

- 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 %

### 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	2'000 mA max.
	- Full Load & Vin = 115 VAC	4'000 mA max.
Power Consumption	- at no Load	2'500 mW 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

### 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. (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:	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
Overload Protection		Indefinite Mode
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

Safety Standards	- IT / Multimedia Equipment	IEC 60950-1 EN 60950-1 UL 60950-1
	- Certification Documents	<a href="http://www.tracopower.com/overview/txh360">www.tracopower.com/overview/txh360</a>
Protection Class		Class I Prepared: Connection to PE
Pollution Degree		PD 2
Over Voltage Category		OVC II

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

## EMC Specifications

EMC Emissions	<ul style="list-style-type: none"> <li>- Conducted Emissions</li> <li>- Radiated Emissions</li> <li>- Harmonic Current Emissions</li> <li>- Voltage Fluctuations &amp; Flicker</li> </ul>	EN 61000-6-3 (Generic Residential) EN 55032 class B (internal filter) EN 55032 class B (internal filter) EN 61000-3-2, class A EN 61000-3-3
EMC Immunity	<ul style="list-style-type: none"> <li>- Electrostatic Discharge</li> <li>- RF Electromagnetic Field</li> <li>- EFT (Burst)</li> <li>- Surge</li> <li>- Conducted RF Disturbances</li> <li>- Voltage Dips &amp; Interruptions</li> </ul>	EN 55024 (IT Equipment) EN 61000-6-1 (Generic Residential) Air: EN 61000-4-2, $\pm 8$ kV, perf. criteria A Contact: EN 61000-4-2, $\pm 4$ kV, perf. criteria A EN 61000-4-3, 3 V/m, perf. criteria A EN 61000-4-4, $\pm 1$ kV, perf. criteria A L to L: EN 61000-4-5, $\pm 1$ kV, perf. criteria A L to PE: EN 61000-4-5, $\pm 2$ kV, perf. criteria A EN 61000-4-6, 3 Vrms, perf. criteria A EN 61000-4-11 230 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	<ul style="list-style-type: none"> <li>- Operating Temperature</li> <li>- Storage Temperature</li> </ul>	-25°C to +70°C -25°C to +85°C
Power Derating	<ul style="list-style-type: none"> <li>- High Temperature</li> <li>- Low Input Voltage</li> </ul>	2.5 %/K above 50°C 1 %/V below 100 VAC
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	<ul style="list-style-type: none"> <li>- Input to Output, 60 s</li> <li>- Input to Case or PE, 60 s</li> <li>- Output to Case or PE, 60 s</li> </ul>	4'242 VDC 2'121 VDC 707 VDC
Creepage	- Input to Output	5.2 mm min.
Clearance	- Input to Output	5.2 mm min.
Leakage Current	<ul style="list-style-type: none"> <li>- Earth Leakage Current</li> <li>- Touch Current</li> </ul>	600 $\mu$ A max. 300 $\mu$ A max.
Reliability	- Calculated MTBF	120'000 h (MIL-HDBK-21'7F, ground benign)
Environment	- Vibration	3 axis, 10 - 500 Hz, 2 g, 10 min/cycle, 60 min
Connection Type		Screw Terminal
Weight		746 g
Environmental Compliance	<ul style="list-style-type: none"> <li>- Reach</li> <li>- RoHS</li> </ul>	<a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a> <a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a>

## Supporting Documents

Overview Link (for additional Documents)	<a href="http://www.tracopower.com/overview/txh360">www.tracopower.com/overview/txh360</a>
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