AC/DC 600W Switching Power Supply

Model: TG19-0600-01



FEATURES

- Universal 85 - 264VAC input voltage.
- Operating ambient temperature range: -5°C to +55°C.
- Built-in active PFC function.
- Output short circuit, over-current, over-voltage protection, Over-temperature protection.
- 1200W Peak Power at 100 ms, 600W convection cooled.
- High efficiency up to 92%.
- Remote control option.
- High power density, compact size: 9.25"x4.72"x2.40".
- Operating altitude up to 5,000m.
- Safety according to IEC62368-1.

Models & Ratings

Model No.	Peak Output Power (W) (3)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency (%) Typ. (1)	External Cap. Load (μF) (2)
TG19-0600-01	1200	600	24	25	92	470

Notes:

1. Typical values are measured at 50% of maximum load and 230Vac/50Hz input voltage at 25°C.
2. During transient response testing, an external 470 μF capacitor shall be added at the +24 V output.
3. Refer to Fig. A for peak load waveform of +24V output, regulation is ±5%

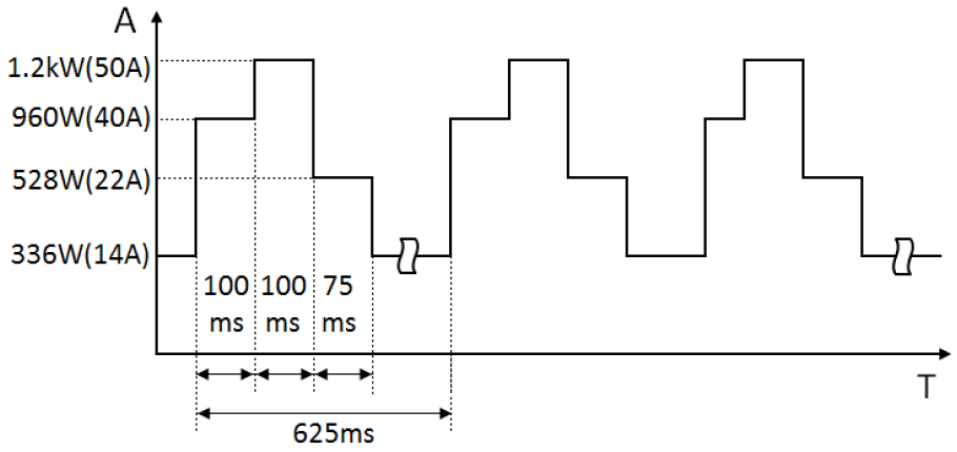


Fig. A

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		85	100-240	264	VAC
Input Frequency	-		47	50-60	63	Hz
Input Current	115VAC & maximum load		-	-	7.5	Arms
	230VAC & maximum load		-	-	3.2	
Inrush Current	115VAC	At 25°C, Cold start	-	40	-	A peak
	230VAC		-	80	-	
Power Factor	115VAC & maximum load		0.95	-	-	-
	230VAC & maximum load		0.95	-	-	-
Earth Leakage Current	264VAC/63Hz		-	-	1.0	mA

Main Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage	-	22.8	24	25.2	VDC
Output Load	-	0	-	25	A
Line Regulation	85 - 264VAC, maximum load	-	±0.5	-	%
Load Regulation	Output from minimum load – maximum load	-	±1	-	%
Ripple & Noise (4)	Oscilloscope Bandwidth : 20MHz	-	-	0.5	%
Transient Response(5)	Step load : 12.5 – 25A		±5		%
Turn on Delay Time	115/230VAC maximum load from input AC turn on	-	-	1.5	S
Rise Time	Maximum load, 10% to 90% of output voltage	1	-	50	mS
Hold-up Time	At 25°C, 115/230V VAC & maximum load, 90% of output voltage	20	-	-	mS
Short Circuit Protection	Output shut down and auto recovery	-	-	-	-
Over Current Protection	Output shut down and auto recovery	30	-	-	A
Over Voltage Protection	Output shut down and auto recovery	-	-	30	V
Over Temperature Protection (6)	Output shut down and auto recovery	-	-	-	-

Notes:

4. The +24V output is decoupled with 100μF low ESR aluminum electrolytic (C2) and 0.1μF ceramic capacitor (C1).
   Measurement is made with a high impedance probe connected across the decoupling capacitance.
   Measurements shall be made with an oscilloscope with 20MHz bandwidth.

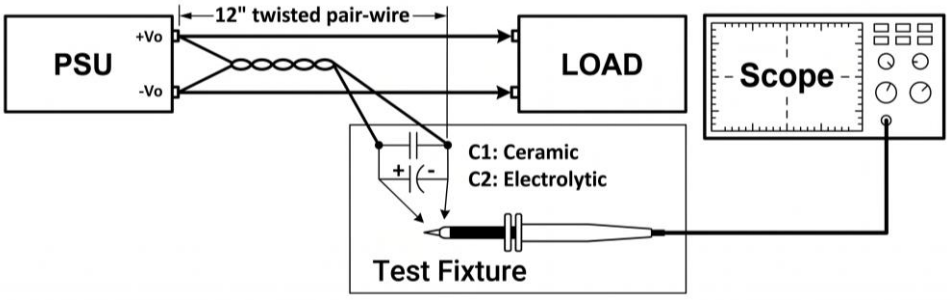


Fig. B

5. Step load change is 1A/us, at 50 Hz and 5KHz.

6. The power supply shall have thermal protection against over temperature condition caused by loss of airflow or excessive ambient temperature.

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Operating Temperature (7)	Refer to power de-rating curve		-20	-	+70	°C
Power De-rating	Operating Temperature at +50°C to +70°C		2.5			%/°C
Storage Temperature	Non-operation		-40	-	+85	°C
Operating Humidity	Non-condensing		20	-	90	%
Storage Humidity			10	-	95	
Altitude (8)	Operating altitude		-	-	5,000	meter
Electrical Strength Test (9)	Input - Output	Electrical strength test for 1 minute, leakage current is less than 10mA.	3,000	-	-	VAC
	Input - FG		1,800	-	-	
	Output - FG		500	-	-	VDC
Insulation Resistance	Input - Output	25±5°C, 70% RH, non-condensing testing voltage 500VDC.	50	-	-	MΩ
	Input - FG		50	-	-	
	Output - FG		50	-	-	
Mean Time Between Failure	At 230VAC/50HZ full load 25°C, Telcordia SR332, issue 4.		300,000	-	-	Hrs.
Vibration	Non-operating：0.3G, 10-100Hz, 3 min/cycle, 30 min each axis (X, Y, Z)					
Shock	Non-operating (package)：30G, 11 ms, 1 shock per direction per axis (X, Y, Z)					

Notes:

7. Some specifications may not be met below 0°C.

8. For every 305 meters of altitude increase, the operating ambient temperature needs to be decreased by 1°C.

9. The electric strength test of LY production line was conducted for 3 seconds, and the leakage current was less than 10mA.

Safety Approvals

Safety Standard	-	UL/cUL UL62368-1, 2nd Edition; CB IEC62368-1, 2nd Edition.
Safety Class	-	Class I only

Electromagnetic Compatibility (EMC)

Emissions (10)	CE	EN55032(CISPR32) Class B, FCC part 15 Class B	
	RE	EN55032(CISPR32) Class B, FCC part 15 Class B	
	Harmonic Current	IEC/EN61000-3-2 Class A	
	Flicker	IEC/EN61000-3-3	
Immunity	ESD	IEC61000-4-2, Contact +/- 5KV; Air discharge +/-10KV	Criteria A
	RS	IEC61000-4-3, level 2, 10V/m	Criteria A
	EFT	IEC61000-4-4, level 2, +/- 1KV	Criteria A
	Surge	IEC61000-4-5, level 4, Line to Line +/-2KV; Line to Earth +/-4KV	Criteria A
	CS	IEC61000-4-6, level 2	Criteria A

	PFMF	IEC61000-4-8, level 1	Criteria A
	DIP	IEC61000-4-11	Criteria B

Note:

10. The power supply should be considered a part of the system component. All EMC tests conducted with the unit installed in a metal enclosure dummy system. The power supply needs to be confirmed for electromagnetic compatibility in conjunction with the terminal equipment.

Dimensions and Recommended Layout

Item	Value	Unit
Weight (Typ.)	1,500 (Ref.)	g
Size (L x W x H)	235 x 120 x 61	mm

Outline Drawing: (Unit: mm, Tolerance: ±0.5 mm)

