TRACO POWER

AC/DC Industrial Power Supply

TXN 350 Series, 350 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 89%**
- **Operating temperature range –30°C to 70+°C**
- **Short circuit, overvoltage and overload protection**
- **IEC/EN/UL 62368-1 safety approvals**
- **3-year product warranty**

UL 62368-1 IEC 62368-1

The TXN 350 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 350 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 350-112	325 W	12 VDC (10.0 - 13.2 VDC)	27'000 mA	86 %
TXN 350-115	330 W	15 VDC (13.5 - 15.5 VDC)	22'000 mA	87 %
TXN 350-124	350 W	24 VDC (20.0 - 26.4 VDC)	14'600 mA	88 %
TXN 350-148		48 VDC (41.0 - 56.0 VDC)	7'400 mA	89 %

Options

TXN-AUX2	- Optional Cable: www.tracopower.com/overview/txn-aux2

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		6 W max.
	- No load & Vin = 115 VAC		6 W max.
Input Current	- Full load & Vin = 230 VAC		2.2 A max.
	- Full load & Vin = 115 VAC		4.5 A 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 6.3 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		12 VDC model:	10.0 - 13.2 VDC
		15 VDC model:	13.5 - 15.5 VDC
		24 VDC model:	20.0 - 26.4 VDC
		48 VDC model:	41.0 - 56.0 VDC
			(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 (10 - 90%)		1% max.
Ripple and Noise (20 MHz Bandwidth)		12 VDC model:	150 mVp-p max. (w/ 0.1 µF || 47 µF)
		15 VDC model:	150 mVp-p max. (w/ 0.1 µF || 47 µF)
		24 VDC model:	150 mVp-p max. (w/ 0.1 µF || 47 µF)
		48 VDC model:	240 mVp-p max. (w/ 0.1 µF || 47 µF)
Capacitive Load		12 VDC model:	42'300 µF max.
		15 VDC model:	19'800 µF max.
		24 VDC model:	19'800 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		8 ms min.
	- At 115 VAC		8 ms min.
Start-up Time	- At 230 VAC		1.5 s max.
	- At 115 VAC		1.5 s max.
Short Circuit Protection			Continuous, Automatic recovery
Output Current Limitation			110 - 160% of Iout max.
Overvoltage Protection			110 - 140% of Vout nom.

Safety Specifications

Standards	- IT / Multimedia Equipment	EN 62368-1 IEC 62368-1 UL 62368-1
	- Certification Documents	www.tracopower.com/overview/txn350
Protection Class		Class I (Prepared): Connection to PE
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 A
	- EFT (Burst) / Surge		EN 61000-4-4, ±2 kV, perf. criteria A
		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
	- 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 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/txn350

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 %/K above 50°C
	- Low Input Voltage		1 %/V below 110 VAC
		See application note:	www.tracopower.com/overview/txn350
Over Temperature Protection Switch Off	- Protection Mode		Automatic recovery
	- Measurement Point		Internal IC temperature
Cooling System			Forced air cooling (with internal fan)
Remote Control	- Voltage Controlled Remote (passive = on)		Off: 4 to 10 VDC Refers to '+Remote' and '-Remote' Pin On: < 0.6 VDC or open circuit or short circuit
	- Remote Pin Input Current		0.5 to 2.5 mA
Altitude During Operation			5'000 m max.
Regulator Topology			Forward Converter
Switching Frequency			75 kHz typ. (PWM)
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.
Leakage Current (at 240 VAC / 60 Hz)	- Earth Leakage Current		3.5 mA max.
Reliability	- Calculated MTBF		230'600 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
Housing Material			Aluminum (Chassis)
Housing Type			Metal Case
Mounting Type			Chassis Mount
Connection Type			Screw Terminal
Weight			800 g
Status Indicator			Indicated by green LED
Sense Function			0.2% max. of Vout nom.

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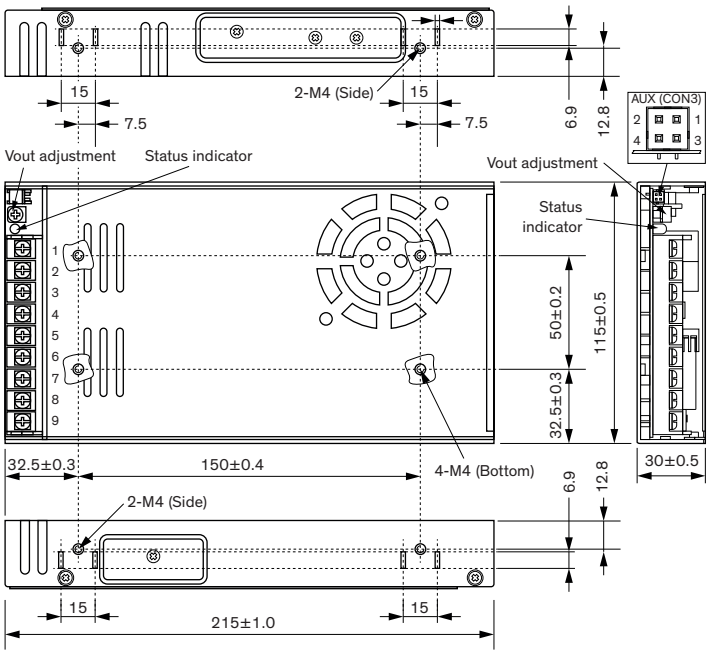
Environmental Compliance	- REACH Declaration	www.tracopower.com/info/reach-declaration.pdf
		REACH SVHC list compliant
		REACH Annex XVII compliant
	- RoHS Declaration	www.tracopower.com/info/rohs-declaration.pdf
		Exemptions: 7(a), 7(c)-I
		(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
	- SCIP Reference Number	163c9061-aae2-44f9-bd9a-e9bec4763d65

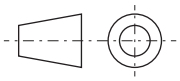
Supporting Documents

Overview Link (for additional Documents)	www.tracopower.com/overview/txn350

Outline Dimensions



Dimensions in mm
Terminal screw tightening torque: Max. 1.2 Nm
Mounting screw tightening torque: Max. 0.8 Nm
Mounting screw penetration depth: Max. 4 mm



Pin connectors

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

Input/Output:
Wire dimension range: 22 - 12 AWG
0.324 - 3.31 mm²