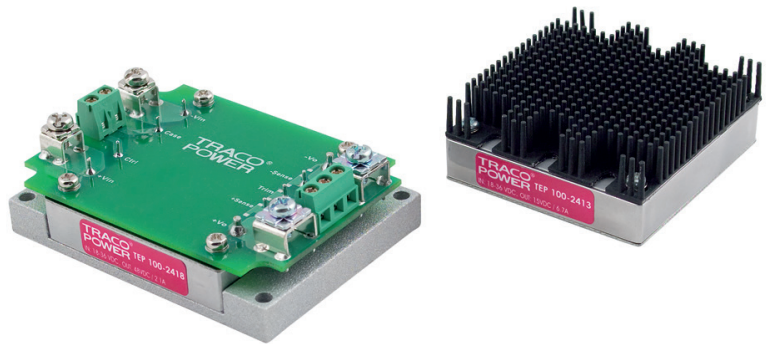


Features

- ◆ Rugged, compact metal case
- ◆ Screw terminal adaptor available for easy connection
- ◆ EN 50155 approval for railway applications
- ◆ Optional DIN-rail mounting kit
- ◆ 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



(Models pictured with chassis mount adaptor / optional heatsink)

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, but the product is designed particularly also for industrial applications where often no PCB mounting is possible but the module has to be mounted on a chassis. Four threaded M3 inserts in the module makes chassis mount or attachment of a heatsink for optimal thermal management very simple. For easy connection there is also an 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 | Output voltage | Output current max. | Efficiency typ. |
| TEP 75-2411WI | 9 – 36 VDC (24 VDC nominal) | 5.0 VDC | 15.0 A | 88 % |
| TEP 75-2412WI | | 12 VDC | 6.3 A | 88 % |
| TEP 75-2413WI | | 15 VDC | 5.0 A | 88 % |
| TEP 75-2415WI | | 24 VDC | 3.2 A | 87 % |
| TEP 75-2416WI | | 28 VDC | 2.7 A | 87 % |
| TEP 75-2418WI | | 48 VDC | 1.6 A | 87 % |
| TEP 75-4811WI | 18 – 75 VDC (48 VDC nominal) | 5.0 VDC | 15 A | 90 % |
| TEP 75-4812WI | | 12 VDC | 6.3 A | 90 % |
| TEP 75-4813WI | | 15 VDC | 5.0 A | 89 % |
| TEP 75-4815WI | | 24 VDC | 3.2 A | 88 % |
| TEP 75-4816WI | | 28 VDC | 2.7 A | 88 % |
| TEP 75-4818WI | | 48 VDC | 1.6 A | 87 % |
| TEP 75-7211WI | 43 – 160 VDC (110 VDC nominal) | 5.0 VDC | 15 A | 91 % |
| TEP 75-7212WI | | 12 VDC | 6.3 A | 91 % |
| TEP 75-7213WI | | 15 VDC | 5.0 A | 91 % |
| TEP 75-7215WI | | 24 VDC | 3.2 A | 90 % |
| TEP 75-7216WI | | 28 VDC | 2.7 A | 90 % |
| TEP 75-7218WI | | 48 VDC | 1.6 A | 90 % |
| on demand | Models with 3.3 VDC / ~ 20 A | | | |
| | Negative (passive = Off) Remote On/Off function (standard is passive = On) | | | |

Options

| | |
|--------------------|--|
| suffix -CM | Chassis mount models with screw terminal block, see page 5 |
| suffix -CMF | Chassis mount models with screw terminal block and input filter to meet EN 55032 class A, see page 5 |
| TEP-HS1 | Heat-sink for standard version (incl. mounting screws and thermal pad), see page 4 |
| TEP-MK1 | Din-rail mounting kit for chassis mount models (incl. mounting screws), see page 6 |
| TCK-xxx | Common mode chokes for filter proposals to meet EN55032 class A/B, see application note |

Input Specifications

| | |
|--|--|
| Input current at no load | 24 Vin; 5 – 15 VDC models: 185 mA typ. 24 Vin; 24 – 48 VDC models: 85 mA typ. 48 Vin; 5 & 12 VDC models: 85 mA typ. 48 Vin; 15 – 48 VDC models: 50 mA typ. 110 Vin; 5 – 48 VDC models: 10 mA typ. |
| Input current at full load | 24 Vin models: 3600 mA typ. (see Note 1) 48 Vin models: 1800 mA typ. 110 Vin models: 1350 mA typ. |
| Start-up voltage / under voltage lockout | 24 Vin models: 9 VDC / 7.5 VDC (or lower) 48 Vin models: 18 VDC / 16 VDC (or lower) 110 Vin models: 43 VDC / 36 VDC (or lower) |
| Surge voltage (100 msec. max.) | 24 Vin models: 50 V max. 48 Vin models: 100 V max. 110 Vin models: 185 V max. |
| Conducted noise | – with option -CMF – for PCB mount version EN 55032 class A, FCC part 15, level A See application note for to meet EN 55032 class A or B |
| EMC immunity | – ESD (electrostatic discharge) – Radiated immunity – Fast transient / surge (with external input capacitor) EN 50121-3-2 EN 61000-4-2, air ±8 kV, contact ±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, EN55024/EN51055 24 & 48 Vin models: Nippon chemi-con KY 220 µF/100V, ESR 48 mOhm 110 Vin models: Ruby-con BXF series, 150µF/200V CMF option models: capacitor included – Conducted immunity – PF Magnetic Field EN 61000-4-6, 10 Vrms, perf. criteria A EN 61000-4-8, 100 A/m, perf. criteria A |
| Reverse voltage protection | parallel diode (external input fuse required) |

Output Specifications

| | |
|---------------------------|--|
| Voltage set accuracy | ±1 % |
| Output voltage adjustment | +10 % / -20 % by external resistor see application note: |
| Regulation | – Input variation Vin min. to Vin max. 0.1 % max. – Load variation (0 – 100 %) 5 – 15 VDC models: 0.1 % max. 24 – 48 VDC models: 0.1 % max. |
| Temperature coefficient | ±0.02 %/K |
| Minimum load | not required |

Note 1:

For 24 VDC input voltage models an input capacitor 4.7µF/50V X7R MLCC or 68µF/100V, 110mOhm Nippon chemi-con KY series is recommended for a reliable supply of the pulse current. Capacitor is already include with chassis mount option **-CM** and **-CMF**