TRACO POWER

AC/DC Power Supply

TXN 150 Series, 150 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 90%**
- **Operating temperature range –30°C to 70+°C**
- **Short circuit, overvoltage and overload protection**
  Remote ON/OFF function
- **IEC/EN/UL 62368-1 safety approvals**
- **3-year product warranty**

UL 62368-1 IEC 62368-1

The TXN 150 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 150 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 150-105	150 W	5 VDC (4.75 - 5.5 VDC)	30'000 mA	86 %
TXN 150-112		12 VDC (10.2 - 13.2 VDC)	12'500 mA	88 %
TXN 150-115		15 VDC (14.25 - 16.5 VDC)	10'000 mA	89 %
TXN 150-124		24 VDC (21.6 - 26.4 VDC)	6'300 mA	89 %
TXN 150-148		48 VDC (43.2 - 52.8 VDC)	3'200 mA	90 %

Options

TXN-AUX1	- Optional Cable: www.tracopower.com/overview/txn-aux1
on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 4'200 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		4'000 mW max.
	- No load & Vin = 115 VAC		4'000 mW max.
Input Current	- Full load & Vin = 230 VAC		1'000 mA max.
	- Full load & Vin = 115 VAC		2'000 mA max.
Input Inrush Current	- At 230 VAC		60 A max.
	- At 115 VAC		30 A max.
Power Factor	- At 230 VAC		0.9 min. (Active Power Factor Correction)
	- At 115 VAC		0.95 min. (Active Power Factor Correction)
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			–15% to +10% (12 Vout) –5% to +10% (5 / 15 Vout) ±10% (24 / 36 / 48 Vout) (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 (10 - 90%)		1% max.
Ripple and Noise (20 MHz Bandwidth)		5 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		12 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		15 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		24 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		36 VDC model:	150 mVp-p max. (w/ 0.1 µF || 47 µF)
		48 VDC model:	250 mVp-p max. (w/ 0.1 µF || 47 µF)
Capacitive Load		5 VDC model:	62'100 µF max.
		12 VDC model:	62'100 µF max.
		15 VDC model:	19'800 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
Temperature Coefficient			±0.03 %/K max.
Hold-up Time	- At 230 VAC		16 ms min.
	- At 115 VAC		16 ms min.
Start-up Time	- At 230 VAC		1'000 ms max.
	- At 115 VAC		1'000 ms max.
Short Circuit Protection			Automatic recovery
Output Current Limitation			105 - 135% of Iout max.
Overvoltage Protection			110 - 135% of Vout nom.
Transient Response	- Response Deviation		3% typ. / 5% max. (50% to 100% 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 IEC 62368-1 UL 62368-1
	- Certification Documents		www.tracopower.com/overview/txn150
Protection Class			Class I (Prepared): Connection to PE
Pollution Degree			PD 2
Over Voltage Category			OVC II

EMC Specifications

EMI (Emissions)	- Conducted Emissions		EN 55032 class B (internal filter)
	- Radiated Emissions		EN 55011 class B (with external filter)
		External filter proposal:	www.tracopower.com/overview/txn150
	- 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, ±4 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 A
	- 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 A
	- 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
EMC / Environmental	- Certification Documents		www.tracopower.com/overview/txn150

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		Depending on model
	- Low Input Voltage		Depending on model
		See application note:	www.tracopower.com/overview/txn150
Over Temperature Protection Switch Off	- Protection Mode		110°C typ. (Automatic recovery at 75°C typ.)
	- Measurement Point		Transformer
Cooling System			Natural convection (20 LFM)
Remote Control	- Voltage Controlled Remote (passive = on)		Off: 4 to 10 VDC Refers to '+Remote' and '-Remote' Pin On: < 1.0 VDC or open circuit or short circuit
	- Off Idle Input Current		10 mA max.
	- Remote Pin Input Current		0.5 to 2.5 mA
Altitude During Operation			5'000 m max.
Regulator Topology			Forward Converter
Switching Frequency			58 - 71 kHz (PWM) 65 kHz typ. (PWM)
Insulation System			Reinforced Insulation
Working Voltage (rated)			248 VAC
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
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.

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

Clearance	- Input to Output	7.3 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	2'200 pF typ.
Leakage Current	- Earth Leakage Current	1000 µA max.
	- Touch Current	2000 µA max.
Distance Through Isolation		6.5 mm
Reliability	- Calculated MTBF	281'000 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
Case Ingress Protection		IP 20 (acc. IEC 60529)
Housing Material		Metal Aluminum (Chassis)
Housing Type		Metal Case
Mounting Type		Chassis Mount
Connection Type		Screw Terminal
Weight		600 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	cf584cc0-5be0-4e36-a406-9f8667f8dd25

Supporting Documents

Overview Link (for additional Documents)	www.tracopower.com/overview/txn150

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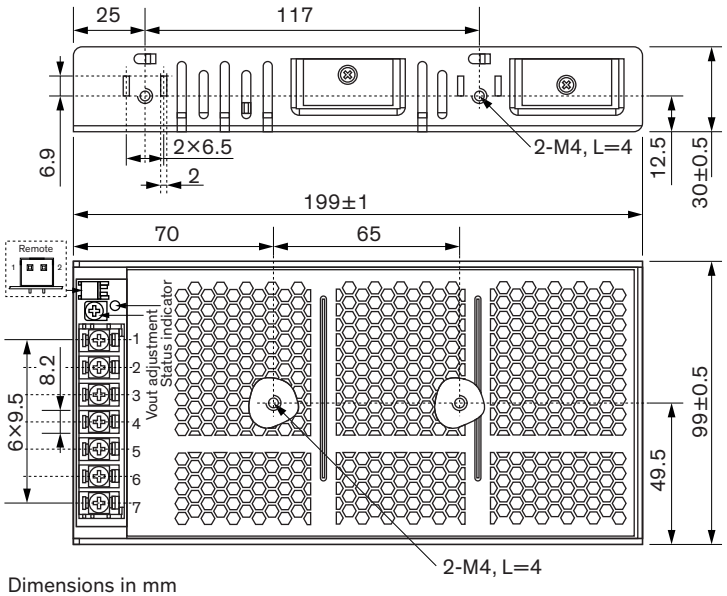
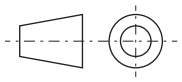
Outline Dimensions



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



Pin connectors			
Input/Output		Remote	
Pin	Function	Pin	Function
1	+Vout	1	+Remote
2		2	–Remote
3	–Vout		
4			
5	PE		
6	AC (N)		
7	AC (L)		

Input/Output: Screw terminal, M4×7
Terminal screw tightening torque: Max. 1.2 Nm