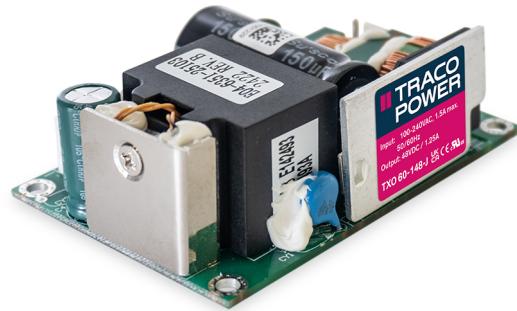


- Compact open frame power supply with pin connectors
- Universal input range 85 to 264 VAC
- Convection cooled (no-fan)
- Operating temperature range: -20°C to +70°C
- Internal EN55032 class B filter
- Short circuit, overvoltage and overload protection
- IEC/EN/UL 62368-1 safety approvals
- Compliance to EN 61000-3-2
- 3-year product warranty



UL 62368-1 IEC 62368-1

The TXO 60 is a compact 60 Watt AC/DC open frame module with reinforced I/O isolation designed for a wide range of cost sensitive applications. Excellent temperature behaviour allows full load operation up to +50°C with convection cooling and up to +70°C with forced air cooling. The TXO 60 series features short circuit protection, over current limitation and overvoltage protection and complies with European EMC standards and the Low Voltage Directive (LVD).

Models

| Order Code | Output Power max. | Output Voltage nom. | Output Current max. | Efficiency typ. |
|--------------|----------------------|------------------------|------------------------|--------------------|
| TXO 60-112-J | 60 W | 12 VDC | 5 A | 85 % |
| TXO 60-115-J | | 15 VDC | 4 A | 85 % |
| TXO 60-124-J | | 24 VDC | 2.5 A | 85 % |
| TXO 60-148-J | | 48 VDC | 1.25 A | 85 % |

Options

| | |
|---|--|
| TCI 130-DC | - Optional Cable: www.tracopower.com/overview/tci130-dc |
| TCI-AC1 | - Optional Cable: www.tracopower.com/overview/tci-ac1 |
| on demand (backorder with MOQ non stocking item) | - Optional model with 36 VDC and 1.67 A - Optional model with 56 VDC and 1.07 A |

Input Specifications

| | | |
|------------------------|--|--|
| Input Voltage | | Operational Range: 85 - 264 VAC (Full Range) Rated Range: 100 - 240 VAC (Full Range) |
| Input Frequency | | Operational Range: 47 - 63 Hz Certified: 50/60 Hz |
| Power Consumption | - No load & Vin = 230 VAC - No load & Vin = 115 VAC | 100 mW max. (Ready to meet ErP directive) 100 mW max. |
| Input Current | - Full load & Vin = 230 VAC - Full load & Vin = 115 VAC | 750 mA max. 1'250 mA max. |
| Input Inrush Current | - At 230 VAC - At 115 VAC | 80 A max. 40 A max. |
| Input Protection | | T 3.15 A / 250 VAC (Internal Fuse in L) |
| Recommended Input Fuse | | 3'150 mA (slow blow) (The need of an external fuse has to be assessed in the final application.) |

Output Specifications

| | | |
|--|---|--|
| Voltage Set Accuracy | | ±2% max. |
| Regulation | - Input Variation (Vmin - Vmax) - Load Variation (10 - 100%) | 0.5% max. 3% max. |
| Ripple and Noise (20 MHz Bandwidth) | | 12 VDC model: 120 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) 15 VDC model: 150 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) 24 VDC model: 240 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) 36 VDC model: 360 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) 48 VDC model: 480 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) 56 VDC model: 560 mVp-p typ. (w/ 10 µF Alu 0.1 µF MLCC) |
| Capacitive Load | | 12 VDC model: 4'600 µF max. 15 VDC model: 3'300 µF max. 24 VDC model: 1'800 µF max. 36 VDC model: 1'060 µF max. 48 VDC model: 500 µF max. 56 VDC model: 360 µF max. |
| Minimum Load | | Not required |
| Temperature Coefficient | | ±3 %/K max. |
| Hold-up Time | - At 230 VAC - At 115 VAC | 60 ms min. 15 ms min. |
| Start-up Time | - At 230 VAC - At 115 VAC | 1.5 s max. 3 s max. |
| Short Circuit Protection | | Continuous, Automatic recovery |
| Output Current Limitation | | 110 - 200% of Iout max. |
| Overvoltage Protection | | 110 - 170% of Vout nom. (Latch mode) |
| Transient Response | - Response Deviation - Response Time | 3% typ. / 5% max. (50% to 75% Load Step) 1 ms typ. / 1.5 ms max. (50% to 75% Load Step) |

Safety Specifications

| | | |
|-----------------------|--|--|
| Standards | - IT / Multimedia Equipment - Certification Documents | EN 62368-1 IEC 62368-1 UL 62368-1 www.tracopower.com/overview/txo60 |
| 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

| | | | |
|-----------------|----------------------------------|---|--|
| EMI (Emissions) | - Conducted Emissions | EN 55032 class B (internal filter) FCC 47 Part 15 class B (internal filter) | |
| | - Radiated Emissions | EN 55032 class B (internal filter) FCC 47 Part 15 class B (internal filter) | |
| | - Harmonic Current Emissions | EN 61000-3-2, class A | |
| | - Voltage Fluctuations & Flicker | EN 61000-3-3 | |
| EMS (Immunity) | - Electrostatic Discharge | EN 55035 (Multimedia) 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 | |
| | - Conducted RF Disturbances | L to L: EN 61000-4-5, ± 1 kV, perf. criteria A 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%, 0.5 periods, perf. criteria A >95%, 250 periods, perf. criteria B | |
| | EMC / Environmental | - Certification Documents | www.tracopower.com/overview/txo60 |

General Specifications

| | | |
|---------------------------|----------------------------|--|
| Relative Humidity | | 95% max. (non condensing) |
| Temperature Ranges | - Operating Temperature | -20°C to +70°C |
| | - Approved Ambient Temp. | +70°C max. (for 50% load) + 5 0 max. (for 100% load) |
| | - Storage Temperature | -40°C to +85°C |
| Power Derating | - High Temperature | 2.5 %/K above 50°C |
| | - Low Input Voltage | 2 %/V below 90 VAC |
| | See application note: | www.tracopower.com/overview/txo60 |
| Cooling System | | Natural convection (20 LFM) |
| Altitude During Operation | | 2'000 m max. |
| Regulator Topology | | Flyback Converter |
| Switching Frequency | | 65 kHz typ. (PWM) |
| Insulation System | | Reinforced Insulation |
| Working Voltage (rated) | | 576 VAC |
| Isolation Test Voltage | - Input to Output, 60 s | 3'000 VAC (4242 VDC) |
| Creepage | - Input to Output | 6 mm min. |
| Clearance | - Input to Output | 6 mm min. |
| Isolation Resistance | - Input to Output, 500 VDC | 100 M Ω min. |
| Leakage Current | - Touch Current | 100 μ A max. |
| (at 264 VAC / 60 Hz) | | |
| Reliability | - Calculated MTBF | 100'000 h (MIL-HDBK-217F, ground benign) |
| Washing Process | | Not allowed |
| Environment | - Vibration | 2.4 g, 3 axis, random waveform, 30 min |
| | - Mechanical Shock | 20 g, 3 axis, 6 shocks |
| Housing Type | | Open Frame |
| Mounting Type | | Chassis Mount |
| Connection Type | | Pin Connector |
| Weight | | 120 g |

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

Environmental Compliance - REACH Declaration

- RoHS Declaration

- SCIP Reference Number

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

REACH SVHC list compliant

REACH Annex XVII compliant

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

Exemptions: 7a

(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule))

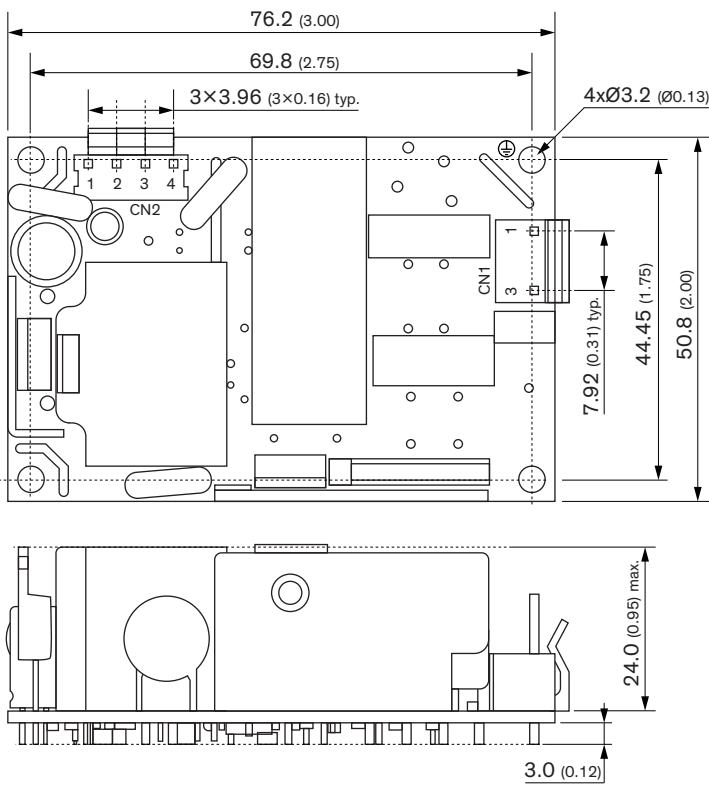
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Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/txo60

Outline Dimensions



Dimensions in mm (inch)

General tolerances: ± 0.5 (± 0.02)

Mounting screw tightening torque: 0.59 Nm max. (6.0 kgfcm max.)

Pin connectors

| Input (CN1) | | Output (CN2) | |
|-------------|----------|--------------|----------|
| Pin | Function | Pin | Function |
| 1 | AC (L) | 1 | -Vout |
| 3 | AC (N) | 2 | |
| | | 3 | +Vout |
| | | 4 | |

Input: WAFER 3-1PIN(NC2)P
mates with 3.96mm JST B3P-VH or equivalent

Output: WAFER 4PIN P
mates with 3.96mm JST B4P-VH or equivalent