# TRACO POWER

## AC/DC Industrial Power Supply

## TXN 35 Series, 35 Watt

- **Compact metal case with screw terminal block**
- **Universal input 90-264 VAC**
- **I/O reinforced isolation 3000 VAC**
- **Internal EN 55032 class B filter**
- **High efficiency up to 86%**
- **Operating temperature range –30°C to 70+°C**
- **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 TXN 35 is a cost efficient, metal enclosed AC/DC power supplies series 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 35 power supplies are completely convection cooled and internal EMC filter, high IO-isolation and wide temperature range qualify them for numerous industrial applications. All models within the TXN 35 series have universal input (90-264 VAC) 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 35-103** | 23 W | 3.3 VDC (3.0 - 3.6 VDC) | 7'000 mA | 81 % |
| **TXN 35-105** | 35 W | 5 VDC (4.5 - 5.5 VDC) | 7'000 mA | 82 % |
| **TXN 35-112** | | 12 VDC (10.8 - 13.2 VDC) | 3'000 mA | 84 % |
| **TXN 35-115** | | 15 VDC (13.5 - 16.5 VDC) | 2'400 mA | 85 % |
| **TXN 35-124** | | 24 VDC (21.6 - 26.4 VDC) | 1'500 mA | 85 % |
| **TXN 35-148** | 38 W | 48 VDC (43.2 - 52.8 VDC) | 750 mA | 86 % |

## Options

| | |
|---|---|
| **on demand** (backorder with MOQ non stocking item) | - Optional model with 36 VDC and 1'000 mA |

## 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 | | 500 mA max. |
| | - Full load & Vin = 115 VAC | | 700 mA max. |
| Input Inrush Current | - At 230 VAC | | 60 A max. |
| | - At 115 VAC | | 30 A max. |
| Input Protection | | | T 3.15 A / 250 VAC (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 | | | ±10% (By trim potentiometer)<br>Output power must not exceed rated power! |
| Voltage Set Accuracy | | | ±1% max. |
| Regulation | - Input Variation (Vmin - Vmax) | | 0.5% max. |
| | - Load Variation (10 - 90%) | | 2% max. (3.3 & 5 Vout models) |
| | | | 1% max. (other models) |
| Ripple and Noise (20 MHz Bandwidth) | | 3.3 VDC model: | 100 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: | 150 mVp-p max. (w/ 0.1 µF \|\| 47 µF) |
| | | 24 VDC model: | 150 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) |
| Capacitive Load | | 3.3 VDC model: | 62'100 µF max. |
| | | 5 VDC model: | 62'100 µF max. |
| | | 12 VDC model: | 19'800 µF max. |
| | | 15 VDC model: | 6'100 µF max. |
| | | 24 VDC model: | 2'000 µF max. |
| | | 36 VDC model: | 1'100 µF max. |
| | | 48 VDC model: | 200 µF max. |
| Minimum Load | | | Not required |
| Temperature Coefficient | | | ±0.03 %/K max. |
| Hold-up Time | - At 230 VAC | | 10 ms min. |
| | - At 115 VAC | | 10 ms min. |
| Start-up Time | - At 230 VAC | | 1.5 s max. |
| | - At 115 VAC | | 1.5 s max. |
| Start-up Overshoot Voltage | | | 2.5% max. |
| Short Circuit Protection | | | Continuous, Automatic recovery |
| Output Current Limitation | | | 105 - 160% of Iout max. |
| Overvoltage Protection | | | 110 - 135% 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/txn35 |

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

| | | | |
|---|---|---|---|
| Protection Class | | | Class I (Prepared): Connection to PE |
| | | See application note: | www.tracopower.com/info/protection-class.pdf |
| Pollution Degree | | | PD 2 |
| Over Voltage Category | | | OVC II |

## EMC Specifications

| | | | |
|---|---|---|---|
| EMI (Emissions) | - Conducted Emissions | | EN 55032 class B (internal filter) |
| | - Radiated Emissions | | EN 55032 class B (internal filter)<br>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) | | | 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/txn35 |

## General Specifications

| | | | |
|---|---|---|---|
| Relative Humidity | | | 95% max. (non condensing) |
| Temperature Ranges | - Operating Temperature | | –30°C to +70°C |
| | - Storage Temperature | | –40°C to +85°C |
| Power Derating | - High Temperature | | 2 %/K above 50°C (average) |
| | - Low Input Voltage | | 2 %/V below 100 VAC |
| | | See application note: | www.tracopower.com/overview/txn35 |
| 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 |
| Isolation Test Voltage | - Input to Output, 60 s | | 3'000 VAC |
| | - Input to Case or PE, 60 s | | 2'500 VDC |
| | - Output to Case or PE, 60 s | | 750 VDC |
| 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 typ. |
| Leakage Current (at 240 VAC / 60 Hz) | - Earth Leakage Current | | 3.5 mA max. |
| Reliability | - Calculated MTBF | | 525'000 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 |

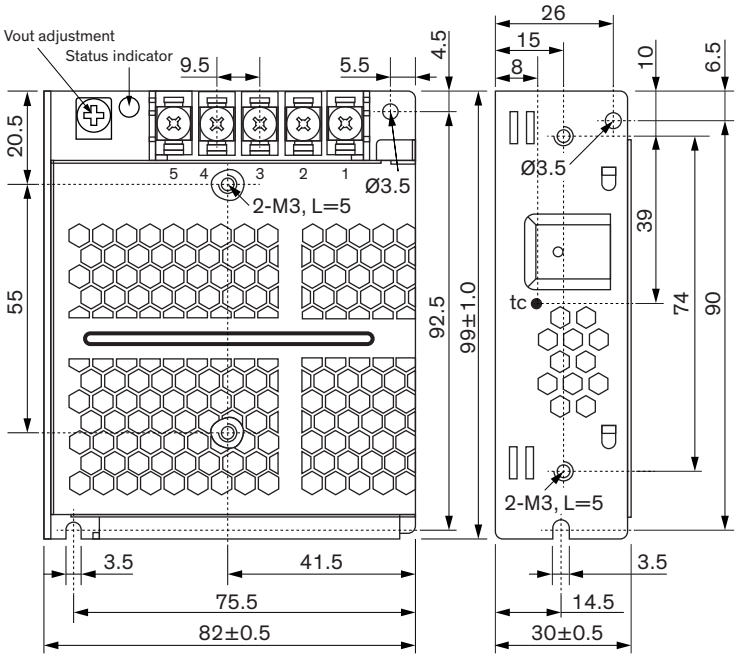
All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

| | | |
|---|---|---|
| Case Ingress Protection | | IP 20 (acc. IEC 60529) |
| Housing Material | | Aluminum (Chassis) |
| Housing Type | | Metal Case |
| Mounting Type | | Chassis Mount |
| 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 |
| | | REACH Annex XVII compliant |
| | - RoHS Declaration | www.tracopower.com/info/rohs-declaration.pdf |
| | | Exemptions: 7(a), 7(c)-I |
| | | (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).) |
| | - SCIP Reference Number | dedc2f3a-63a6-4a0f-a205-369ffca0c1ab |

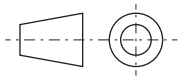
## Additional Information

| | |
|---|---|
| Supporting Documents | www.tracopower.com/overview/txn35 |
| Frequently Asked Questions | www.tracopower.com/glossary-faq |
| Glossary | www.tracopower.com/info/glossary.pdf |

## 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