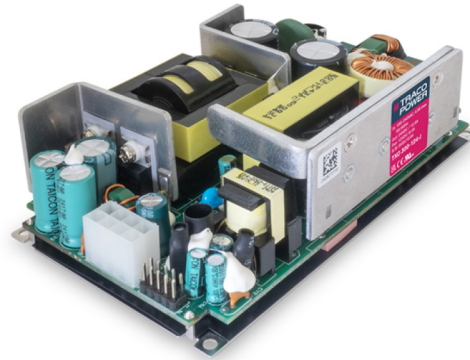


- Industrial AC/DC power supplies for cost sensitive applications
- I/O reinforced isolation 3000 VAC
- Operating temperature range  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Protection class II prepared
- Internal EN 55032 class B filter
- Remote control
- Short circuit, overvoltage and overload protection
- Over temperature switch off
- 3-year product warranty



The TXO 300 is a series of AC/DC open frame power supplies with 300 Watt and a 3000 VAC reinforced isolation system. Our TXO line specifically focuses on providing cost efficient industrial power supplies. High efficiency of up to 88% allows a compact design and an operating temperature range of  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  without derating, while going up to  $+70^{\circ}\text{C}$  with load derating. They feature remote control, come with an active power factor correction and EMC characteristics dedicated for applications in industrial/automation and test & measurement fields. It makes the products an ideal solution for various industrial and cost sensitive applications.

| Models        |                   |                     |  |  |                 |
|---------------|-------------------|---------------------|--|--|-----------------|
| Order Code    | Output Power max. | Output Voltage nom. | Output Current max. (Forced air cooling) | Output Current max. (Natural convection) | Efficiency typ. |
| TXO 300-112-J | 300 W             | 12 VDC              | 25'000 mA                                | 15'000 mA                                | 88 %            |
| TXO 300-115-J |                   | 15 VDC              | 20'000 mA                                | 12'000 mA                                | 88 %            |
| TXO 300-124-J |                   | 24 VDC              | 12'500 mA                                | 8'340 mA                                 | 88 %            |
| TXO 300-148-J |                   | 48 VDC              | 6'250 mA                                 | 4'170 mA                                 | 88 %            |

| Options  |  |
|--|--|
| TCI-AC1  | - Optional Cable: <a href="http://www.tracopower.com/overview/tci-ac1">www.tracopower.com/overview/tci-ac1</a>       |
| TXO 300-AUX                                      | - Optional Cable: <a href="http://www.tracopower.com/overview/txo300-aux">www.tracopower.com/overview/txo300-aux</a> |
| TXO 300-DC                                       | - Optional Cable: <a href="http://www.tracopower.com/overview/txo300-dc">www.tracopower.com/overview/txo300-dc</a>   |
| on demand (backorder with MOQ non stocking item) | - Optional model with 36 VDC and 8'340 mA<br>- Optional model with 56 VDC and 5'360 mA                               |

Note - Total output power must not exceed 180 W (12/15 Vout models) or 200 W (other Vout models) when convection cooled

### Input Specifications

|                        |                             |  |
|------------------------|-----------------------------|--|
| Input Voltage          | - AC Range                  | Operational Range: <b>90 - 264 VAC</b> (Full Range)<br>Rated Range: <b>100 - 240 VAC</b> (Full Range)      |
|                        | - DC Range                  | Operational Range: <b>120 - 370 VDC</b> (Designed for, no certification)<br>Polarity: <b>irrelevant</b>    |
| Input Frequency        |                             | Operational Range: <b>47 - 63 Hz</b><br>Certified: <b>50/60 Hz</b>   |
| Power Consumption      | - No load & Vin = 230 VAC   | <b>3'500 mW max.</b>   |
|                        | - No load & Vin = 115 VAC   | <b>5'000 mW max.</b>   |
| Input Current          | - Full load & Vin = 230 VAC | <b>2'000 mA max.</b>   |
|                        | - Full load & Vin = 115 VAC | <b>4'500 mA max.</b>   |
| Input Inrush Current   | - At 230 VAC                | <b>200 A max.</b>  |
|                        | - At 115 VAC                | <b>100 A max.</b>  |
| Power Factor           | - At 230 VAC                | <b>0.9 min.</b> (Active Power Factor Correction)   |
|                        | - At 115 VAC                | <b>0.9 min.</b> (Active Power Factor Correction)   |
| Input Protection       |                             | <b>5 A / 250 VAC</b> (Internal Fuse in L)  |
| Recommended Input Fuse |                             | <b>5'000 mA</b> (slow blow)<br>(The need of an external fuse has to be assessed in the final application.) |

### Output Specifications

|  |   |  |
|--|---|--|
| Voltage Set Accuracy                   |   | <b>±2% max.</b> (main output)<br><b>±3% max.</b> (Standby output)<br><b>±6% max.</b> (Fan output)  |
| Regulation                             | - Input Variation (Vmin - Vmax)<br>- Load Variation (10 - 100%) | <b>0.5% max.</b> (incl. standby and fan output)<br><b>3% max.</b> (main output)<br><b>3% max.</b> (Standby output)<br><b>10% max.</b> (Fan output)   |
| Ripple and Noise<br>(20 MHz Bandwidth) |   | 12 VDC model: <b>200 mVp-p max.</b><br>15 VDC model: <b>220 mVp-p max.</b><br>24 VDC model: <b>240 mVp-p max.</b><br>48 VDC model: <b>480 mVp-p max.</b><br>36 VDC model: <b>360 mVp-p max.</b><br>56 VDC model: <b>560 mVp-p max.</b> |
| Capacitive Load                        |   | 12 VDC model: <b>20'000 µF max.</b><br>15 VDC model: <b>15'000 µF max.</b><br>24 VDC model: <b>4'000 µF max.</b><br>48 VDC model: <b>1'200 µF max.</b><br>36 VDC model: <b>1'800 µF max.</b><br>56 VDC model: <b>680 µF max.</b>       |
| Minimum Load                           |   | <b>Not required</b>  |
| Temperature Coefficient                |   | <b>±0.05 %/K max.</b>  |
| Hold-up Time                           | - At 230 VAC  | <b>10 ms min.</b>  |
|  | - At 115 VAC  | <b>10 ms min.</b>  |
| Start-up Time                          | - At 230 VAC  | <b>4'000 ms max.</b>   |
|  | - At 115 VAC  | <b>4'000 ms max.</b>   |
| Start-up Overshoot Voltage             |   | <b>10% max.</b>  |
| Short Circuit Protection               |   | <b>Continuous, Automatic recovery</b>  |
| Output Current Limitation              |   | <b>110 - 180% of Iout max.</b>   |
| Overvoltage Protection                 |   | <b>110 - 170% of Vout nom.</b>   |
| Transient Response                     | - Response Deviation  | <b>3% typ. / 5% max.</b> (50% to 75% Load Step)  |
|  | - Response Time   | <b>1'000 µs typ. / 2'000 µs max.</b> (50% to 75% Load Step)  |

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

### Safety Specifications

|                       |                             |  |
|-----------------------|-----------------------------|--|
| Standards             | - IT / Multimedia Equipment | EN 62368-1<br>IEC 62368-1<br>UL 62368-1  |
|                       | - Certification Documents   | <a href="http://www.tracopower.com/overview/txo300">www.tracopower.com/overview/txo300</a> |
| Protection Class      |                             | Class I & II (Prepared): Reinforced Insulation   |
| Pollution Degree      |                             | PD 2   |
| Over Voltage Category |                             | OVC II   |

### EMC Specifications

|                 |                                  |   |  |
|-----------------|----------------------------------|---|--|
| EMI (Emissions) | - Conducted Emissions            | EN 55032 class B (internal filter)<br>FCC 47 Part 15 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)  | - Electrostatic Discharge        | EN 55035 (Multimedia)<br>Air: EN 61000-4-2, $\pm 8$ kV, perf. criteria A<br>Contact: EN 61000-4-2, $\pm 4$ kV, perf. criteria A                   |  |
|                 | - RF Electromagnetic Field       | EN 61000-4-3, 3 V/m, perf. criteria A   |  |
|                 | - EFT (Burst) / Surge            | EN 61000-4-4, $\pm 1$ kV, perf. criteria A  |  |
|                 |                                  | L to L: EN 61000-4-5, $\pm 1$ kV, perf. criteria A  |  |
|                 |                                  | L to PE: EN 61000-4-5, $\pm 2$ 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<br>30%, 25 periods, perf. criteria A<br>>95%, 0.5 periods, perf. criteria A<br>>95%, 250 periods, perf. criteria B |  |
|                 | EMC / Environmental              | - Certification Documents   | <a href="http://www.tracopower.com/overview/txo300">www.tracopower.com/overview/txo300</a> |

### 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)<br>+50°C max. (for 100% load)<br>(for compliance to 62368-1)                           |
|  | - Storage Temperature                      | -40°C to +85°C   |
| Power Derating                         | - High Temperature                         | 2.5 %/K above 50°C   |
|  | - Low Input Voltage                        | 1.5 %/V below 110 VAC (average)  |
|  |  | See application note: <a href="http://www.tracopower.com/overview/txo300">www.tracopower.com/overview/txo300</a> |
| Over Temperature Protection Switch Off | - Protection Mode                          | 103°C typ. / 110°C max. (Automatic recovery at 102°C typ.)   |
|  | - Measurement Point                        | Internal IC temperature  |
| Cooling System                         | - Option 1                                 | Forced air cooling (with external fan, 24 CFM)   |
|  | - Option 2                                 | Natural convection (20 LFM)  |
| Fan Power Source                       | - Characteristic                           | Constant fan speed (continuous)  |
|  | - Output Voltage                           | 12 VDC   |
|  | - Output Current                           | 300 mA max.  |
| Standby Power Source                   | - Output Voltage                           | 5 VDC  |
|  | - Output Current                           | 500 mA max.  |
| Remote Control                         | - Voltage Controlled Remote (passive = on) | Refers to 'Remote' and 'GND' Pin<br>On: 2.5 to 6 VDC or open circuit<br>Off: 0 to 1.0 VDC                        |
| Altitude During Operation              |  | 2'000 m max.   |
| Regulator Topology                     |  | LLC Converter  |

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

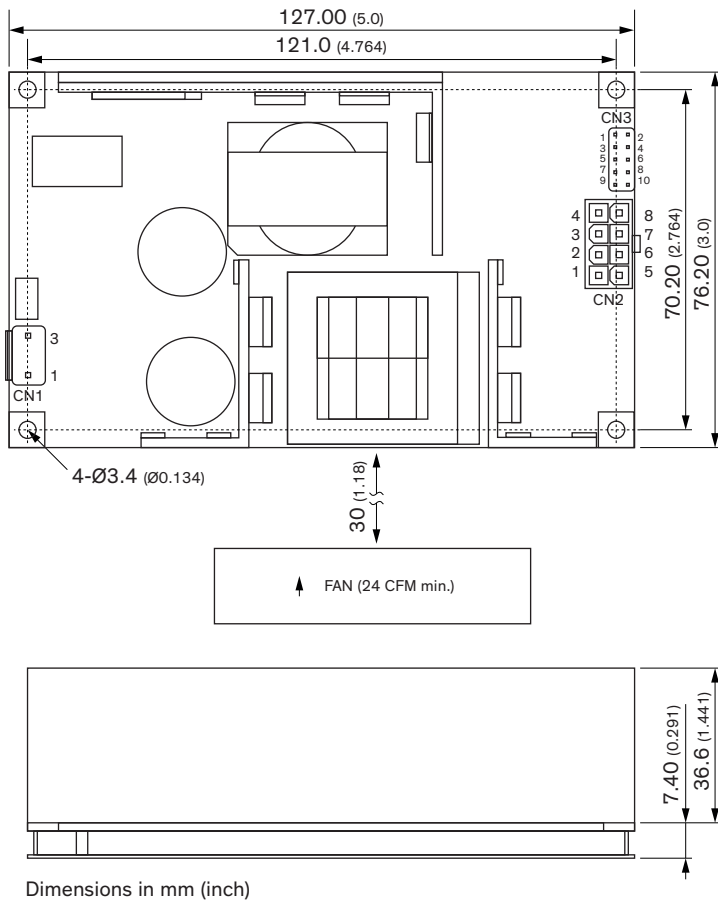
|                                   |  |
|-----------------------------------|--|
| Switching Frequency               | 63 - 282 kHz (PFM) (all models)<br>82 kHz typ. (PFM) (12/56 Vout models)<br>63 kHz typ. (PFM) (15 Vout model)<br>90 kHz typ. (PFM) (24 Vout model)<br>89 kHz typ. (PFM) (36 Vout model)<br>87 kHz typ. (PFM) (48 Vout model) |
| Insulation System                 | Reinforced Insulation  |
| Working Voltage (rated)           | 496 VAC  |
| Isolation Test Voltage            | - Input to Output, 60 s<br>- Input to Case or PE, 60 s<br>- Output to Case or PE, 60 s   |
| Creepage                          | - Input to Output<br>- Input to Case or PE<br>- Output to Case or PE   |
| Clearance                         | - Input to Output<br>- Input to Case or PE<br>- Output to Case or PE   |
| Isolation Resistance              | - Input to Output, 500 VDC   |
| Isolation Capacitance             | - Input to Output, 100 kHz, 1 V  |
| Leakage Current (264 VAC / 60 Hz) | - Earth Leakage Current  |
| Reliability                       | - Calculated MTBF  |
| Washing Process                   |  |
| Environment                       | - Vibration<br><br>- Mechanical Shock  |
| Housing Type                      |  |
| Mounting Type                     |  |
| Connection Type                   |  |
| Weight                            |  |
| Power OK Signal                   | - Trigger Threshold<br><br>- Power OK<br>- Power Off<br><br>- Pin Specifications   |
| Sense Function                    |  |
| Environmental Compliance          | - REACH Declaration<br><br>- RoHS Declaration<br><br>- SCIP Reference Number   |

### Supporting Documents

Overview Link (for additional Documents) [www.tracopower.com/overview/txo300](http://www.tracopower.com/overview/txo300)

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

**Outline Dimensions**



**Pin connectors**

| Input (CN1) |          | Output (CN2) |          |
|-------------|----------|--------------|----------|
| Pin         | Function | Pin          | Function |
| 1           | AC (N)   | 1,2,5,6      | -Vout    |
| 3           | AC (L)   | 3,4,7,8      | +Vout    |

| AUX (CN4) |            |     |          |
|-----------|------------|-----|----------|
| Pin       | Function   | Pin | Function |
| 1         | +Fan       | 2   | GND      |
| 3         | +Standby   | 4   |          |
| 5         | +Remote    | 6   |          |
| 7         | Power Good | 8   |          |
| 9         | +Sense     | 10  |          |

**Input (CN1):** JST series, B3P-VH(LF)(SN), 3.96mm mates with JST crimp terminal: SVH-21T-P1.1 or equivalent and terminal housing: VHR-3N or equivalent

**Output (CN2):** Molex 39-28-8080 Mini-Fit Jr. Vertical Header, 2x4 pins, 4.20mm pitch

**AUX (CN4):** Pin header 2x5 pins, 2.54mm pitch mates with JST RF