



DESCRIPTION:

300-312W Wide input AC/DC switching power supply

The rated output power of TPC/GKF-320-XS series is 300~312W, input voltage range: 90-264VAC, output voltage : 12V,24V. High reliability, precision,efficiency , ultra-small size, no external heat sink required, stable output voltage and etc, with short circuit, over-load,over-Power protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control , New Energy, Security,DC motor,CNC system and other electronic systems.

FEATURES

AC input 90-264 VAC	Built-in cooling fan speed control	short circuit, over-load protection
Operating temperature : -20℃~65℃	RoHS complaint	Withstand 300Vac surge input for 5 sec
Altitude up to 5000m	High efficiency, long life and high reliability	Built-in active PFC,PF>0.95

SELECTION GUIDE

Part Number	Input		Output					Efficiency @25℃ (Typ) %
	Volatge (VAC)		Voltage (VDC)	Pre-set voltage @25℃ (V)	Rated current (A)	Current range(A)	Rated power(W)	
	Rated	Range						
TPC/GKF-320-12S	220	90-264	12	12.00-12.10	25	0-25	300	≥84.5
TPC/GKF-320-24S	220	90-264	24	24.00-24.10	13	0-13	312	≥87

All specifications typical at TA=25℃, nominal input voltage and rated output current unless otherwise specified.

OUTPUT CHARACTERISTICS

Conditions	Conditions	Parameter
Ripple and noise, Ta is ambient 0<Ta≤65℃	12V output voltage	≤200mVp-p
Ripple and noise, Ta is ambient -20<Ta≤0℃	24V output voltage	≤150mVp-p
Dynamic load characteristics, -20<Ta≤65℃	12V output voltage	2.5A-25A: <±600mV 2.5A-12.5A: <±300mV 12.5A-25A: <±300mV
	24V output voltage	1.3A-13A: <1200mV 1.3A-6.5A: <600mV 6.5A-13A: <600mV
Output adjustment range @25℃	12V output voltage	10V~15V
	24V output voltage	20V-27V
Voltage regulation accuracy@-20~65℃	±2%@12V(11.76-12.24) / ±1%@24V(23.76-24.24)	
Line regulation@-20~65℃	±0.5%	
Load regulation@-20~65℃	±2%@12V(11.76-12.24) / ±1%@24V(23.76-24.24)	
Temp. coefficient@-20~65℃	±0.03%/℃	
Set-up time@25℃	≤2.0S (230Vac input, full load)	
	≤4.0S (120Vac input, full load)	
Hold-up time@25℃	≥10mS(230Vac/115Vac input, full load)	
Overshoot&Undershoot@-20~65℃	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	90Vac~264Vac 120~370VDC
MAX input voltage	300Vac 10S
Rated input voltage range	100Vac~240Vac
Frequency Range	47Hz~63Hz
Power factors@25℃	PF>0.98/120VAC & PF>0.95/230VAC (at full load)
Set-up voltage@-20~65℃	90Vac (70% load set-up,@-20℃) (100% load set-up, 230VAC INPUT @-40℃)
Input current@25℃	≤4.5A
Inrush current @25℃	≤50A@220Vac Cold start ≤30A@110Vac Cold start

PROTECTION @-20~65℃

Conditions	Parameter
Over-power (324-420W@12V,358-456W@24V)	Hiccup mode, auto recovery
Output short circuit protection	Long-term mode, Auto recovery
Over-load (27-35A@12V,14.5-19A@24V)	Hiccup mode, auto recovery

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-20℃~65℃; 20%~90%RH No condensing (refer to the derating curve)
Storage Temp. & Humi.	-40℃~85℃; 10%~95%RH No condensing
Vibration	10 ~ 500Hz, 2G 10min./1cycle, period for60min. each along X,Y, Z axes
Pulse	20G/11mS pulse ,3 times at each X,Y,Z axes
Altitude	5000m

SAFETY&EMC STANDARDS @25℃

Conditions	Parameter
Safety Standards	GB4943 / EN60950 for reference
Withstand Voltage	I/P-O/P:3.0KVac/10mA; I/P-FG:1.5KVac/10mA; O/P-FG:0.5KVdc/10mA test time:1min.
Grounding test	Test condition: 32A / 2min.; Grounding resistance: <0.1 ohms.
Leakage Current	I/P-Grounding≤3.5mA; I/P-O/P ≤0.25mA (264Vac 63Hz)
Isolation resistance	I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
EMC emission	EN55032 EN55024 Class B/FCC Part15
EMC immunity	EN61000-4-2,3,4,5,6,8,11

OTHERS

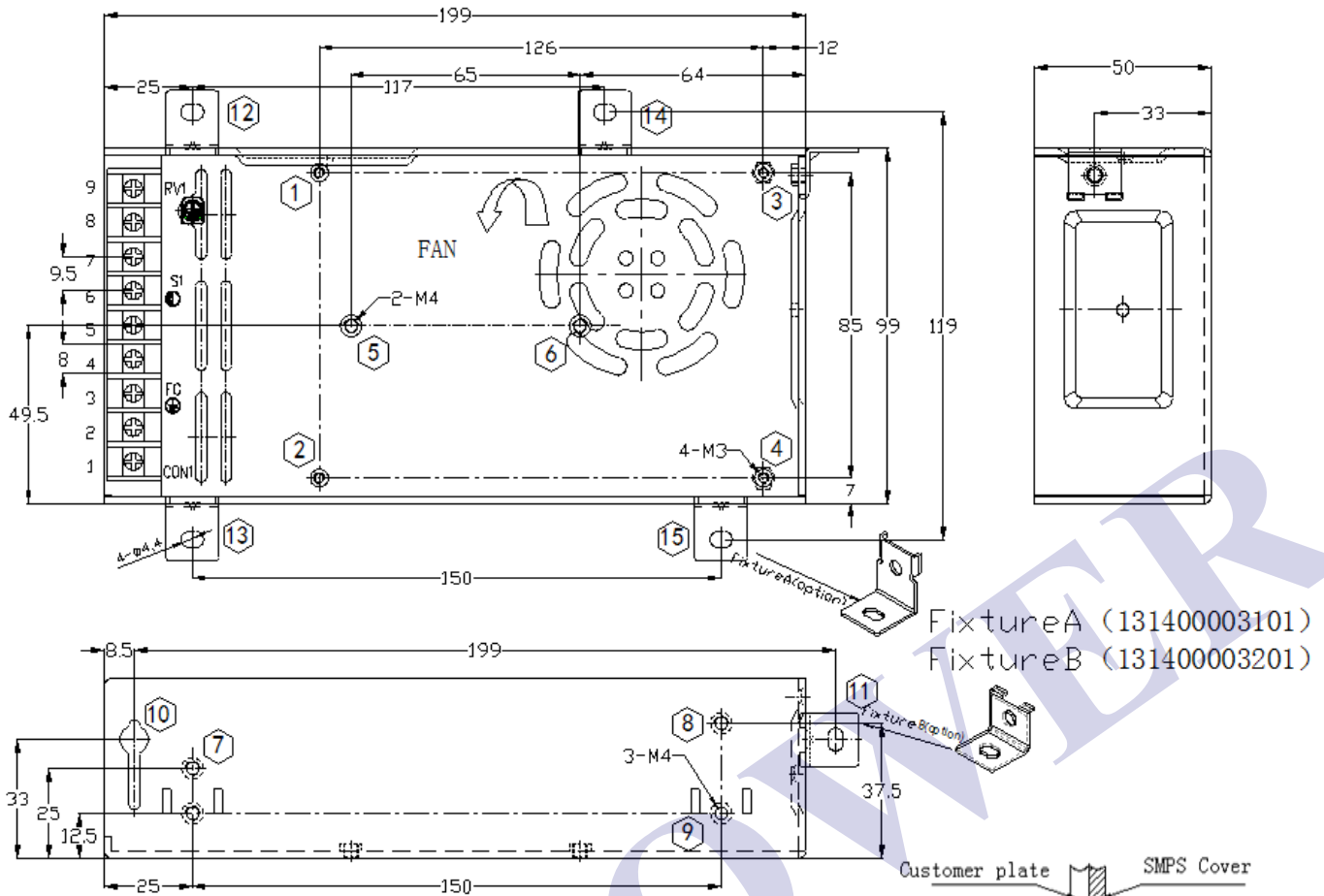
Conditions	Parameter
Cooling method	Cooling by forced air (built-in DC fan)
Dimension (L*W*H)	199*99*50mm
Net Weight	0.8kg

RELIABILITY CHARACTERISTICS

Conditions	Parameter
MTBF	100,000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method
Design electrolytic capacitor life-time	>2years AT 50℃ 230VAC input 80% output All using 105 ℃ long life electrolytic capacitor

MECHANICAL DIMENSIONS

Unit:mm



1. AC terminal blocks installation information

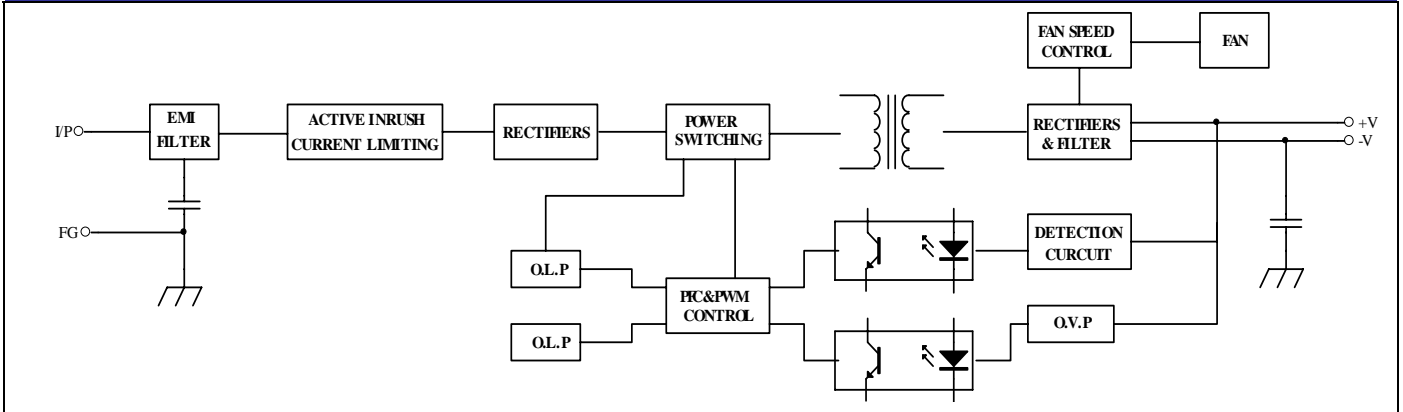
Terminal No.	Function	Wire Spec.	Recommended Torque
1	N	22-12AWG	7.5Kgf. cm (max)
2	L		
3	⊖		

2. DC terminal blocks installation information

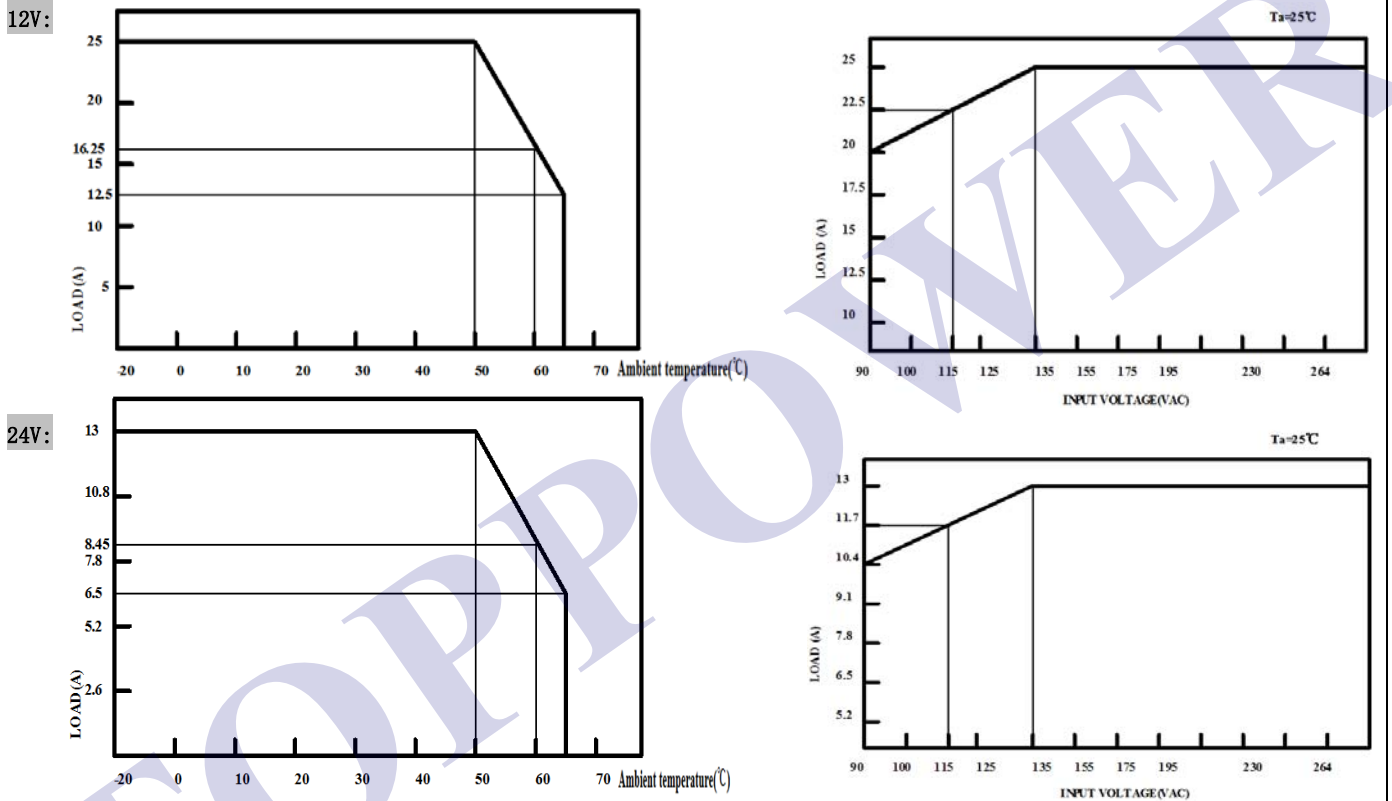
Terminal No.	Function	Wire Spec.	Recommended Torque
4/5/6	-V	22-12AWG	7.5Kgf. cm (max)
7/8/9	+V		

Mounting position	Mounting type	Mounting position No.	Screw type	Lmax	Mounting Torque
Bottom	Fixing by screws	①—④	M3	4MM	6.5Kgf. cm (max)
		⑤—⑥	M4	4MM	12Kgf. cm (max)
	Fixing by Bracket	⑫—⑮	M4	4MM	12Kgf. cm (max)
Side	Fixing by screws	⑦—⑨	M4	4MM	12Kgf. cm (max)
		⑩	M3	4MM	/
	Fixing by Bracket	⑪	M4	4MM	12Kgf. cm (max)

BLOCK DIAGRAM

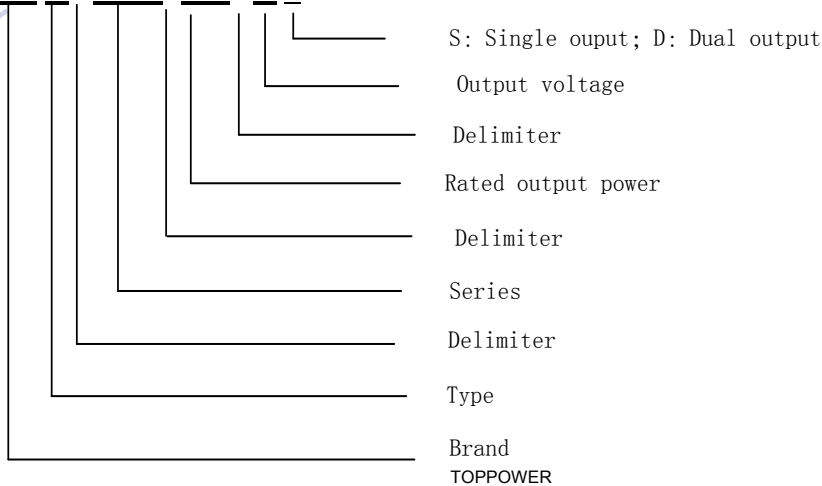


DERATING CURVE



MODEL SELECTION

TP C / GKF- 320- X S



TOPPOWER