TRACO POWER

AC/DC Power Supply

TXN 1000 Series, 1000 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 92%**
- **Operating temperature range –30°C to 70+°C**
- **Short circuit, overvoltage, overtemperature and overload protection**
- **IEC/EN/UL 62368-1 safety approvals**
- **Remote on-off and load share function**
- **3-year product warranty**

UL 62368-1 IEC 62368-1

The TXN 1000 is a cost efficient, metal enclosed AC/DC power supplies series 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 1000 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 1000-112	960 W	12 VDC (10.8 - 13.2 VDC)	80'000 mA	89 %
TXN 1000-115		15 VDC (13.5 - 16.5 VDC)	64'000 mA	89 %
TXN 1000-124	1000 W	24 VDC (21.6 - 26.4 VDC)	41'600 mA	91 %
TXN 1000-148		48 VDC (45.6 - 50.4 VDC)	21'000 mA	92 %

Options

TXN1000-AUX1	- Optional Cable: www.tracopower.com/overview/txn1000-aux1
TXN1000-AUX2	- Optional Cable: www.tracopower.com/overview/txn1000-aux2
on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 28'000 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
Input Current	- Full load & Vin = 230 VAC		6 A max.
	- Full load & Vin = 115 VAC		12 A max.
Power Factor	- At 230 VAC		0.9 min. (Active Power Factor Correction)
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% (36 Vout model) ±5% (48 Vout model) ±10% (other models) (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy			±2% max.
Regulation	- Input Variation (Vmin - Vmax)		0.5% max.
	- Load Variation		2% max.
Ripple and Noise (20 MHz Bandwidth)		12 VDC model:	200 mVp-p typ. (w/ 0.1 µF || 47 µF)
		15 VDC model:	200 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:	200 mVp-p typ. (w/ 0.1 µF || 47 µF)
		48 VDC model:	300 mVp-p typ. (w/ 0.1 µF || 47 µF)
Capacitive Load		12 VDC model:	62'100 µF max.
		15 VDC model:	62'100 µF max.
		24 VDC model:	62'100 µF max.
		36 VDC model:	35'200 µF max.
		48 VDC model:	22'000 µF max.
Minimum Load			Not required
Temperature Coefficient			±0.03 %/K max.
Hold-up Time	- At 230 VAC		10 ms min.
Start-up Time	- At 230 VAC		3 s max.
Short Circuit Protection			Continuous, Automatic recovery
			110 - 150% of Iout nom.
Overvoltage Protection			110 - 140% of Vout nom.
Load Share Function	- Refer to application note		www.tracopower.com/overview/txn1000
Load Share Accuracy			5%

Safety Specifications

Standards	- IT / Multimedia Equipment		EN 62368-1 IEC 62368-1 UL 62368-1
	- Certification Documents		www.tracopower.com/overview/txn1000
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 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, ±2 kV, perf. criteria B
		L to PE:	EN 61000-4-5, ±4 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/txn1000

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
	- Low Input Voltage		1 %/V below 110 VAC
		See application note:	www.tracopower.com/overview/txn1000
Over Temperature Protection Switch Off	- Protection Mode		70°C to 78°C (Automatic recovery at 65°C typ.)
	- Measurement Point		Case
Cooling System			Forced air cooling (with internal fan)
Remote Control	- Voltage Controlled Remote (passive = on)		Refers to '+Remote' and '-Remote' Pin On: < 0.6 VDC or open circuit or short circuit Off: 1 to 10 VDC
Altitude During Operation			2'000 m max.
Regulator Topology			LLC Converter
Switching Frequency			85 - 350 kHz (PFM)
Insulation System			Reinforced Insulation
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
Isolation Resistance	- Input to Output, 500 VDC		100 MΩ min.
Reliability	- Calculated MTBF		100'300 h (MIL-HDBK-217F, ground benign)
Housing Material			Aluminum
Housing Type			Metal Case
Mounting Type			Chassis Mount
Connection Type			Screw Terminal
Weight			1'200 g
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	86cc94e7-6f67-42a5-b22b-e507610fcf84

Additional Information

Supporting Documents	www.tracopower.com/overview/txn1000
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf

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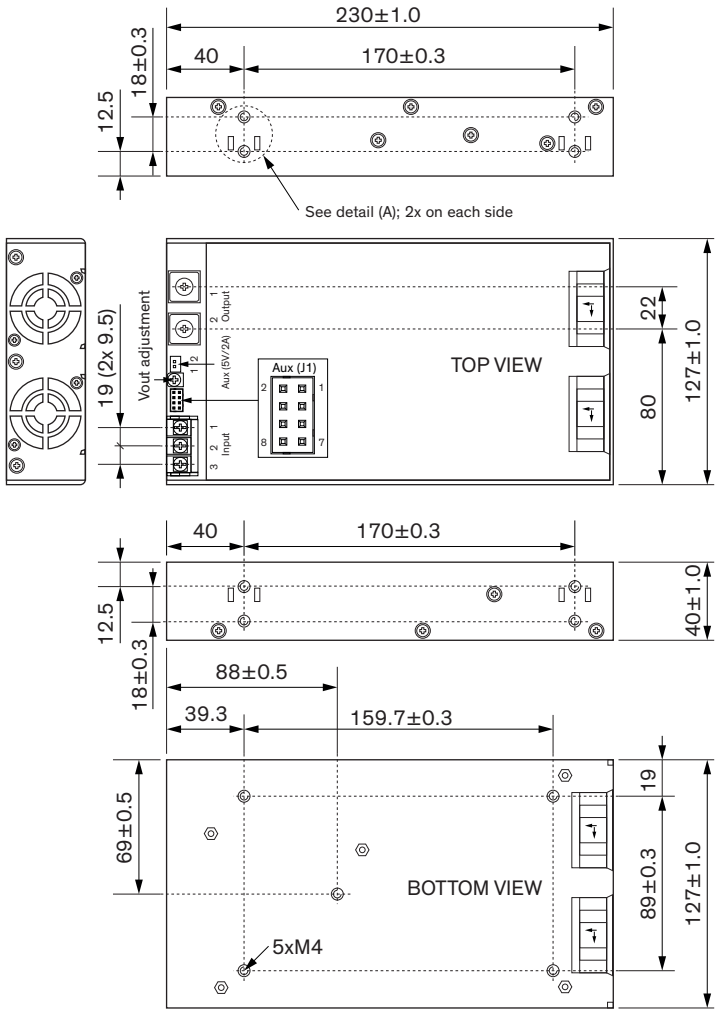
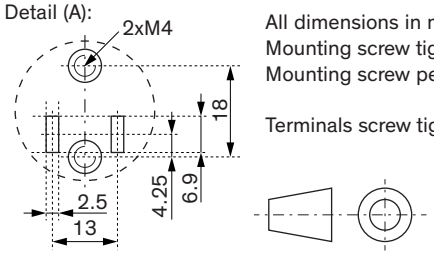
Outline Dimensions



Detail (A):



All dimensions in mm
Mounting screw tightening torque: Max. 0.8 Nm
Mounting screw penetration depth: Max. 4 mm

Terminals screw tightening torque: Max. 1.2 Nm

Pin connectors			
Input		**Output**	
Pin	**Function**	**Pin**	**Function**
1	PE	**1**	+Vout
2	AC (N)	**2**	–Vout
3	AC (L)	**Aux (J1)**	
Aux (5V/2A)		**Pin**	**Function**
Pin	**Function**	**1**	Load Share
1	+5V/2A	**2**	Power Good
2	GND	**3**	+Remote
		4	–Remote
		5	NC
		6	GND
		7	+Sense
		8	–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)