

600W Enclosed Switching Power Supply

TGR600-XX, TGR600-XX-Q 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	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

Note: *Use suffix "Q" for conformal coating.

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

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	--	±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	--	%/°C
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	°C
	Over-temperature Protection Deactivation		40	--	--	
<p>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</p> <p style="text-align: center;">Enclosed Switching Power Supply Application Notes for specific information.</p> <p>2. *Over-temperature Protection needs to be tested under rated full load conditions.</p>						

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	°C	
Storage Temperature		-40	--	+85		
Operating Humidity	Non-condensing	20	--	90	%RH	
Storage Humidity		10	--	95		
Power Derating	Operating temperature derating	+40°C to +60°C	2	--	--	% / °C
		-20°C to -30°C	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°C	>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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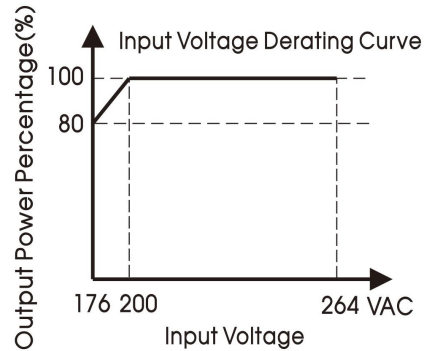
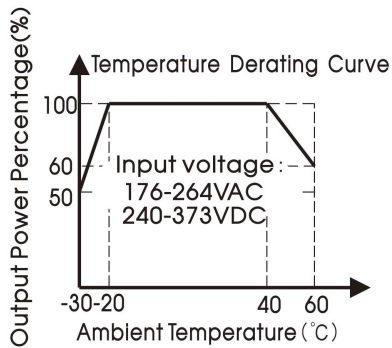
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EFT	IEC/EN 61000-4-4 $\pm 1KV$	perf. Criteria A
Surge	IEC/EN 61000-4-5 line to line $\pm 1KV$ /line to ground $\pm 2KV$	perf. Criteria A
CS	IEC/EN61000-4-6 10 Vr.m.s	perf. Criteria A
Voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11 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.

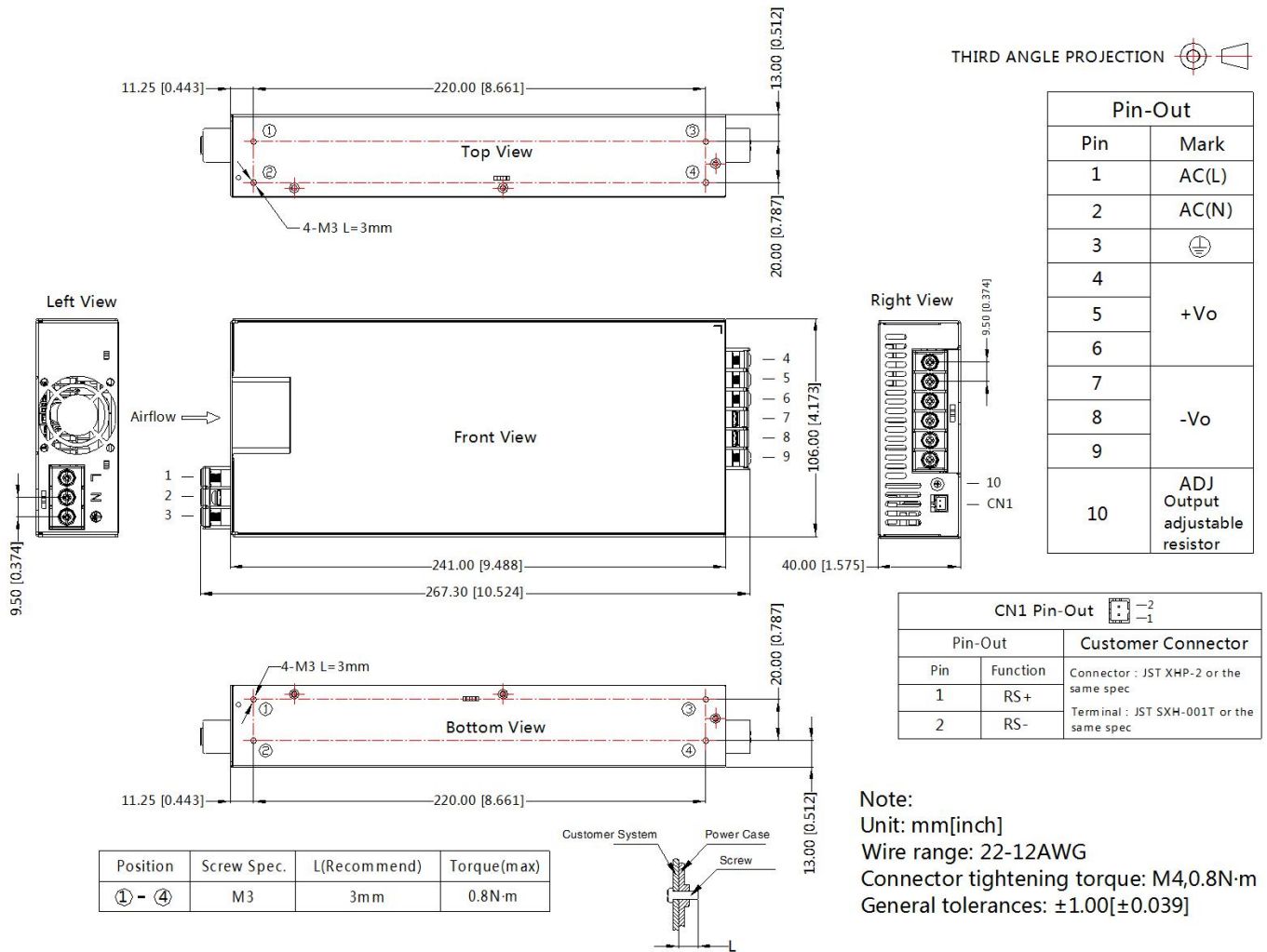
Product Characteristic Curve



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

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 ISO14001 and 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.