TRACO POWER

AC/DC Power Supply

TXN 25 Series, 25 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 25 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 25 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 25 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 25-103	16 W	3.3 VDC (3.036 - 3.564 VDC)	5'000 mA	75 %
TXN 25-105	20 W	5 VDC (4.6 - 5.4 VDC)	5'000 mA	80 %
TXN 25-112	25 W	12 VDC (11.04 - 12.96 VDC)	2'100 mA	82 %
TXN 25-115		15 VDC (13.8 - 16.2 VDC)	1'700 mA	84 %
TXN 25-124		24 VDC (22.08 - 25.92 VDC)	1'100 mA	86 %
TXN 25-148		48 VDC (44.16 - 51.84 VDC)	570 mA	86 %

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		1'000 mW max.
	- No load & Vin = 115 VAC		1'000 mW max.
Input Current	- Full load & Vin = 230 VAC		330 mA max.
	- Full load & Vin = 115 VAC		650 mA max.
Input Inrush Current	- At 230 VAC		70 A max.
	- At 115 VAC		30 A max.
Power Factor	- At 230 VAC		0.5 min.
	- At 115 VAC		0.5 min.
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			±8% (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy			±3% 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:	80 mVp-p typ. (w/ 0.1 µF || 47 µF)
		5 VDC model:	80 mVp-p typ. (w/ 0.1 µF || 47 µF)
		12 VDC model:	120 mVp-p typ. (w/ 0.1 µF || 47 µF)
		15 VDC model:	120 mVp-p typ. (w/ 0.1 µF || 47 µF)
		24 VDC model:	120 mVp-p typ. (w/ 0.1 µF || 47 µF)
		48 VDC model:	200 mVp-p typ. (w/ 0.1 µF || 47 µF)
Capacitive Load		3.3 VDC model:	19'800 µF max.
		5 VDC model:	19'800 µF max.
		12 VDC model:	6'100 µF max.
		15 VDC model:	6'100 µF max.
		24 VDC model:	2'000 µF max.
		48 VDC model:	400 µF max.
Minimum Load			Not required
Temperature Coefficient			±0.03 %/K max.
Hold-up Time	- At 230 VAC		20 ms min.
	- At 115 VAC		20 ms min.
Start-up Time	- At 230 VAC		2'000 ms max.
	- At 115 VAC		2'000 ms max.
Short Circuit Protection			Automatic recovery
Output Current Limitation			110 - 160% of Iout max.
Overvoltage Protection			110 - 140% of Vout nom.
Transient Response	- Response Deviation		4% typ. / 5% max. (50% to 100% Load Step)
	- Response Time		300 µs typ. / 500 µs 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/txn25
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

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, ±6 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 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 30%, 25 periods, perf. criteria B >95%, 0.5 periods, perf. criteria C >95%, 250 periods, perf. criteria B
EMC / Environmental	- Certification Documents		www.tracopower.com/overview/txn25

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	–30°C to +70°C
	- Storage Temperature	–30°C to +80°C
Power Derating	- High Temperature	Depending on model
	- Low Input Voltage	Depending on model
	See application note:	www.tracopower.com/overview/txn25
Cooling System		Natural convection (20 LFM)
Altitude During Operation		5'000 m max.
Regulator Topology		Flyback Converter
Switching Frequency		62 - 68 kHz (PWM) 65 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Working Voltage (rated)		248 VAC
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
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	1 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.

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

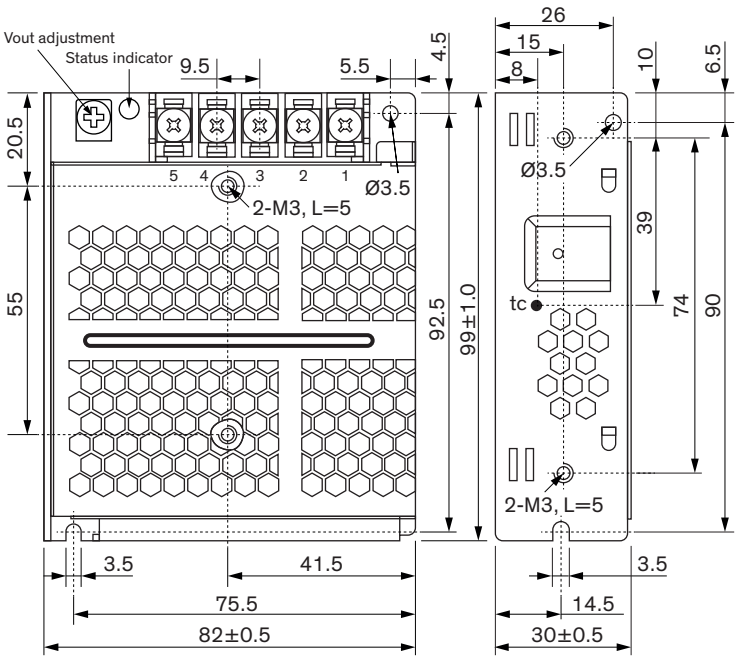
Leakage Current	- Earth Leakage Current	1000 µA max.
Distance Through Isolation		7.2 mm
Reliability	- Calculated MTBF	875'000 h (MIL-HDBK-217F, ground benign)
Washing Process		Not allowed
Environment	- Vibration	2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle
	- Mechanical Shock	20 g, 3 axis, 3 shocks
	- Thermal Shock	MIL-STD-810F
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		190 g
Status Indicator		Indicated by green LED
Environmental Compliance	- REACH Declaration	www.tracopower.com/info/reach-declaration.pdf 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	8ffd0e36-8b57-428e-bd95-965cf921bb78

Additional Information

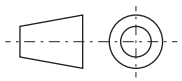
Supporting Documents	www.tracopower.com/overview/txn25
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf

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

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