TRACO POWER

AC/DC Industrial Power Supply

TXN 35 Series, 35 Watt

- **Compact metal case with screw terminal block**
- **Universal input 90-264 VAC**
- **I/O reinforced isolation 3000 VAC**
- **Internal EN 55032 class B filter**
- **High efficiency up to 86%**
- **Operating temperature range –30°C to 70+°C**
- **Compliance to EN 61000-3-2**
- **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 35 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. The TXN 35 power supplies are completely convection cooled and internal EMC filter, high IO-isolation and wide temperature range qualify them for numerous industrial applications. All models within the TXN 35 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 35-103	23 W	3.3 VDC (3.0 - 3.6 VDC)	7'000 mA	81 %
TXN 35-105	35 W	5 VDC (4.5 - 5.5 VDC)	7'000 mA	82 %
TXN 35-112		12 VDC (10.8 - 13.2 VDC)	3'000 mA	84 %
TXN 35-115		15 VDC (13.5 - 16.5 VDC)	2'400 mA	85 %
TXN 35-124		24 VDC (21.6 - 26.4 VDC)	1'500 mA	85 %
TXN 35-148	38 W	48 VDC (43.2 - 52.8 VDC)	750 mA	86 %

Options

on demand (backorder with MOQ non stocking item)	- Optional model with 36 VDC and 1'000 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
Power Consumption	- No load & Vin = 230 VAC		1 W max.
	- No load & Vin = 115 VAC		1 W max.
Input Current	- Full load & Vin = 230 VAC		500 mA max.
	- Full load & Vin = 115 VAC		700 mA max.
Input Inrush Current	- At 230 VAC		60 A max.
	- At 115 VAC		30 A max.
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			±10% (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%)		2% max. (3.3 & 5 Vout models)
			1% max. (other models)
Ripple and Noise (20 MHz Bandwidth)		3.3 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		5 VDC model:	100 mVp-p max. (w/ 0.1 µF || 47 µF)
		12 VDC model:	120 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)
		36 VDC model:	200 mVp-p max. (w/ 0.1 µF || 47 µF)
		48 VDC model:	200 mVp-p max. (w/ 0.1 µF || 47 µF)
Minimum Load			Not required
Temperature Coefficient			±0.03 %/K max.
Hold-up Time	- At 230 VAC		10 ms min.
	- At 115 VAC		10 ms min.
Start-up Time	- At 230 VAC		1.5 s max.
	- At 115 VAC		1.5 s max.
Start-up Overshoot Voltage			2.5% max.
Short Circuit Protection			Continuous, Automatic recovery
Output Current Limitation			105 - 160% of Iout max.
Overvoltage Protection			110 - 135% of Vout nom.

Safety Specifications

Standards	- IT / Multimedia Equipment	EN 62368-1 IEC 62368-1 UL 62368-1
	- Certification Documents	www.tracopower.com/overview/txn35
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)
			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 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, ±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/txn35

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 (average)
	- Low Input Voltage		2 %/V below 100 VAC
		See application note:	www.tracopower.com/overview/txn35
Cooling System			Natural convection (20 LFM)
Altitude During Operation			5'000 m max.
Regulator Topology			Flyback Converter
Switching Frequency			65 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
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.
Clearance	- Input to Output		6.1 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		1'000 pF typ.
Leakage Current (at 240 VAC / 60 Hz)	- Earth Leakage Current		3.5 mA max.
Reliability	- Calculated MTBF		525'000 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			Aluminum (Chassis)
Housing Type			Metal Case
Mounting Type			Chassis Mount
Connection Type			Screw Terminal

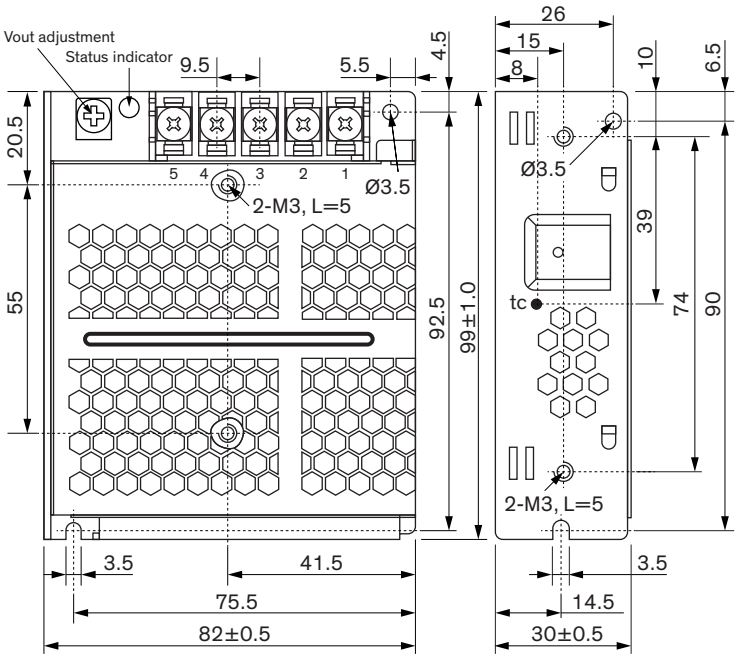
All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

Weight		200 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	dedc2f3a-63a6-4a0f-a205-369ffca0c1ab

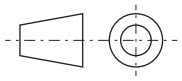
Supporting Documents

Overview Link (for additional Documents)	www.tracopower.com/overview/txn35

Outline Dimensions



Dimensions in mm
Terminal screw tightening torque: Max. 1.0 Nm
Mounting screw tightening torque: Max. 0.8 Nm
Mounting screw penetration depth: Max. 3 mm
Mounting screw length: Max. 5 mm



Pinout

Pin	Function
1	AC (L)
2	AC (N)
3	PE
4	–Vout
5	+Vout

Wiring: Conductor cross section 0.5 .. 3 mm²