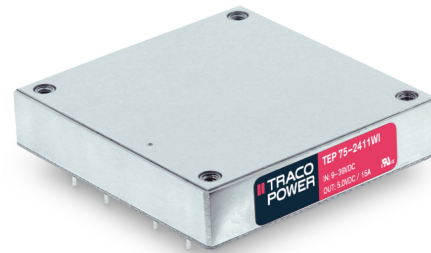


- Rugged, compact metal case
- Screw terminal adaptor available for easy connection
- EN 50155 approval for railway applications
- Ultra wide 4:1 input voltage range
- Full load operation up to +60°C with convection cooling
- Undervoltage lockout
- Reverse input voltage protection
- Input protection filter
- 3-year product warranty



The TEP-75WI Series is a family of isolated high performance DC/DC converter modules with ultra-wide 4:1 input voltage ranges which come in a rugged, sealed metal case. These converters are suitable for a wide range of applications. For easy connection there is also a unique adaptor available with screw terminals. A very high efficiency allows an operating temperature up to +60°C with natural convection cooling without power derating. Further features include output voltage trimming, Remote On/Off and under voltage lockout. The very wide input voltage range and reverse input voltage protection make these converters also an interesting solution for battery operated systems.

| Models | | | | |
|---------------|--------------------------------|---------------------|---------------------|-----------------|
| Order Code | Input Voltage Range | Output Voltage nom. | Output Current max. | Efficiency typ. |
| TEP 75-2411WI | 9 - 36 VDC (24 VDC nom.) | 5 VDC | 15'000 mA | 88 % |
| TEP 75-2412WI | | 12 VDC | 6'300 mA | 88 % |
| TEP 75-2413WI | | 15 VDC | 5'000 mA | 88 % |
| TEP 75-2415WI | | 24 VDC | 3'200 mA | 87 % |
| TEP 75-2416WI | | 28 VDC | 2'700 mA | 87 % |
| TEP 75-2418WI | | 48 VDC | 1'600 mA | 87 % |
| TEP 75-4811WI | 18 - 75 VDC (48 VDC nom.) | 5 VDC | 15'000 mA | 90 % |
| TEP 75-4812WI | | 12 VDC | 6'300 mA | 90 % |
| TEP 75-4813WI | | 15 VDC | 5'000 mA | 89 % |
| TEP 75-4815WI | | 24 VDC | 3'200 mA | 88 % |
| TEP 75-4816WI | | 28 VDC | 2'700 mA | 88 % |
| TEP 75-4818WI | | 48 VDC | 1'600 mA | 87 % |
| TEP 75-7211WI | 43 - 160 VDC (110 VDC nom.) | 5 VDC | 15'000 mA | 91 % |
| TEP 75-7212WI | | 12 VDC | 6'300 mA | 91 % |
| TEP 75-7213WI | | 15 VDC | 5'000 mA | 91 % |
| TEP 75-7215WI | | 24 VDC | 3'200 mA | 90 % |
| TEP 75-7216WI | | 28 VDC | 2'700 mA | 90 % |
| TEP 75-7218WI | | 48 VDC | 1'600 mA | 90 % |

| Options | |
|--|--|
| TEP-HS1 | - Heat-sink for standard version (incl. thermal pad and mounting screws) |
| Suffix -CM | - Chassis mount models without filter: www.tracopower.com/products/tep75wicm.pdf |
| Suffix -CMF | - Chassis mount models with filter to meet EN 55032 class A: www.tracopower.com/products/tep75wicmf.pdf |
| on demand (backorder with MOQ non stocking item) | - Optional model with 3.3 VDC / 20'000 mA Output and 9 - 36 VDC Input - Optional model with 3.3 VDC / 20'000 mA Output and 18 - 75 VDC Input - Optional model with 3.3 VDC / 20'000 mA Output and 43 - 160 VDC Input - Inverse Remote On/Off function (passive = off) |

| Input Specifications | |
|----------------------------|---|
| Input Current | - At no load 24 Vin models: 85 mA typ. 48 Vin models: 60 mA typ. 110 Vin models: 10 mA typ. - At full load 24 Vin models: 3'600 mA max. 48 Vin models: 1'800 mA max. 110 Vin models: 1'350 mA max. |
| Surge Voltage | 24 Vin models: 50 VDC max. (1 s max.) 48 Vin models: 100 VDC max. (1 s max.) 110 Vin models: 185 VDC max. (1 s max.) |
| Under Voltage Lockout | 24 Vin models: 7.3 VDC min. / 7.7 VDC typ. / 8.1 VDC max. 48 Vin models: 15.5 VDC min. / 16 VDC typ. / 16.3 VDC max. 110 Vin models: 33 VDC min. / 34.5 VDC typ. / 36 VDC max. |
| Recommended Input Fuse | 24 Vin models: 15'000 mA (fast acting) 48 Vin models: 8'000 mA (fast acting) 110 Vin models: 3'150 mA (slow blow) (The need of an external fuse has to be assessed in the final application.) |
| Reverse Voltage Protection | Parallel diode (24 Vin and 48 Vin models only) (external input fuse required) |
| Input Filter | Internal Pi-Type (For 24 Vin models an input capacitor 4.7 μ F X7R or 68 μ F Nippon chemi-con KY is recommended for a reliable supply.) |

| Output Specifications | |
|--|--|
| Output Voltage Adjustment | -20% to +10% (By external trim resistor) See application note: www.tracopower.com/overview/tep75wi Output power must not exceed rated power! |
| Voltage Set Accuracy | \pm1% max. |
| Regulation | - Input Variation (Vmin - Vmax) 0.1% max. - Load Variation (0 - 100%) 0.1% max. |
| Ripple and Noise (20 MHz Bandwidth) | 3.3 Vout models: 100 mVp-p max. (with 4.7 μ F) 5 Vout models: 100 mVp-p max. (with 4.7 μ F) 12 Vout models: 125 mVp-p max. (with 4.7 μ F) 15 Vout models: 125 mVp-p max. (with 4.7 μ F) 24 Vout models: 250 mVp-p max. (with 4.7 μ F) 28 Vout models: 250 mVp-p max. (with 4.7 μ F) 48 Vout models: 350 mVp-p max. (with 2.2 μ F) |
| Capacitive Load | 3.3 Vout models: 60'600 μF max. 5 Vout models: 30'000 μF max. 12 Vout models: 5'250 μF max. 15 Vout models: 3'330 μF max. 24 Vout models: 1'330 μF max. 28 Vout models: 960 μF max. 48 Vout models: 330 μF max. |

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

| | |
|------------------------------------|---|
| Minimum Load | Not required |
| Temperature Coefficient | ±0.02 %/K max. |
| Start-up Time | 60 ms typ. (110 Vin models) 25 ms typ. (other models) |
| Short Circuit Protection | Continuous, Automatic recovery |
| Output Current Limitation | 150% typ. of Iout max. (110 Vin models) 110 - 140% (other models) |
| Oversvoltage Protection | 115 - 130% of Vout nom. |
| Transient Response - Response Time | 200 µs typ. / 250 µs max. (25% Load Step) |

Safety Specifications

| | | |
|------------------|--|---|
| Safety Standards | - IT / Multimedia Equipment - Railway Applications - Certification Documents | IEC 60950-1 EN 60950-1 UL 60950-1 EN 50155 www.tracopower.com/overview/tep75wi |
|------------------|--|---|

EMC Specifications

| | | |
|---------------|--|---|
| EMI Emissions | - Conducted Emissions - Radiated Emissions | EN 55011 class B (with external filter) EN 55032 class B (with external filter) EN 55011 class B (with external filter) EN 55032 class B (with external filter) External filter proposal: www.tracopower.com/overview/tep75wi |
| EMS Immunity | - Electrostatic Discharge - RF Electromagnetic Field - EFT (Burst) / Surge - Conducted RF Disturbances - PF Magnetic Field | EN 50155 (Railway Applications) EN 55024 (IT Equipment) Air: EN 61000-4-2, ±8 kV, perf. criteria A Contact: EN 61000-4-2, ±6 kV, perf. criteria A EN 61000-4-3, 20 V/m, perf. criteria A EN 61000-4-4, ±2 kV, perf. criteria A EN 61000-4-5, ±2 kV, perf. criteria A Ext. input component: 24 & 48 Vin models: 2 x KY 220 µF 110 Vin models: 2 x KY 150 µF Continuous: EN 61000-4-6, 10 Vrms, perf. criteria A 1 s: EN 61000-4-8, 100 A/m, perf. criteria A EN 61000-4-8, 1000 A/m, perf. criteria A |

General Specifications

| | | |
|--|--|---|
| Relative Humidity | 95% max. (non condensing) | |
| Temperature Ranges | - Operating Temperature - Case Temperature - Storage Temperature | -40°C to +75°C +105°C max. -55°C to +125°C |
| Power Derating | - High Temperature | See application note: www.tracopower.com/overview/tep75wi |
| Over Temperature Protection Switch Off | - Protection Mode - Measurement Point | 115°C typ. (Automatic recovery at 105°C) Base-Plate |
| Cooling System | | Natural convection (20 LFM) |
| Sense Function | | 10% max. of Vout nom. |
| Remote Control | - Voltage Controlled Remote - Off Idle Input Current | On: 3.0 to 12 VDC or open circuit Off: 0 to 1.2 VDC or short circuit Refers to 'Remote' and '-Vin' Pin 3 mA typ. (Optional models with inverse logic available) |
| Altitude During Operation | | 2'000 m max. |
| Switching Frequency | | 270 - 330 kHz (PWM) 300 kHz typ. (PWM) |

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

| | | |
|--------------------------|--|--|
| Insulation System | | Reinforced Insulation (110 Vin models) Basic Insulation (other models) |
| Isolation Test Voltage | - Input to Output, 60 s - Input to Case, 60 s - Output to Case, 60 s | 3'000 VAC (110 Vin models) 2'121 VAC (other models) 1'500 VAC (110 Vin models) 1'131 VAC (other models) 1'500 VAC (110 Vin models) 1'131 VAC (other models) |
| Isolation Resistance | - Input to Output, 500 VDC | 1'000 MΩ min. |
| Isolation Capacitance | - Input to Output, 100 kHz, 1 V | 2'500 pF max. |
| Reliability | - Calculated MTBF | 336'000 h (MIL-HDBK-217F, ground benign) |
| Environment | - Vibration - Mechanical Shock - Thermal Shock | MIL-STD-810F EN 61373 MIL-STD-810F EN 61373 MIL-STD-810F |
| Housing Material | | Alu base-plate w. plastic case (110 Vin models) Alu base-plate w. metal case (other models) |
| Base Material | | Non-conductive FR4 (UL94 V-0 rated) (24 Vin & 48 Vin models only) |
| Potting Material | | Silicone (UL 94 V-0 rated) |
| Pin Material | | Copper |
| Pin Foundation Plating | | Nickel (2 - 3 μm) |
| Pin Surface Plating | | Tin (3 - 5 μm), matte |
| Connection Type | | THD (Through-Hole Device) |
| Weight | | 97 g |
| Thermal Impedance | - with Heat Sink | 6.7 K/W 4.7 K/W |
| Environmental Compliance | - Reach - RoHS - Flammability (EN 45545-2) | www.tracopower.com/info/reach-declaration.pdf www.tracopower.com/info/rohs-declaration.pdf www.tracopower.com/info/en45545-declaration.pdf |

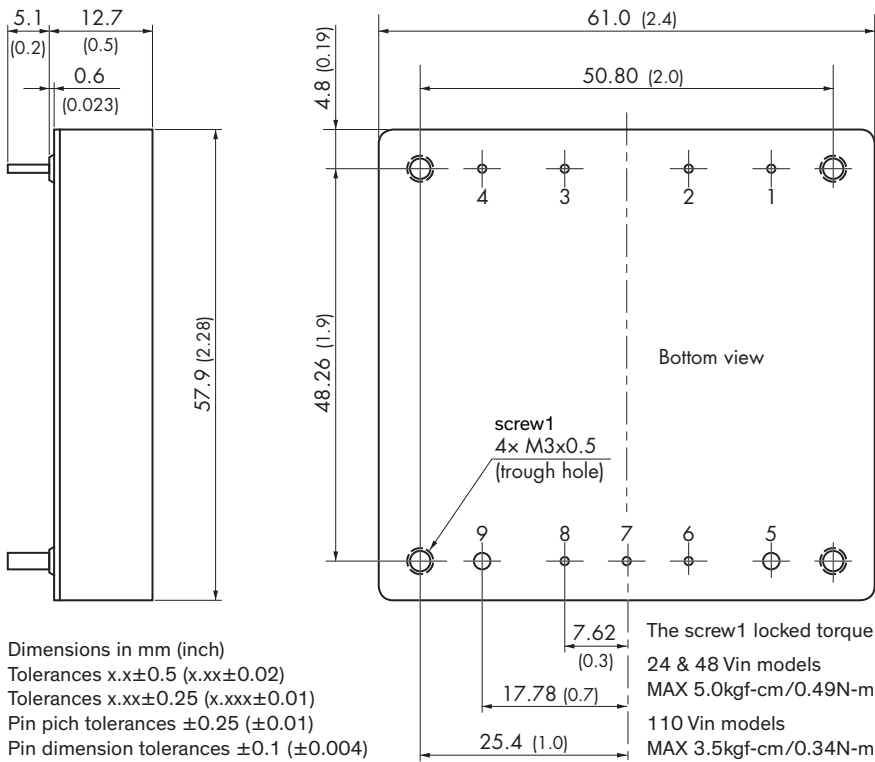
Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/tep75wi

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

Outline Dimensions



| Pinout | |
|--------|------------|
| Pin | Function |
| 1 | -Vin (GND) |
| 2 | Case |
| 3 | Remote |
| 4 | +Vin (Vcc) |
| 5 | -Vout |
| 6 | -Sense* |
| 7 | Trim |
| 8 | +Sense* |
| 9 | +Vout |

*Sense line to be connected to the output either at the module or at the load under regard of polarity.



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

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