

Input Specifications

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|------------------------|--|---|
| Input Voltage | - AC Range | Operational Range: 90 - 305 VAC (Full Range) Rated Range: 100 - 277 VAC (Full Range) |
| | - DC Range | Operational Range: 100 - 430 VDC Certified Range: 100 - 250 VDC Polarity: irrelevant (The rated range refers to 62368-1. For 60335-1 certification the rated input voltage is 100 - 240 VAC and DC input is not permitted.) |
| Input Frequency | | Operational Range: 47 - 440 Hz Certified: 50/60 Hz |
| Input Current | - Full Load & Vin = 230 VAC - Full Load & Vin = 115 VAC | 600 mA max. 1'000 mA max. |
| Power Consumption | - No load & Vin = 230 VAC - No load & Vin = 115 VAC | 100 mW max. (Ready to meet ErP directive) 100 mW max. |
| Input Inrush Current | - At 230 VAC - At 115 VAC | 90 A max. 45 A max. |
| Recommended Input Fuse | | 2'500 mA (slow blow) (The need of an external fuse has to be assessed in the final application.) |

Output Specifications

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| Voltage Set Accuracy | | ±2% max. |
| Regulation | - Input Variation (Vmin - Vmax) - Load Variation (0 - 100%) | 2% max. 2.5% max. |
| Ripple and Noise (20 MHz Bandwidth) | 12 VDC model: 15 VDC model: 24 VDC model: | 120 mVp-p max. (w/ 0.1 µF // 4.7 µF) 150 mVp-p max. (w/ 0.1 µF // 4.7 µF) 240 mVp-p max. (w/ 0.1 µF // 4.7 µF) |
| Capacitive Load | 12 VDC model: 15 VDC model: 24 VDC model: | 3'500 µF max. 3'000 µF max. 2'200 µF max. |
| Minimum Load | | Not required |
| Temperature Coefficient | | ±0.05 %/K max. |
| Hold-up Time | - At 230 VAC | 10 ms min. |
| Start-up Time | - At 230 VAC - At 115 VAC | 130 ms max. 130 ms max. |
| Short Circuit Protection | | Continuous, Automatic recovery |
| Output Current Limitation | | 130 - 215% of Iout max. |
| Overvoltage Protection | | 105 - 145% of Vout nom. (By Zener diode) |
| Transient Response | - Response Deviation - Response Time | 2% typ. / 3% max. (50% to 75% Load Step) 500 µs max. (50% to 75% Load Step) |

Safety Specifications

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|-----------------------|-----------------------------|--|
| Safety Standards | - IT / Multimedia Equipment | EN 62368-1 IEC 62368-1 UL 62368-1 |
| | - Household | EN 60335-1 IEC 60335-1 |
| | - Power Transformers | IEC 61558-1 IEC 61558-2-16 |
| | - Certification Documents | www.tracopower.com/overview/tmpw50 |
| | Protection Class | Class I & II (Prepared): Reinforced Insulation |
| Pollution Degree | | PD 2 |
| Over Voltage Category | | OVC II |

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

EMC Specifications

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|---------------|----------------------------------|---|
| EMI Emissions | - Conducted Emissions | EN 55032 class B (internal filter) |
| | - Radiated Emissions | EN 55032 class B (internal filter) |
| | - Voltage Fluctuations & Flicker | EN 61000-3-3 |
| EMS Immunity | | EN 55024 (IT Equipment) |
| | | EN 55035 (Multimedia) |
| | - Electrostatic Discharge | Air: EN 61000-4-2, ± 8 kV, perf. criteria A |
| | | Contact: EN 61000-4-2, ± 4 kV, perf. criteria A |
| | - RF Electromagnetic Field | EN 61000-4-3, 3 V/m, perf. criteria A |
| | - EFT (Burst) / Surge | EN 61000-4-4, ± 1 kV, perf. criteria A |
| | | L to L: EN 61000-4-5, ± 1 kV, perf. criteria A |
| | - Conducted RF Disturbances | EN 61000-4-6, 3 Vrms, perf. criteria A |
| | - PF Magnetic Field | Continuous: EN 61000-4-8, 1 A/m, perf. criteria A |
| | - Voltage Dips & Interruptions | 230 VAC / 50 Hz: EN 61000-4-11 |
| | | 30%, 25 periods, perf. criteria A |
| | | >95%, 250 periods, perf. criteria B |
| | | 115 VAC / 60 Hz: EN 61000-4-11 |
| | | 30%, 25 periods, perf. criteria A |
| | | >95%, 250 periods, perf. criteria B |

General Specifications

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| Relative Humidity | | 95% max. (non condensing) |
| Temperature Ranges | - Operating Temperature | -40°C to +70°C |
| | - Storage Temperature | -40°C to +85°C |
| Power Derating | - High Temperature | 2.5 %/K above 50°C |
| | - Low Input Voltage | 2 %/V below 100 VAC |
| | See application note: www.tracopower.com/overview/tmpw50 | |
| Cooling System | | Natural convection (20 LFM) |
| Altitude During Operation | | 5'000 m max. (acc. IEC 62368-1) |
| | | 2'000 m max. (acc. IEC 60335-1) |
| Switching Frequency | | 55 - 90 kHz (PWM, PFM) |
| Insulation System | | Reinforced Insulation |
| Working Voltage (rated) | | 342 VAC |
| Isolation Test Voltage | - Input to Output, 60 s | 4'000 VAC |
| Leakage Current | - Touch Current | 250 μ A max. |
| Reliability | - Calculated MTBF | 300'000 h (MIL-HDBK-217F, ground benign) |
| Washing Process | | Not allowed |
| Environment | - Vibration | IEC 60068-2-6 |
| | - Mechanical Shock | 2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle IEC 60068-2-27 |
| Housing Material | | Plastic resin (UL 94 V-0 rated) |
| Potting Material | | Silicone (UL 94 V-0 rated) (Hermetical sealed structure, dust-proof only non water-proof) |
| Pin Material | | Brass |
| Pin Surface Plating | | Tin (120 μ m min.), matte |
| Housing Type | | Plastic Case |
| Mounting Type | | PCB Mount |
| Connection Type | | THD (Through-Hole Device) |
| Weight | | 158 g |

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

Environmental Compliance - REACH Declaration

www.tracopower.com/info/reach-declaration.pdf

- RoHS Declaration

REACH SVHC list compliant

REACH Annex XVII compliant

www.tracopower.com/info/rohs-declaration.pdf

Exemptions: 7c-I

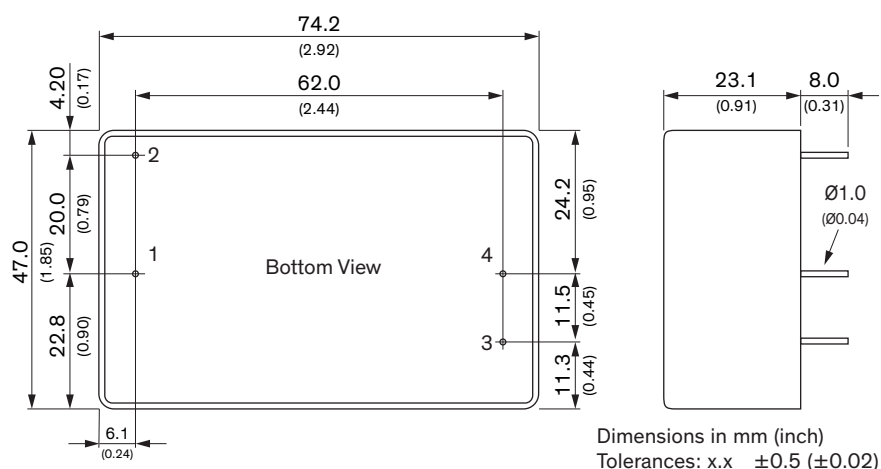
(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).
The SCIP number is provided on request.)

Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/tmpw50

Outline Dimensions



| Pinout | |
|--------|-----------|
| Pin | Function |
| 1 | AC IN (N) |
| 2 | AC IN (L) |
| 3 | -Vout |
| 4 | +Vout |