |
| Fast transient / surge (with external input capacitor) | | EN 61000-4-4, ± 2 kV, perf. criteria A EN 61000-4-5, ± 2 kV, perf. criteria A |
| Conducted immunity | | EN 61000-4-6, 10 Vrms, perf. criteria A |

Output Specifications

| | | |
|---|--|--|
| Voltage set accuracy | | ± 2.0 % max. |
| Regulation | – Input variation Vin min. to Vin max. – Load variation 0 – 100 % | 1.5 % max. 1.0 % max. |
| Minimum load | | not required |
| Temperature coefficient | | ± 0.02 %/K |
| Ripple and noise (20 MHz Bandwidth) | | 5.1 VDC models: 100 mVpk-pk. typ. 12 & 24 VDC models: 150 mVpk-pk typ. 48 VDC models: 200 mVpk-pk. typ. |
| Transient response (alignment to 1% at load step change 75% to 100%) | | 250 μ s typ. |
| Over voltage protection | | 120 % of Vout (Zener diode clamp) |
| Output current limitation | | at 150 % of Iout max. |
| Short circuit protection | | hiccup mode, automatic recovery |
| Capacitive load | | 5.1 VDC models: 20'400 μ F max. 12.0 VDC models: 3'540 μ F max. 24.0 VDC models: 890 μ F max. 48.0 VDC models: 220 μ F max. |

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

General Specifications

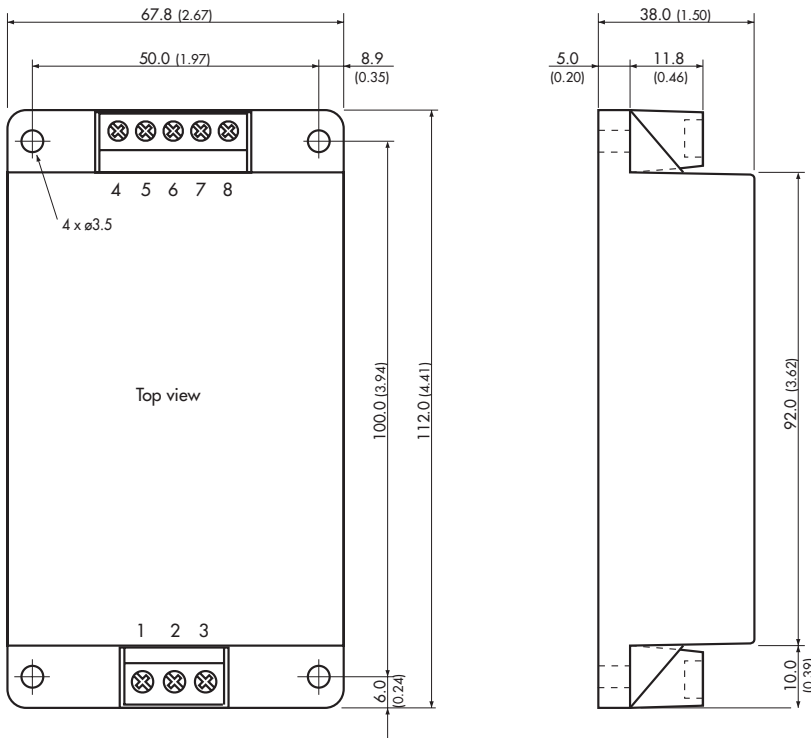
| | | |
|---|--|--|
| Temperature ranges | <ul style="list-style-type: none"> - Operating ambient with natural convection (20 LFM) - IEC/EN/UL60950-1 approved ambient - Case temperature - Storage | -40°C to +85°C (see load derating) +60°C max. (without derating) +95°C max. -50°C to +125°C |
| Load derating (with natural convection 20 LFM) | | 3.3 %/K above +70°C |
| Thermal impedance | - Natural convection 20 LFM | 3.5 K/W |
| Humidity (non condensing) | | 95 % rel H max. |
| Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign) | | 242'029 h |
| Isolation voltage (60 sec.) | - Input/Output | 2500 VDC reinforced |
| Isolation capacitance | - Input/Output | 3000 pF max. (100 kHz, 1 V) |
| Isolation resistance | - Input/Output | >1000 Mohm (500 VDC) |
| Switching frequency | | 210 kHz typ. |
| Remote On/Off | <ul style="list-style-type: none"> - On: - Off: - Off idle current: | 3.5 to 12 VDC to on terminal 1 or open circuit. 0 to +1.2 VDC on terminal 1 reference to -Vin 3 mA typ. |
| Safety standards | <ul style="list-style-type: none"> - CB test report - UL test certificat - Certification documents | UL/cUL 60950-1 2nd edition, IEC 60950-1:2005 (2nd edition)+Am1:2009 +Am2:2013, EN 60950-1:2006+A11:2009+A1: 2010+A12:2011+A2:2013 UL/cUL 60950-1 2nd edition, CSA C22.2 No. 60950-1-07, 2nd Ed. www.tracopower.com/overview/tmdc60 |

Physical Specifications

| | | |
|--------------------------|---|--|
| Casing material | | plastic resin (UL 94V-0 rated) |
| Weight | | 300 g (10.57 oz) |
| Soldering temperature | | max. 260°C / 10 sec. (1.5 mm from casing) |
| Environmental compliance | <ul style="list-style-type: none"> - Reach declaration - RoHS | www.tracopower.com/overview/tmdc60 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

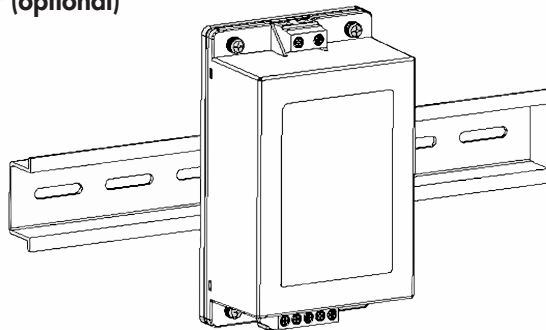


Terminal connection

| Pin | Single |
|-----|---------------|
| 1 | Remote On/Off |
| 2 | -Vin (GND) |
| 3 | +Vin (Vcc) |
| 4 | NC |
| 5 | +Vout |
| 6 | NC |
| 7 | -Vout |
| 8 | NC |

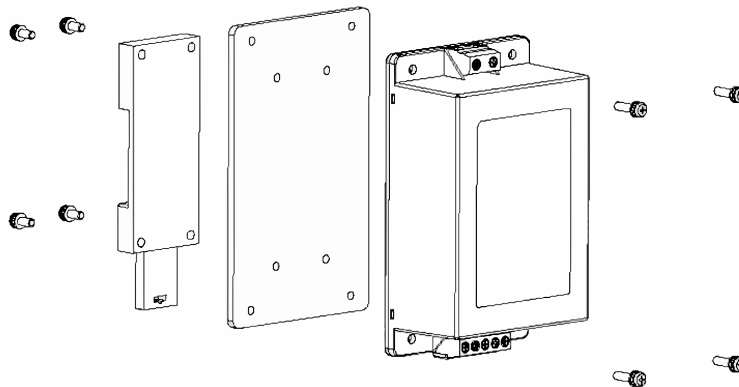
Dimensions in [mm], () = Inch
 Terminals: Wires 1.5mm² max.
 Recommended tightening torque:
 0.5 to 0.7 Nm (4.5 to 6.2 lb.in.)
 Case tolerances: ±0.25 (±0.01)

DIN-Rail mount adapter (optional)



Order code: TMP-MK2

Weight: 59 g (2.08 oz) without converter



Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.