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# TRACO POWER

## AC/DC Industrial Power Supply

## TXN 50 Series, 50 Watt

- **Compact metal case with screw terminal block**
- **Universal input 90-264 VAC**
- **High efficiency up to 86%**
- **Compliance to EN 61000-3-2**
- **Short circuit, overvoltage and overload protection**
- **IEC/EN/UL 62368-1 safety approvals**
- **3-year product warranty**



UL 62368-1 IEC 62368-1

The new TXN line comprises a series of cost efficient, metal enclosed AC/DC power supplies and is designed for industrial applications. With a low-profile metal case and screw terminal block connection, they are easy to install in any equipment. The TXN 50 power supplies are completely convection cooled. Internal EMC filter, high IO-isolation and wide temperature range qualify them for numerous industrial applications. These power supplies have universal input and comply with the latest industrial standard IEC/EN/UL 62368-1, European EMC standards and the Low Voltage Directive (LVD).

## Models

| Order Code | Output Power **max.** | Output Voltage **nom.** (adjustable) | Output Current **max.** | Efficiency **typ.** |
|---|---|---|---|---|
| **TXN 50-103** | 33 W | 3.3 VDC (2.9 - 3.6 VDC) | 10'000 mA | 84 % |
| **TXN 50-105** | 50 W | 5 VDC (4.5 - 5.5 VDC) | 10'000 mA | 83 % |
| **TXN 50-112** | | 12 VDC (10.8 - 13.2 VDC) | 4'200 mA | 85 % |
| **TXN 50-115** | | 15 VDC (13.5 - 16.5 VDC) | 3'400 mA | 85 % |
| **TXN 50-124** | | 24 VDC (21.6 - 26.4 VDC) | 2'100 mA | 85 % |
| **TXN 50-148** | | 48 VDC (44.0 - 52.0 VDC) | 1'100 mA | 86 % |

## Options

| | |
|---|---|
| **on demand** (backorder with MOQ non stocking item) | - Optional model with 36 VDC and 1'400 mA |

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## Input Specifications

| | | | |
|---|---|---|---|
| Input Voltage | - AC Range | Operational Range: | 90 - 264 VAC (Full Range) |
| | | Rated Range: | 100 - 240 VAC (Full Range) |
| | - DC Range | Operational Range: | 140 - 340 VDC (Designed for, no certification) |
| | | Polarity: | +DC: L / –DC: N |
| Input Frequency | | Operational Range: | 47 - 63 Hz |
| | | Certified: | 50/60 Hz |
| Power Consumption | - No load & Vin = 230 VAC | | 1 W max. |
| | - No load & Vin = 115 VAC | | 1 W max. |
| Input Current | - Full load & Vin = 230 VAC | | 550 mA max. |
| | - Full load & Vin = 115 VAC | | 1 A max. |
| Input Inrush Current | - At 230 VAC | | 60 A max. |
| | - At 115 VAC | | 30 A max. |
| Input Protection | | | T 3.15 A / 250VAC (Internal Fuse in L) |
| Recommended Input Fuse | | | (The need of an external fuse has to be assessed in the final application.) |

## Output Specifications

| | | | |
|---|---|---|---|
| Output Voltage Adjustment | | | ±8% (36 & 48 Vout output models)<br>±10% (other output models)<br>(By trim potentiometer)<br>Output power must not exceed rated power! |
| Voltage Set Accuracy | | | ±2% max. (3.3 & 5 Vout models)<br>±1% max. (other models) |
| Regulation | - Input Variation (Vmin - Vmax) | | 0.5% max. |
| | - Load Variation (0 - 100%) | | 2% max. (3.3 & 5 Vout models)<br>1% max. (other models) |
| Ripple and Noise<br>(20 MHz Bandwidth) | | 3.3 VDC model: | 80 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 5 VDC model: | 100 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 12 VDC model: | 120 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 15 VDC model: | 120 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 24 VDC model: | 120 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 36 VDC model: | 200 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 48 VDC model: | 200 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| Minimum Load | | | Not required |
| Temperature Coefficient | | | ±0.03 %/K max. |
| Hold-up Time | - At 230 VAC | | 20 ms min. |
| | - At 115 VAC | | 30 ms min. |
| Start-up Time | - At 230 VAC | | 2.5 s max. |
| | - At 115 VAC | | 700 ms max. |
| Start-up Overshoot Voltage | | | 5% max. |
| Short Circuit Protection | | | Continuous, Automatic recovery |
| Output Current Limitation | | | 110 - 160% of Iout max. |
| Overvoltage Protection | | | 110 - 130% of Vout nom. |

## Safety Specifications

| | | |
|---|---|---|
| Standards | - IT / Multimedia Equipment | EN 62368-1<br>IEC 62368-1<br>UL 62368-1 |
| | - Certification Documents | www.tracopower.com/overview/txn50 |
| Protection Class | | Class I (Prepared): Connection to PE |
| Pollution Degree | | PD 2 |
| Over Voltage Category | | OVC II |

All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

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## EMC Specifications

| | | | |
|---|---|---|---|
| EMI (Emissions) | - Conducted Emissions | | EN 55032 class B (internal filter) |
| | - Radiated Emissions | | EN 55032 class B (internal filter) |
| | - Harmonic Current Emissions | | EN 61000-3-2, class A |
| | - Voltage Fluctuations & Flicker | | EN 61000-3-3 |
| EMS (Immunity) | | | EN 55035 (Multimedia) |
| | - Electrostatic Discharge | Air: | EN 61000-4-2, ±8 kV, perf. criteria B |
| | | Contact: | EN 61000-4-2, ±4 kV, perf. criteria B |
| | - RF Electromagnetic Field | | EN 61000-4-3, 10 V/m, perf. criteria B |
| | - EFT (Burst) / Surge | | EN 61000-4-4, ±2 kV, perf. criteria B |
| | | L to L: | EN 61000-4-5, ±1 kV, perf. criteria B |
| | | L to PE: | EN 61000-4-5, ±2 kV, perf. criteria B |
| | - Conducted RF Disturbances | | EN 61000-4-6, 10 Vrms, perf. criteria B |
| | - PF Magnetic Field | Continuous: | EN 61000-4-8, 30 A/m, perf. criteria A |
| | - Voltage Dips & Interruptions | 230 VAC / 50 Hz: | EN 61000-4-11<br>30%, 25 periods, perf. criteria C<br>>95%, 0.5 periods, perf. criteria B<br>>95%, 250 periods, perf. criteria C |
| EMC / Environmental | - Certification Documents | | www.tracopower.com/overview/txn50 |

## General Specifications

| | | | |
|---|---|---|---|
| Relative Humidity | | | 95% max. (non condensing) |
| Temperature Ranges | - Operating Temperature | | –30°C to +70°C |
| | - Storage Temperature | | –30°C to +80°C |
| Power Derating | - High Temperature | | 2 %/K above 50°C (High Temperature)<br>2.0 %/K below –25°C (Low Temperature) |
| | - Low Input Voltage | | 2 %/V below 100 VAC |
| | | See application note: | www.tracopower.com/overview/txn50 |
| Cooling System | | | Natural convection (20 LFM) |
| Altitude During Operation | | | 5'000 m max. |
| Regulator Topology | | | Flyback Converter |
| Switching Frequency | | | 65 kHz typ. (PWM) |
| Insulation System | | | Reinforced Insulation |
| Working Voltage (rated) | | | 540 VAC |
| Isolation Test Voltage | - Input to Output, 60 s | | 3'000 VAC |
| | - Input to Case or PE, 60 s | | 1'500 VAC |
| | - Output to Case or PE, 60 s | | 500 VAC |
| Creepage | - Input to Output | | 7.3 mm min. |
| | - Input to Case or PE | | 3.2 mm min. |
| | - Output to Case or PE | | 2 mm min. |
| Clearance | - Input to Output | | 6.1 mm min. |
| | - Input to Case or PE | | 3.2 mm min. |
| | - Output to Case or PE | | 2 mm min. |
| Isolation Resistance | - Input to Output, 500 VDC | | 100 MΩ min. |
| Isolation Capacitance | - Input to Output, 100 kHz, 1 V | | 1'000 pF max. |
| Leakage Current (at 240 VAC / 60 Hz) | - Earth Leakage Current | | 750 µA max. |
| Reliability | - Calculated MTBF | | 454'000 h (MIL-HDBK-217F, ground benign) |
| Washing Process | | | Not allowed |
| Environment | - Vibration | | 2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle |
| | - Mechanical Shock | | 20 g, 3 axis, 3 shocks |
| Case Ingress Protection | | | IP 20 (acc. IEC 60529) |
| Housing Material | | | Aluminum (Chassis) |
| Housing Type | | | Metal Case |
| Mounting Type | | | Chassis Mount |

All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

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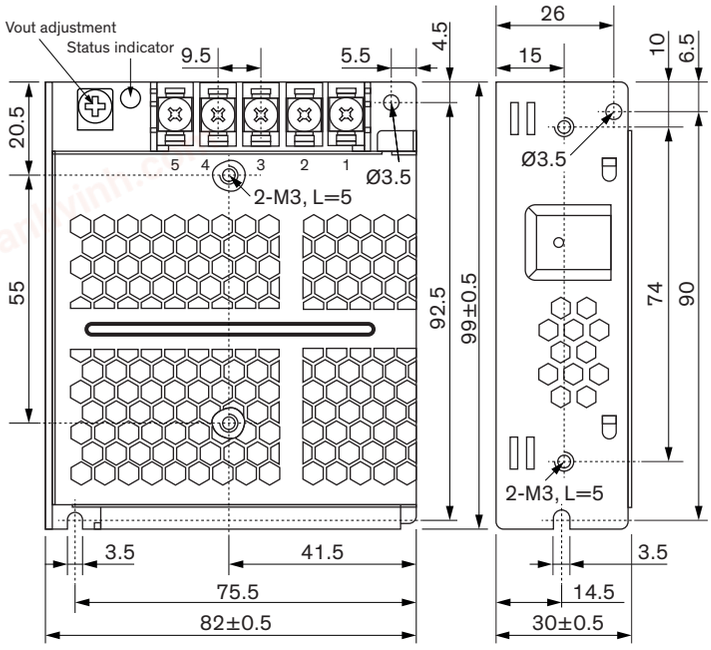


| | | |
|---|---|---|
| Connection Type | | Screw Terminal |
| Weight | | 200 g |
| Status Indicator | | Indicated by green LED |
| Environmental Compliance | - REACH Declaration | www.tracopower.com/info/reach-declaration.pdf |
| | | REACH SVHC list compliant<br>REACH Annex XVII compliant |
| | - RoHS Declaration | www.tracopower.com/info/rohs-declaration.pdf |
| | | Exemptions: 7a, 7c-I<br>(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).) |
| | - SCIP Reference Number | d043d24d-bd1f-4022-8bcb-23643dd4338a |

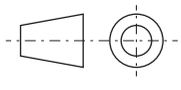
## Supporting Documents

| | |
|---|---|
| Overview Link (for additional Documents) | www.tracopower.com/overview/txn50 |

## Outline Dimensions




Dimensions in mm
Terminal screw tightening torque: Max. 1.0 Nm
Mounting screw tightening torque: Max. 0.8 Nm
Mounting screw penetration depth: Max. 3 mm
Mounting screw length: Max. 5 mm



| Pinout | |
|---|---|
| **Pin** | **Function** |
| **1** | AC (L) |
| **2** | AC (N) |
| **3** | PE |
| **4** | –Vout |
| **5** | +Vout |

**Wiring:** Conductor cross section 0.5 .. 3 mm²

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