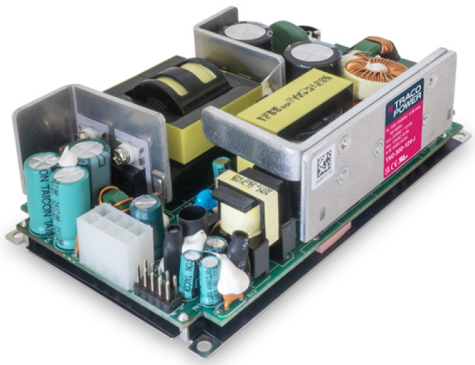
TRACO POWER

AC/DC Power Supply

TXO 300 Series, 300 Watt

- **Industrial AC/DC power supplies for cost sensitive applications**
- **I/O reinforced isolation 3000 VAC**
- **Operating temperature range –20°C to +70°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**



UL 62368-1 IEC 62368-1

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°C to +50°C without derating, while going up to +70°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: www.tracopower.com/overview/tci-ac1
TXO 300-AUX	- Optional Cable: www.tracopower.com/overview/txo300-aux
TXO 300-DC	- Optional Cable: www.tracopower.com/overview/txo300-dc
on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 8'340 mA - 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

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

Output Specifications

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

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

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Safety Specifications

Standards	- IT / Multimedia Equipment		EN 62368-1 IEC 62368-1 UL 62368-1
	- Certification Documents		www.tracopower.com/txo300-safety-cert
Protection Class			Class I & II (Prepared): Reinforced Insulation
		See application note:	www.tracopower.com/overview/txo300
Energy Source	- Output, acc. to 62368-1		ES1
Power Source	- Output, acc. to 62368-1		PS3
Pollution Degree			PD 2
Over Voltage Category			OVC II

EMC Specifications

EMI (Emissions)	- Conducted Emissions		EN 55032 class A (internal filter) EN 55032 class B (internal filter) FCC 47 Part 15 class A (internal filter) FCC 47 Part 15 class B (internal filter)
	- Radiated Emissions		EN 55032 class A (internal filter) EN 55032 class B (internal filter) FCC 47 Part 15 class A (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)			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
		L to PE:	EN 61000-4-5, ±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 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/txo300-emc-cert

General Specifications

Relative Humidity			95% max. (non condensing)
Temperature Ranges	- Operating Temperature		−20°C to +70°C
	- Approved Ambient Temp.	62368-1:	+70°C max. (for 50% load)
		62368-1:	+50°C max. (for 100% load)
	- 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:	www.tracopower.com/txo300-cc
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.

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Standby Power Source	- Output Voltage - Output Current	5 VDC 500 mA max.
Remote Control	- Voltage Controlled Remote (passive = on)	On: 2.5 to 6 VDC or open circuit Off: 0 to 1.0 VDC or short circuit Refers to 'Remote' and 'GND' Pin
Altitude During Operation		2'000 m max.
Regulator Topology		LLC Converter
Switching Frequency		63 - 282 kHz (PFM) (all models) 82 kHz typ. (PFM) (12/56 Vout models) 63 kHz typ. (PFM) (15 Vout model) 90 kHz typ. (PFM) (24 Vout model) 89 kHz typ. (PFM) (36 Vout model) 87 kHz typ. (PFM) (48 Vout model)
Insulation System		Reinforced Insulation
Working Voltage (rated)		496 VAC
Isolation Test Voltage	- Input to Output, 60 s - Input to Case or PE, 60 s - Output to Case or PE, 60 s	3'000 VAC (4'242 VDC) 2'500 VDC 500 VDC
Creepage	- Input to Output - Input to Case or PE - Output to Case or PE	6 mm min. 3 mm min. 0.9 mm min.
Clearance	- Input to Output - Input to Case or PE - Output to Case or PE	6 mm min. 3 mm min. 0.9 mm min.
Isolation Resistance	- Input to Output, 500 VDC	100 MΩ min.
Isolation Capacitance	- Input to Output, 100 kHz, 1 V	1'940 pF typ. / 2'328 pF max.
Leakage Current (264 VAC / 60 Hz)	- Earth Leakage Current	300 µA max.
Reliability	- Calculated MTBF	228'000 h (12 Vout model) 246'000 h (15 Vout model) 284'000 h (24 Vout model) 336'000 h (36 Vout model) 333'000 h (48 Vout model) 326'000 h (56 Vout model) (MIL-HDBK-217F, ground benign)
Washing Process		Not allowed
Environment	- Vibration - Mechanical Shock	2.4 g, 3 axis, random waveform, 50-500 Hz, 10 min/axis 20 g, 3 axis, half sine, 10 ms, total 6 shocks
Housing Type		Open Frame
Mounting Type		Chassis Mount
Connection Type		Pin Connector
Weight		420 g
Power OK Signal		Voltage source output
	- Trigger Threshold	12 VDC model: 11.16 - 11.93 VDC 15 VDC model: 13.92 - 14.88 VDC 24 VDC model: 22.35 - 23.89 VDC 48 VDC model: 44.54 - 47.61 VDC 36 VDC model: 33.52 - 35.84 VDC 56 VDC model: 52.19 - 55.79 VDC
	- Power OK - Power Off	High level Low level (Refers to 'PG' and 'GND' Pin)
	- Pin Specifications	Sink current: 10 mA max.
Sense Function		10% max. of Vout nom. (If sense function is not used, sense pins should be left open/floating.)

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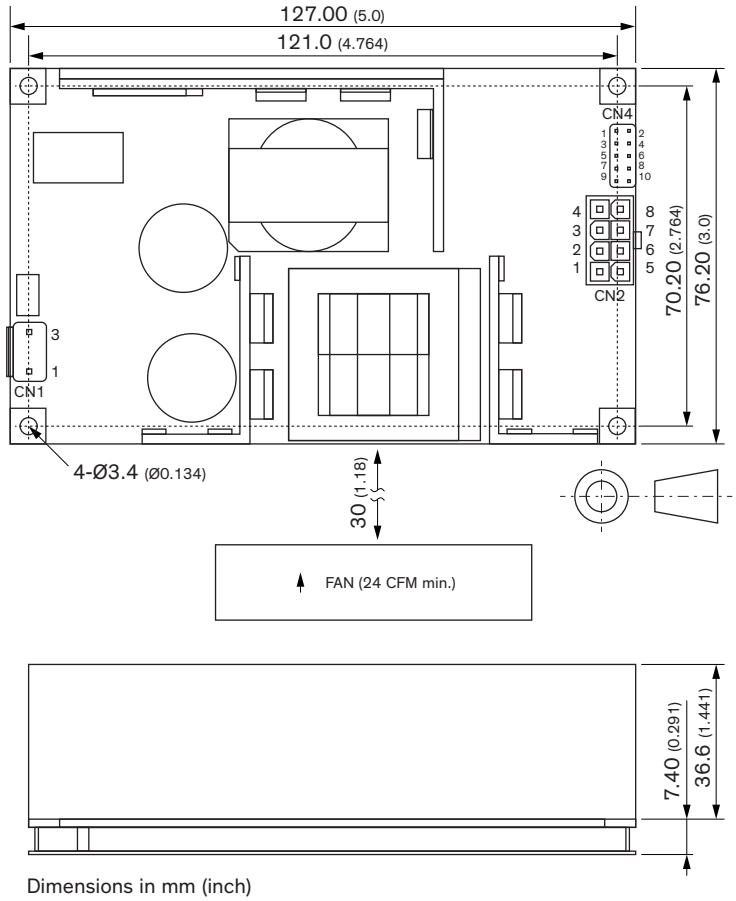
Environmental Compliance	- REACH Declaration	www.tracopower.com/info/reach-declaration.pdf
		REACH SVHC list compliant REACH Annex XVII compliant
	- RoHS Declaration	www.tracopower.com/info/rohs-declaration.pdf
		Exemptions: 7(a) (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
	- SCIP Reference Number	a03bab39-4fd8-4875-be2d-53bddc721746

Additional Information

Supporting Documents	www.tracopower.com/overview/txo300
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf
Service Portal	www.tracoserviceportal.com

Outline Dimensions



Dimensions in mm (inch)

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**	–Sense

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, 2×4 pins, 4.20mm pitch

AUX (CN4)**:** Pin header 2×5 pins, 2.54mm pitch mates with JST RF

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