

600W Enclosed Switching Power Supply

TGR600-XX Series



FEATURES

- Input voltage Range: 176 - 264VAC or 240 - 373VDC
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30°C to +60°C
- Compact size with a low 1U profile
- LED indicator for power on
- Operating up to 5000m altitude
- Over-temperature protection, output short circuit, over-current, over-voltage protection
- Safety according to IEC/EN/UL62368, GB4943
- Withstand 300VAC surge input for 5s
- Built-in DC fan
- Remote sense function

TGR600-XX series is one of Tiger Power's enclosed AC-DC switching power supply. It features AC input and at the same time accepts DC input voltage, cost-effective, low no load power consumption, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC/UL/EN62368, GB4943 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home, etc.

Selection Guide

Certification	Part No.*	Output Power(W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range(V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
CE, UKCA	TGR600-12	600	12V/50A	10 -13.5	85	3000
	TGR600-15	600	15V/40A	13.5 -16.5	86	3000
	TGR600-24	600	24V/25A	22 - 26.4	87	1000
	TGR600-27	599.4	27V/22.2A	24 - 30	87	1000
	TGR600-36	597.6	36V/16.6A	32 - 40	87	1000
	TGR600-48	600	48V/12.5A	43 - 56	88	1000

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		176	--	264	VAC
	DC input		240	--	373	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	230VAC		--	7.5	8.5	A
Inrush Current	230VAC	Cold start	--	60	--	
Leakage Current	240VAC		--	--	2	mA
Hot Plug			Unavailable			

Output Specifications

Output Specifications						
Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	12V/15V/24V/27V 36V/48V	--	±1	--	%
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load		--	±0.5	--	
Output Ripple & Noise*	20MHz bandwidth	12V/15V/24V/27V	--	150	--	mV

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		36V/48V	--	200	--	
Temperature Coefficient			--	±0.05	--	%/℃
Minimum Load			0	--	--	%
Hold-up Time	230VAC		--	20	--	ms
Short Circuit Protection	Recover time <3s after the short circuit disappear.		Hiccup, continuous, self-recover			
Over-current Protection			105%-180% Io, self-recover			
Over-voltage Protection	12V	≤16.2V (Hiccup, self-recover)				
	15V	≤21V (Hiccup, self-recover)				
	24V	≤32.4V (Hiccup, self-recover)				
	27V	≤36.5V (Hiccup, self-recover)				
	36V	≤50V (Hiccup, self-recover)				
	48V	≤60V (Hiccup self-recover)				
Over Temperature Protection*	Over-temperature Protection Activation		--	--	70	℃
	Over-temperature Protection Deactivation		40	--	--	
Note: 1. *The “Tip and barrel method” is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to						
Enclosed Switching Power Supply Application Notes for specific information.						

General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input - 	Electric strength test for 1min., leakage current <10mA		1500	--	--	VAC
	Input-output			3000	--	--	
	output - 			500	--	--	
Insulation Resistance	Input - 	At 500VDC		50	--	--	MΩ
	Input - output			50	--	--	
	output - 			50	--	--	
Operating Temperature				-30	--	+60	℃
Storage Temperature				-40	--	+85	
Operating Humidity				20	--	90	%RH
Storage Humidity				10	--	95	
Power Derating	Operating temperature derating	+40℃ to +60℃	2	--	--	% /℃	
		-20℃ to -30℃	5	--	--		
	Input voltage derating	176VAC - 200VAC	0.833	--	--	% /VAC	
		200VAC - 264VAC	0	--	--		
Safety Certification		IEC/UL/EN62368/GB4943					
Safety Standard		Meet IEC/EN/UL62368/GB4943					
Safety Class		CLASS I					
MTBF		MIL-HDBK-217F@25℃		>300,000 h			

Mechanical Specifications

Case Material	Metal (SGCC)
Dimensions	267.30 x 106.00 x 40.00 mm
Weight	1100g (Typ.)
Cooling Method	Forced air cooling

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032 CLASS A			
	RE	CISPR32/EN55032 CLASS A			
Immunity	ESD	IEC/EN 61000-4-2 Contact ±6KV /Air ±8KV			Perf. Criteria A
	RS	IEC/EN 61000-4-3 3V/m			perf. Criteria B

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	EFT	IEC/EN 61000-4-4 ±1KV	perf. Criteria A
	Surge	IEC/EN 61000-4-5 line to line ±1KV/line to ground ±2KV	perf. Criteria A
	CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
	Voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Remark A:

1, One magnetic bead should be coupled with the output load line during CE/RE testing;

2, When the power supply is used in the European Union or in applications that mandatory to meet the requirements of EN61000-3-2, users need to handle the harmonic current requirements, details please refer to Tiger Power Supplies

1) The terminal equipment is used in the European Union.

2) The terminal equipment is connected to public mains supply with 220VAC or greater rated nominal voltage that mandatory to meet the requirements of EN61000-3-2.

3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W.

4) The power supply belong to a part of lighting system.

Product Characteristic Curve



Note: This product is suitable for applications using forced air cooling; for applications in closed environment please consult Tiger Power Supplies

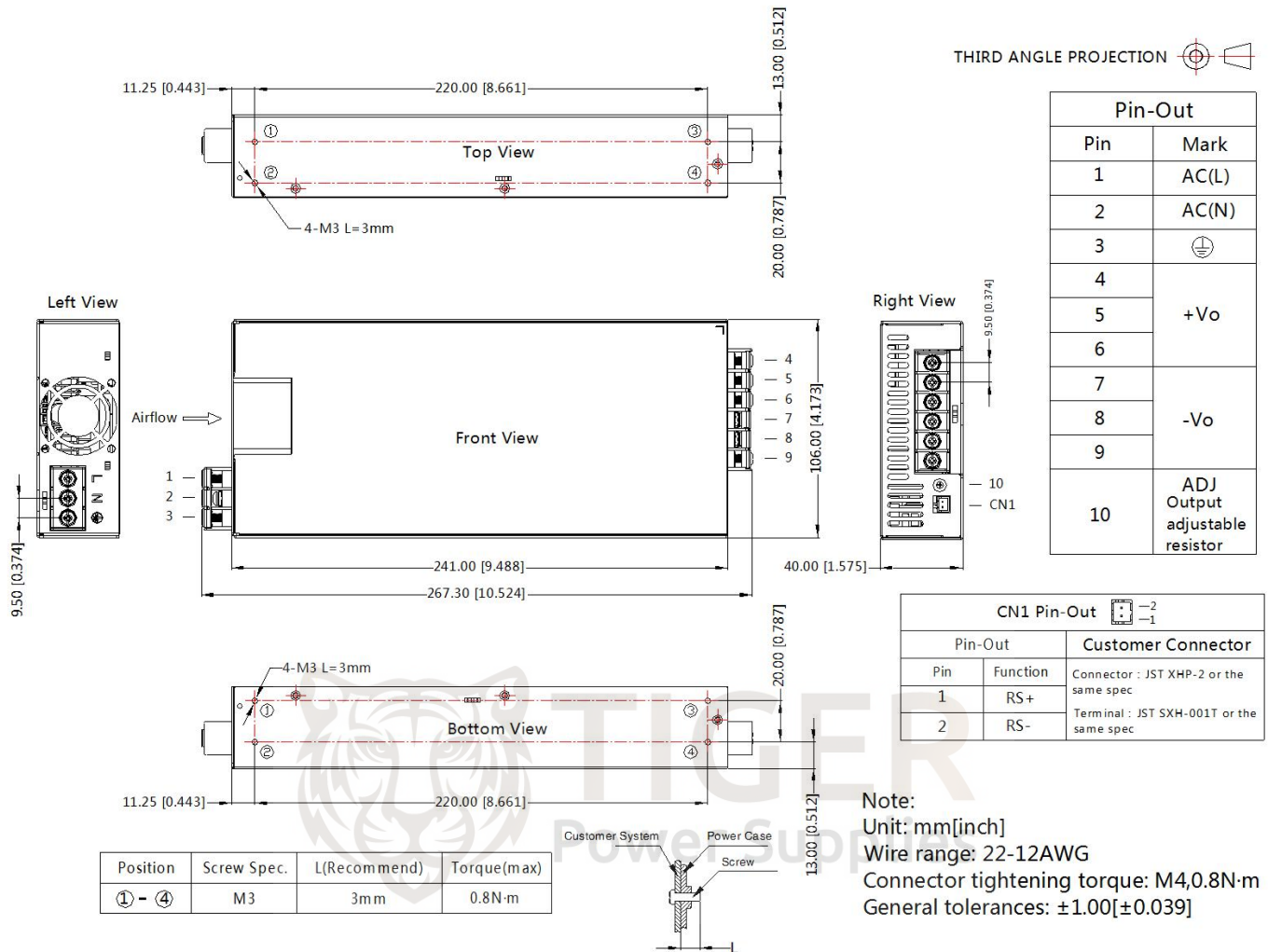
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Dimensions and Recommended Layout

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Note:

- For additional information on Product Packaging please refer to www.TigerPowerSupplies.com
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75%RH with nominal input voltage and rated output load;
- The ambient temperature derating of $5^{\circ}\text{C}/1000\text{m}$ is needed for operating altitude greater than 2000m;
- All index testing methods in this datasheet are based on our company corporate standards;
- In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- The out case needs to be connected to PE (⊕) of system when the terminal equipment in operating;
- Our products shall be classified according to related environmental laws and regulations, and shall be handled by qualified units;
- The power supply is considered a component which will be installed into a final equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.