

- Compact enclosed power supplies
- Screw terminal block
- Very high efficiency up to 93 %
- Universal input 90 – 264 VAC
- Adjustable output voltage
- EMI/EMC compliance with EN 61000-6-3 and EN 61000-6-1
- Compliance to EN 61000-3-2 (PFC)
- Short circuit and over voltage protection
- 3-year product warranty



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 cooling for the 120 and 240 Watt models. The units are equipped 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. (adjustable)	Output Current max.	Efficiency typ.
TXH 360-112 *	360 W	12 VDC (10.8 - 13.2 VDC)	30'000 mA	89 %
TXH 360-124 *		24 VDC (21.6 - 26.4 VDC)	15'000 mA	91 %
TXH 360-148 *		48 VDC (44.0 - 51.0 VDC)	7'500 mA	93 %

Note * End of life

Input Specifications

Input Voltage	- AC Range	Operational Range: 90 - 264 VAC (Full Range)
	- DC Range	Operational Range: 120 - 370 VDC (Designed for, no certification)
Input Frequency		Operational Range: 47 - 440 Hz Certified: 50/60 Hz
Power Consumption	- No load & Vin = 230 VAC	2'500 mW max.
Input Current	- Full load & Vin = 230 VAC	2'000 mA max.
	- Full load & Vin = 115 VAC	4'000 mA max.
Input Inrush Current	- At 230 VAC	60 A max.
	- At 115 VAC	30 A max.
Power Factor	- At 230 VAC	0.93 min. (Active Power Factor Correction)
	- At 115 VAC	0.98 min. (Active Power Factor Correction)
Input Protection		T 6.3 A / 250 VAC
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: 10.8 - 13.2 VDC
		24 VDC model: 21.6 - 26.4 VDC
		48 VDC model: 44.0 - 51.0 VDC
		(By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy		±2% max.
Regulation	- Input Variation (Vmin - Vmax)	1% max.
	- Load Variation (0 - 100%)	1% max.
Ripple and Noise (20 MHz Bandwidth)	12 VDC model:	150 mVp-p max. (w/ 0.1 µF 47 µF)
	24 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)
Capacitive Load	12 VDC model:	85'000 µF max.
	24 VDC model:	48'000 µF max.
	48 VDC model:	13'000 µF max.
Minimum Load		1 % of Iout max.
Temperature Coefficient		±0.03 %/K max.
Hold-up Time	- At 230 VAC	12 ms min.
	- At 115 VAC	12 ms min.
Start-up Time	- At 230 VAC	500 ms max.
	- At 115 VAC	500 ms max.
Short Circuit Protection		Automatic recovery
Output Current Limitation		110 - 160% of Iout max.
Overvoltage Protection		105 - 145% of Vout nom. (By Zener diode)
Transient Response	- Response Deviation	2% max. (75% to 100% Load Step)
	- Response Time	500 µs typ. (75% to 100% Load Step)

Safety Specifications

Standards	- IT / Multimedia Equipment	EN 60950-1 IEC 60950-1 UL 60950-1
	- Certification Documents	www.tracopower.com/overview/txh360
Protection Class		Class I (Prepared): Connection to PE
Pollution Degree		PD 2
Over Voltage Category		OVC II

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

EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential)
- 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 61000-6-1 (Generic Residential)
- Electrostatic Discharge		EN 55024 (IT Equipment)
	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) / Surge		EN 61000-4-4, ± 1 kV, perf. criteria A
	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
- Voltage Dips & Interruptions	230 VAC / 50 Hz:	EN 61000-4-11
		30%, 25 periods, perf. criteria A
		>95%, 0.5 periods, perf. criteria A
		>95%, 250 periods, perf. criteria B

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges		
- Operating Temperature		-25°C to +70°C
- Storage Temperature		-25°C to +85°C
Power Derating		
- High Temperature		2.5 %/K above 50°C
- Low Input Voltage		1 %/V below 100 VAC
	See application note:	www.tracopower.com/overview/txh360
Cooling System		Forced air cooling (with internal fan)
Fan Power Source	- Characteristic	Variable fan speed (temperature regulated)
Altitude During Operation		2'000 m max.
Switching Frequency		65 - 220 kHz (PWM)
		75 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Working Voltage (rated)		259 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	5.2 mm min.
Clearance	- Input to Output	5.2 mm min.
Leakage Current		
- Earth Leakage Current		600 μ A max.
- Touch Current		300 μ A max.
Reliability	- Calculated MTBF	120'000 h (MIL-HDBK-217F, ground benign)
Environment	- Vibration	2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle
Housing Type		Metal Case
Mounting Type		Chassis Mount
Connection Type		Screw Terminal
Weight		746 g
Environmental Compliance		
- REACH Declaration		www.tracopower.com/info/reach-declaration.pdf
		REACH SVHC list compliant
		REACH Annex XVII compliant
- RoHS Declaration		Exemptions: 7c-I
		(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
- SCIP Reference Number		4ce831b2-935e-4436-a3e1-206c4d1583a5

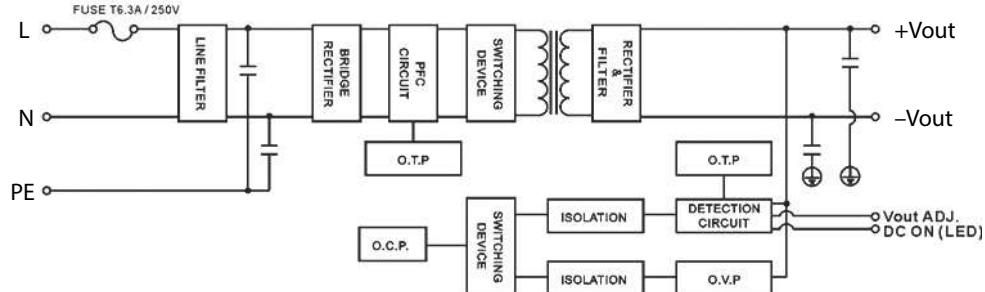
All specifications valid at nominal voltage, resistive full load and +25°C after warm-up time, unless otherwise stated.

Supporting Documents

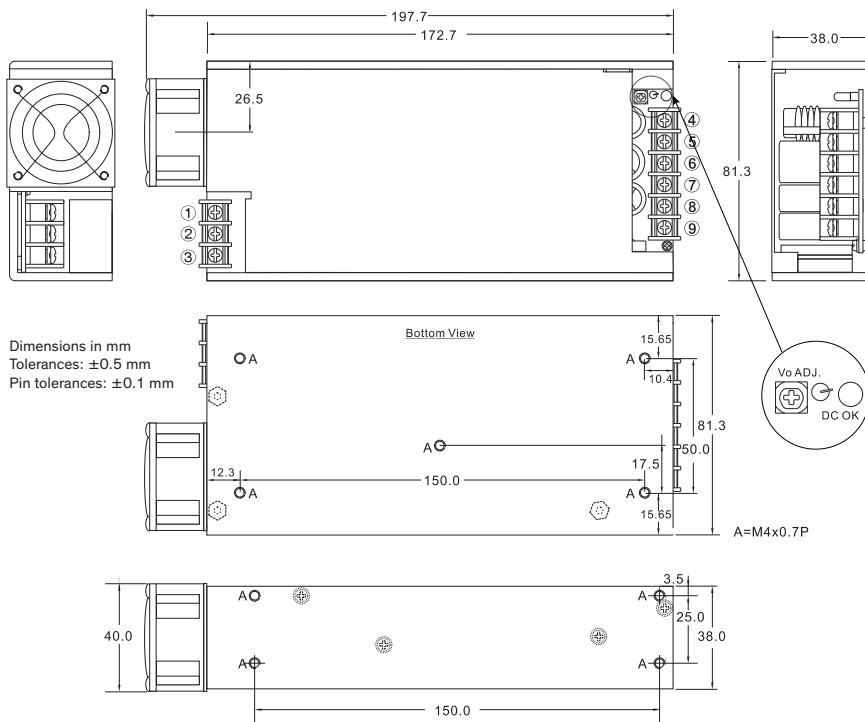
[Overview Link](#) (for additional Documents)

www.tracopower.com/overview/txh360

Blockdiagram



Outline Dimensions



Pin Connections	
Pin	Function
1	PE
2	AC IN (N)
3	AC IN (L)
4-6	+Vout
7-9	-Vout