TRACO POWER

AC/DC Power Supply

TXH 240 Series, 240 Watt

- **Compact U-bracket power supplies with optional cover**
- **Universal input range 90 to 264 VAC**
- **5656 VDC I/O-isolation**
- **High efficiency up to 93 %**
- **Operating temperature range: –10°C to +70°C max.**
- **Features active power factor correction**
- **Short circuit and over voltage protection**



UL 60950-1 IEC 60950-1

The TXH series is a family of power supplies in metal enclosure, designed for a wide range of cost critical applications. The very high efficiency of up to 93% admits of a compact design with free air convection coouling for the 120 and 240 Watt models. The units are equiped with screw terminal blocks and are easy to install in any equipment. These power supplies have universal input and comply with European EMC standards and the Low Voltage Directive (LVD).

Models

Order Code	Output Power max.	Output Voltage nom.	Output Current max.	Efficiency typ.
TXH 240-112	240 W	12 VDC (11.8 - 12.2 VDC)	20'000 mA	90 %
TXH 240-124		24 VDC (23.5 - 24.5 VDC)	10'000 mA	92 %
TXH 240-148		48 VDC (47.0 - 49.0 VDC)	5'000 mA	93 %

Options

TXH 240-COV	- Optional cover inclusive screws

Input Specifications

Input Voltage	- AC Range	90 - 264 VAC (Full Range)
	- DC Range	120 - 370 VDC (designed for, no certification)
Input Frequency		47 - 63 Hz
Input Current	- Full Load & Vin = 230 VAC	1'500 mA max.
	- Full Load & Vin = 115 VAC	3'000 mA max.
Input Inrush Current	- at 230 VAC	60 A max.
	- at 115 VAC	30 A max.
Power Factor	- at 230 VAC	0.95 min. (Active Power Factor Correction)
	- at 115 VAC	0.98 min. (Active Power Factor Correction)
Input Protection		T 5 A / 250 VAC

Output Specifications

Output Voltage Adjustment		12 VDC model:	11.8 - 12.2 VDC
		24 VDC model:	23.5 - 24.5 VDC
		48 VDC model:	47.0 - 49.0 VDC
Voltage Set Accuracy			±2% max.
Regulation	- Input Variation (Vmin - Vmax)		1% max.
	- Load Variation (2 - 100%)		1% max.
Ripple and Noise (20 MHz Bandwidth)		12 VDC model:	120 mVp-p max. (with 0.1 µF // 47 µF)
		24 VDC model:	200 mVp-p max. (with 0.1 µF // 47 µF)
		48 VDC model:	200 mVp-p max. (with 0.1 µF // 47 µF)
Capacitive Load		12 VDC model:	23'000 µF max.
		24 VDC model:	10'000 µF max.
		48 VDC model:	470 µF max.
Minimum Load			2 % of Iout max.
Temperature Coefficient			±0.03 %/K max.
Hold-up Time	- at 230 VAC		13 ms min.
	- at 115 VAC		13 ms min.
Output Current Limitation			130 - 150% of Iout max.
Short Circuit Protection			Indefinite, no automatic recovery
Overvoltage Protection			By Zener diode

Safety Specifications

Safety Standards	- IT / Multimedia Equipment	IEC 60950-1 EN 60950-1 UL 60950-1
	- Certification Documents	www.tracopower.com/overview/txh240
Protection Class		Class I Prepared: Connection to PE
Pollution Degree		PD 2: Office or Laboratory Environments
Over Voltage Category		OVC II

EMC Specifications

EMC 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 D
	- Voltage Fluctuations & Flicker	EN 61000-3-3

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

EMC Immunity			EN 55024 (IT Equipment)
	- Electrostatic Discharge	Air:	EN 61000-4-2, ±8 kV, perf. criteria A
		Contact:	EN 61000-4-2, ±4 kV, perf. criteria A
	- RF Electromagnetic Field		EN 61000-4-3, 3 V/m, perf. criteria A
	- EFT (Burst)		EN 61000-4-4, ±1 kV, perf. criteria A
	- Surge	L to L:	EN 61000-4-5, ±1 kV, perf. criteria A
		L to PE:	EN 61000-4-5, ±2 kV, perf. criteria A
	- Conducted RF Disturbances		EN 61000-4-6, 3 Vrms, perf. criteria A
	- PF Magnetic Field		EN 61000-4-8, 1 A/m, perf. criteria A
	- Voltage Dips & Interruptions	230 VAC / 50 Hz:	30%, 25 periods, perf. criteria C >95%, 0.5 periods, perf. criteria B >95%, 25 periods, perf. criteria C

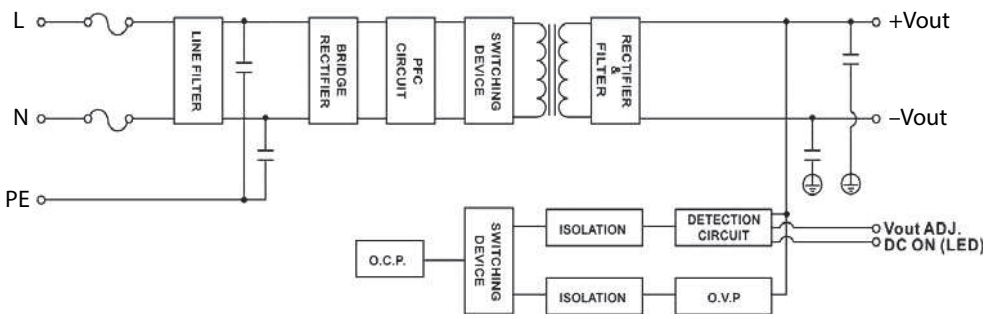
General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	–10°C to +70°C
	- Storage Temperature	–25°C to +85°C
Power Derating	- High Temperature	2.5 %/K above 50°C
	- Low Input Voltage	see application note www.tracopower.com/overview/txh240
Cooling System		Natural convection (no internal fan, 20 LFM)
Altitude During Operation		2000 m max.
Switching Frequency		100 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Working Voltage (rated)		251 VAC
Isolation Test Voltage	- Input to Output, 60 s	5'656 VDC
	- Input to Case or PE, 60 s	2'828 VDC
	- Output to Case or PE, 60 s	707 VDC
Leakage Current	- Earth Leakage Current	500 µA max.
Reliability	- Calculated MTBF	120'000 h (MIL-HDBK-217F, ground benign)
Environment	- Vibration	3 axis, 10 - 500 Hz, 2 g, 10 min/cycle, 60 min
Connection Type		Screw Terminal
Weight		580 g
Environmental Compliance	- Reach	www.tracopower.com/info/reach-declaration.pdf
	- RoHS	www.tracopower.com/info/rohs-declaration.pdf

Supporting Documents

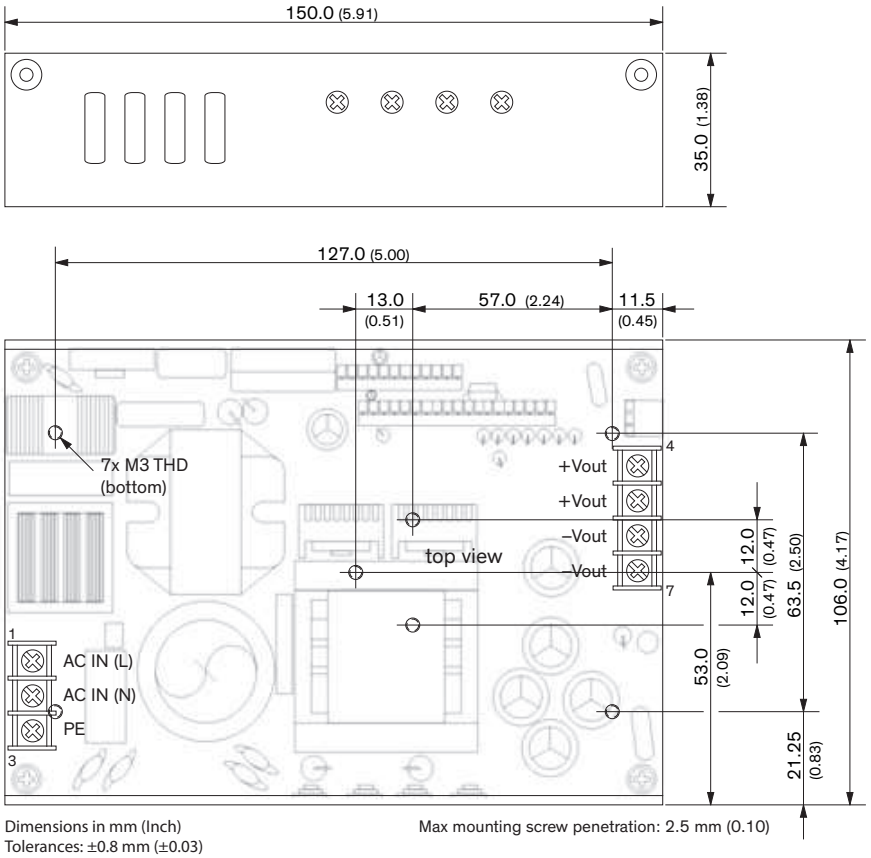
Overview Link (for additional Documents)	www.tracopower.com/overview/txh240

Blockdiagram



All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Outline Dimensions



Dimensions in mm (Inch)
Tolerances: ±0.8 mm (±0.03)
Mounting hole pich tolerances: ±0.5 mm (±0.02)

Max mounting screw penetration: 2.5 mm (0.10)

Pin Connections	
Pin	**Function**
1	AC IN (L)
2	AC IN (N)
3	PE
4, 5	+Vout
6, 7	–Vout

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