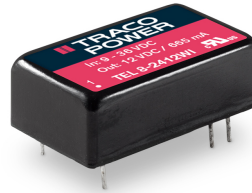


- Ultra compact 8 W converter in DIP-16 metal casing
- Operating temperature range -40°C to +80°C
- Ultra wide 4:1 input range
- Built-in EN 55032 class A filter
- Protection against short circuit
- 3-year product warranty



The TEL 8WI series is a range of isolated 8 Watt converters which come in a very compact DIP-16 metal package. They offer an ultra wide 4:1 input voltage range and feature a high efficiency of up to 86% which allows an operation temperature of up to +70°C at full load and up to 80°C with 50% load. The converters have an internal input filter to comply with conducted emission EN 55032 class A.

The TEL 8WI Series models are an economical solution for space critical and cost sensitive applications in instrumentation, IT and industrial electronics.

| Models | | | | | | |
|--------------|-----------------------------|------------------------------|------------------|----------|------------------|-----------------|
| Order Code | Input Voltage Range | Output 1 | | Output 2 | | Efficiency typ. |
| | | Vnom | I _{max} | Vnom | I _{max} | |
| TEL 8-2410WI | 9 - 36 VDC (24 VDC nom.) | 3.3 VDC | 2'000 mA | | | 78 % |
| TEL 8-2411WI | | 5 VDC | 1'600 mA | | | 82 % |
| TEL 8-2412WI | | 12 VDC | 665 mA | | | 85 % |
| TEL 8-2413WI | | 15 VDC | 535 mA | | | 85 % |
| TEL 8-2415WI | | 24 VDC | 335 mA | | | 86 % |
| TEL 8-2422WI | | +12 VDC | 335 mA | -12 VDC | 335 mA | 85 % |
| TEL 8-2423WI | | +15 VDC | 265 mA | -15 VDC | 265 mA | 86 % |
| TEL 8-4810WI | | 18 - 75 VDC (48 VDC nom.) | 3.3 VDC | 2'000 mA | | |
| TEL 8-4811WI | 5 VDC | | 1'600 mA | | | 81 % |
| TEL 8-4812WI | 12 VDC | | 665 mA | | | 85 % |
| TEL 8-4813WI | 15 VDC | | 535 mA | | | 85 % |
| TEL 8-4815WI | 24 VDC | | 335 mA | | | 86 % |
| TEL 8-4822WI | +12 VDC | | 335 mA | -12 VDC | 335 mA | 86 % |
| TEL 8-4823WI | +15 VDC | | 265 mA | -15 VDC | 265 mA | 86 % |

Input Specifications

| | | |
|------------------------|----------------|---|
| Input Current | - At no load | 24 Vin models: 10 mA typ. 48 Vin models: 8 mA typ. |
| | - At full load | 24 Vin models: 390 mA typ. 48 Vin models: 195 mA typ. |
| Surge Voltage | | 24 Vin models: 50 VDC max. (1 s max.) 48 Vin models: 100 VDC max. (1 s max.) |
| Under Voltage Lockout | | 24 Vin models: 8 VDC typ. 48 Vin models: 16 VDC typ. |
| Recommended Input Fuse | | (The need of an external fuse has to be assessed in the final application.) |
| Input Filter | | Internal Pi-Type |

Output Specifications

| | | |
|---------------------------|---------------------------------|--|
| Voltage Set Accuracy | | ±2% max. |
| Regulation | - Input Variation (Vmin - Vmax) | single output models: 0.8% max. dual output models: 0.8% max. |
| | - Load Variation (0 - 100%) | single output models: 1% max. dual output models: 2% max. (Output 1) 2% max. (Output 2) |
| Ripple and Noise | - 20 MHz Bandwidth | 55 mVp-p max. |
| Capacitive Load | - single output | 3.3 Vout models: 680 µF max. 5 Vout models: 680 µF max. 12 Vout models: 330 µF max. 15 Vout models: 330 µF max. 24 Vout models: 150 µF max. |
| | - dual output | 12 / -12 Vout models: 150 / 150 µF max. 15 / -15 Vout models: 150 / 150 µF max. |
| Minimum Load | | Not required |
| Temperature Coefficient | | ±0.02 %/K max. |
| Start-up Time | | 35 ms typ. |
| Short Circuit Protection | | Continuous, Automatic recovery |
| Output Current Limitation | | 150% typ. of Iout max. |
| Transient Response | - Response Deviation | 5% max. (25% Load Step) |
| | - Response Time | 500 µs max. (25% Load Step) |

Safety Specifications

| | | |
|------------------|-----------------------------|--|
| Safety Standards | - IT / Multimedia Equipment | EN 62368-1 IEC 62368-1 UL 62368-1 |
| | - Certification Documents | www.tracopower.com/overview/tel8wi |
| Pollution Degree | | PD 3 |

EMC Specifications

| | | |
|---------------|---------------------------|---|
| EMI Emissions | - Conducted Emissions | EN 55032 class A (internal filter) EN 55032 class B (with external filter) |
| | - Radiated Emissions | EN 55032 class A (with external filter) |
| | External filter proposal: | www.tracopower.com/overview/tel8wi |

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

| | | |
|--------------|--|--|
| EMS Immunity | <ul style="list-style-type: none"> - Electrostatic Discharge - RF Electromagnetic Field - EFT (Burst) / Surge | 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, ±1 kV, perf. criteria A |
| | <ul style="list-style-type: none"> - Conducted RF Disturbances - PF Magnetic Field | Ext. input component: KY 220 µF Continuous: EN 61000-4-6, 10 Vrms, perf. criteria A EN 61000-4-8, 100 A/m, perf. criteria A 1 s: EN 61000-4-8, 1000 A/m, perf. criteria A |

General Specifications

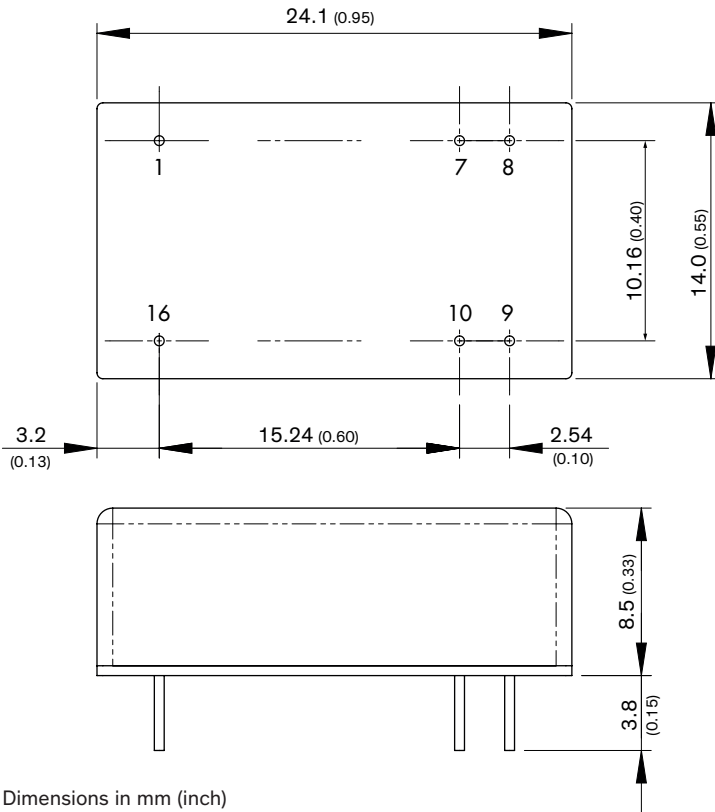
| | | |
|---------------------------|--|---|
| Relative Humidity | | 95% max. (non condensing) |
| Temperature Ranges | <ul style="list-style-type: none"> - Operating Temperature - Case Temperature - Storage Temperature | -40°C to +80°C +105°C max. -50°C to +125°C |
| Power Derating | - High Temperature | 5 %/K above 70°C |
| Cooling System | | Natural convection (20 LFM) |
| Altitude During Operation | | 5'000 m max. |
| Switching Frequency | | 370 kHz typ. (PWM) |
| Insulation System | | Functional Insulation |
| Isolation Test Voltage | <ul style="list-style-type: none"> - Input to Output, 60 s - Input to Output, 1 s | 1'500 VDC 1'800 VDC |
| Isolation Resistance | - Input to Output, 500 VDC | 1'000 MΩ min. |
| Isolation Capacitance | - Input to Output, 100 kHz, 1 V | 500 pF typ. |
| Reliability | - Calculated MTBF | 2'360'000 h (MIL-HDBK-217F, ground benign) |
| Housing Material | | Alu alloy, black anodized coating |
| Pin Material | | Copper Alloy (C6801) |
| Pin Foundation Plating | | Nickel (2 - 4 µm) |
| Pin Surface Plating | | Tin (3 - 5 µm), matte |
| Soldering Profile | | Wave Soldering 260°C / 10 s max. |
| Connection Type | | THD (Through-Hole Device) |
| Weight | | 6.1 g |
| Environmental Compliance | <ul style="list-style-type: none"> - REACH Declaration - RoHS Declaration | www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant www.tracopower.com/info/rohs-declaration.pdf Exemptions: 7a |

Supporting Documents

| | |
|--|--|
| Overview Link (for additional Documents) | www.tracopower.com/overview/tel8wi |
|--|--|

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

Outline Dimensions



Dimensions in mm (inch)
 Tolerances: x.x ±0.5 (±0.02)
 x.xx ±0.25 (±0.01)
 Pin diameter 0.5±0.05 (0.02 ±0.002)

| Pinout | | |
|--------|------------|------------|
| Pin | Single | Dual |
| 1 | -Vin (GND) | -Vin (GND) |
| 7 | NC | NC |
| 8 | NC | Common |
| 9 | +Vout | +Vout |
| 10 | -Vout | -Vout |
| 16 | +Vin (Vcc) | +Vin (Vcc) |

NC: Not connected

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