TRACO POWER

AC/DC Industrial Power Supply

TXN 500 Series, 500 Watt

- **Compact metal case with screw terminal block**
- **Universal input 90-264 VAC**
- **I/O reinforced isolation 3000 VAC**
- **Active power factor correction >0.9**
- **Internal EN 55032 class B filter**
- **High efficiency up to 93%**
- **Operating temperature range –30°C to +70°C**
- **Short circuit, overvoltage and overload protection**
- **Remote ON/OFF, Remote Sense function**
- **IEC/EN/UL 62368-1 safety approvals**
- **3-year product warranty**

UL 62368-1 IEC 62368-1

The TXN 500 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. Active PFC (>0.9), internal EMC filter, high IO-isolation and wide temperature range qualify them for numerous industrial applications. All models within the TXN 500 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 500-112	500 W	12 VDC (10.8 - 13.2 VDC)	41'700 mA	90 %
TXN 500-115		15 VDC (13.5 - 16.5 VDC)	33'400 mA	90 %
TXN 500-124		24 VDC (21.6 - 26.4 VDC)	21'000 mA	92 %
TXN 500-148		48 VDC (43.2 - 50.4 VDC)	10'500 mA	93 %

Options

TXN-AUX2	- Optional Cable: www.tracopower.com/overview/txn-aux2
on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 13'800 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		621 mW max. (Ready to meet ErP directive)
	- No load & Vin = 115 VAC		655 mW max.
Input Current	- Full load & Vin = 230 VAC		2'700 mA max.
	- Full load & Vin = 115 VAC		5'700 mA max.
Input Inrush Current	- At 230 VAC		50 A max.
	- At 115 VAC		20 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			T 10 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% to +5% (48 Vout model) ±10% (other models) (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy			±1% max.
Regulation	- Input Variation (Vmin - Vmax)		0.5% max.
	- Load Variation (0 - 100%)		1% max.
Ripple and Noise (20 MHz Bandwidth)		12 VDC model:	200 mVp-p typ. (w/ 0.1 µF || 47 µF)
		15 VDC model:	250 mVp-p typ. (w/ 0.1 µF || 47 µF)
		24 VDC model:	200 mVp-p typ. (w/ 0.1 µF || 47 µF)
		36 VDC model:	320 mVp-p typ. (w/ 0.1 µF || 47 µF)
		48 VDC model:	320 mVp-p typ. (w/ 0.1 µF || 47 µF)
Capacitive Load		12 VDC model:	42'300 µF max.
		15 VDC model:	42'300 µF max.
		24 VDC model:	19'800 µF max.
		36 VDC model:	13'000 µF max.
		48 VDC model:	6'100 µF max.
Minimum Load			Not required
Hold-up Time	- At 230 VAC		6 ms min.
Start-up Time	- At 230 VAC		1'000 ms max.
Short Circuit Protection			Continuous, Automatic recovery 110 - 150% of Iout nom.
Overvoltage Protection			115% typ. of Vout nom.

Safety Specifications

Standards	- IT / Multimedia Equipment		EN 62368-1 IEC 62368-1 UL 62368-1
	- Certification Documents		www.tracopower.com/overview/txn500
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

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

EMC Specifications

EMI (Emissions)	- Conducted Emissions		EN 55032 class A (internal filter)
			EN 55032 class B (internal filter)
	- Radiated Emissions		EN 55032 class A (internal filter)
			EN 55032 class B (internal filter)
EMS (Immunity)			EN 61000-6-2 (Generic Industrial)
	- Electrostatic Discharge	Air:	EN 61000-4-2, ±4 kV, perf. criteria B
		Contact:	EN 61000-4-2, ±8 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
	- Voltage Dips & Interruptions	230 VAC / 50 Hz:	EN 61000-4-11
			30%, 25 periods, perf. criteria C
			>95%, 0.5 periods, perf. criteria B
			>95%, 250 periods, perf. criteria C
EMC / Environmental	- Certification Documents		www.tracopower.com/overview/txn500

General Specifications

Relative Humidity			95% max. (non condensing)
Temperature Ranges	- Operating Temperature		–30°C to +70°C
	- Storage Temperature		–40°C to +80°C
Power Derating	- High Temperature		2.5 %/K above 50°C
		See application note:	www.tracopower.com/overview/txn500
Over Temperature Protection Switch Off	- Protection Mode		Automatic recovery
Cooling System			Forced air cooling (with internal fan)
Remote Control	- Voltage Controlled Remote (passive = on)		On: < 0.6 VDC or open circuit Off: 4 to 10 VDC Refers to '+Remote' and '-Remote' Pin
Altitude During Operation			2'000 m max.
Regulator Topology			LLC Converter
Switching Frequency			55 - 250 kHz (PFM)
Insulation System			Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s		4'000 VDC
	- Input to Case or PE, 60 s		2'500 VDC
	- Output to Case or PE, 60 s		750 VDC
Isolation Resistance	- Input to Output, 500 VDC		100 MΩ min.
Leakage Current (at 240 VAC)	- Earth Leakage Current		3.5 mA max.
	- Touch Current		250 µA max.
Reliability	- Calculated MTBF		142'600 h (MIL-HDBK-217F, ground benign)
Environment	- Vibration		2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle
	- Mechanical Shock		20 g, 3 axis, 3 shocks
Housing Type			Metal Case
Mounting Type			Chassis Mount
Connection Type			Screw Terminal
Weight			970 g
Status Indicator			Indicated by green LED
Sense Function			(0.2 V max.)

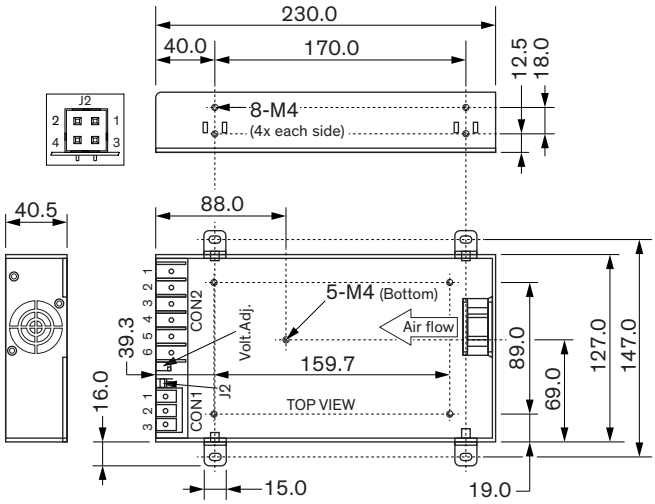
All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

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	0a2c409a-1ecc-4b12-91e4-43f960573514

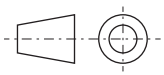
Additional Information

Supporting Documents	www.tracopower.com/overview/txn500
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf

Outline Dimensions



Dimensions in mm
Terminals screw tightening torque: Max. 1.2 Nm
Mounting screw tightening torque: Max. 0.8 Nm
Mounting screw penetration depth: Max. 3 mm



Pin connectors

Input (CON1)		Output (CON2)	
Pin	**Function**	**Pin**	**Function**
1	PE	**1**	+Vout
2	AC (N)	**2**	
3	AC (L)	**3**	
AUX (J2)		**4**	−Vout
1	+Remote	**5**	
2	−Remote	**6**	
3	+Sense		
4	−Sense		

Input: Screw terminal, M4×7
Wire gauge range: 22-12 AWG (≙ 0.32-3.3mm²)

Output: Screw terminal, M4×7
Wire gauge range: 22-12 AWG (≙ 0.32-3.3mm²)