


DESCRIPTION:
200W Wide input AC/DC switching power supply

The rated output power of TPC/GKF-200-XS series is 200.4~201.6W, input voltage range: 90-264VAC, output voltage: 12V, 24V, 48V. High reliability, precision, efficiency, ultra-small size, no external heat sink required, stable output voltage and etc, with short circuit, over-load, over-voltage 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	100% full load burn-in test	short circuit, over-load, over-voltage protection
Operating temperature: -25℃~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-200-12S	220	90-264	12	12.00-12.10	16.7	0-16.7	200.4	≥84
TPC/GKF-200-24S	220	90-264	24	24.00-24.10	8.4	0-8.4	201.6	≥87
TPC/GKF-200-48S	220	90-264	48	48.00-48.10	4.2	0-4.2	201.6	≥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 24V 48V output voltage	≤150mVp-p			
Ripple and noise,Ta is ambient -25<Ta≤0℃	12V 24V 48V output voltage	≤200mVp-p			
Dynamic load characteristics, -25<Ta≤65℃	12V output voltage	1.67A-16.7A: <±600mV	1.67A-8.35A: <±300mV	8.35A-16.7A: <±300mV	
	24V output voltage	0.84A-8.4A: <±1200mV	0.84A-4.2A: <±600mV	4.2A-8.4A: <±600mV	
	48V output voltage	0.42A-4.2A: <±2400mV	0.42A-2.1A: <±1200mV	2.1A-4.2A: <±1200mV	
Output adjustment range @25℃	12V output voltage	9V~15V			
	24V output voltage	20V-27V			
	48V output voltage	40V-53V			
Voltage regulation@-25~65℃	±2%@12V(11.76-12.24) / ±1%@24V(23.76-24.24) 48V(47.52-48.48)				
Line regulation@-25~65℃	±0.5%				
Load regulation@-25~65℃	±2%@12V(11.76-12.24) / ±1%@24V(23.76-24.24) 48V(47.52-48.48)				
Temp. coefficient@-25~65℃	±0.03%/℃				
Set-up time@25℃	≤2.0S / 4.0S (230Vac/120Vac input, full load) @ 12V 16.7A output /24V 8.4A output				
	≤2.0S /4.0S (230Vac/115Vac input, full load) @ 48V 4.2A output				
Hold-up time@25℃	≥12mS				
Overshoot&Undershoot@-25~65℃	<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

INPUT CHARACTERISTICS

Set-up voltage@-25~65℃	90Vac (80% load set-up,@-20℃) (100% load set-up, 220VAC INPUT @-40℃)
Input current@25℃	≤3.5A
Inrush current @25℃	≤50A@220Vac Cold start ≤60A@110Vac Cold start
Power factors@25℃	PF>0.98/120VAC & PF>0.95/230VAC (at full load)

PROTECTION @-25~65℃

Conditions	Parameter
Over-power (216-360W@12V,240-360W@24V,240-363W@48V)	Hiccup mode, auto recovery
Output short circuit protection	Long-term mode, Auto recovery
Over-load (18-30A@12V,10-15A@24V,5-7.56A@48V)	Hiccup mode, auto recovery

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-25℃~65℃; 20%~90%RH No condensing (refer to the derating curve)
Storage Temp. & Humi.	-40℃~85℃; 10%~95%RH No condensing
Vibration	10 ~ 500Hz, 5G 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

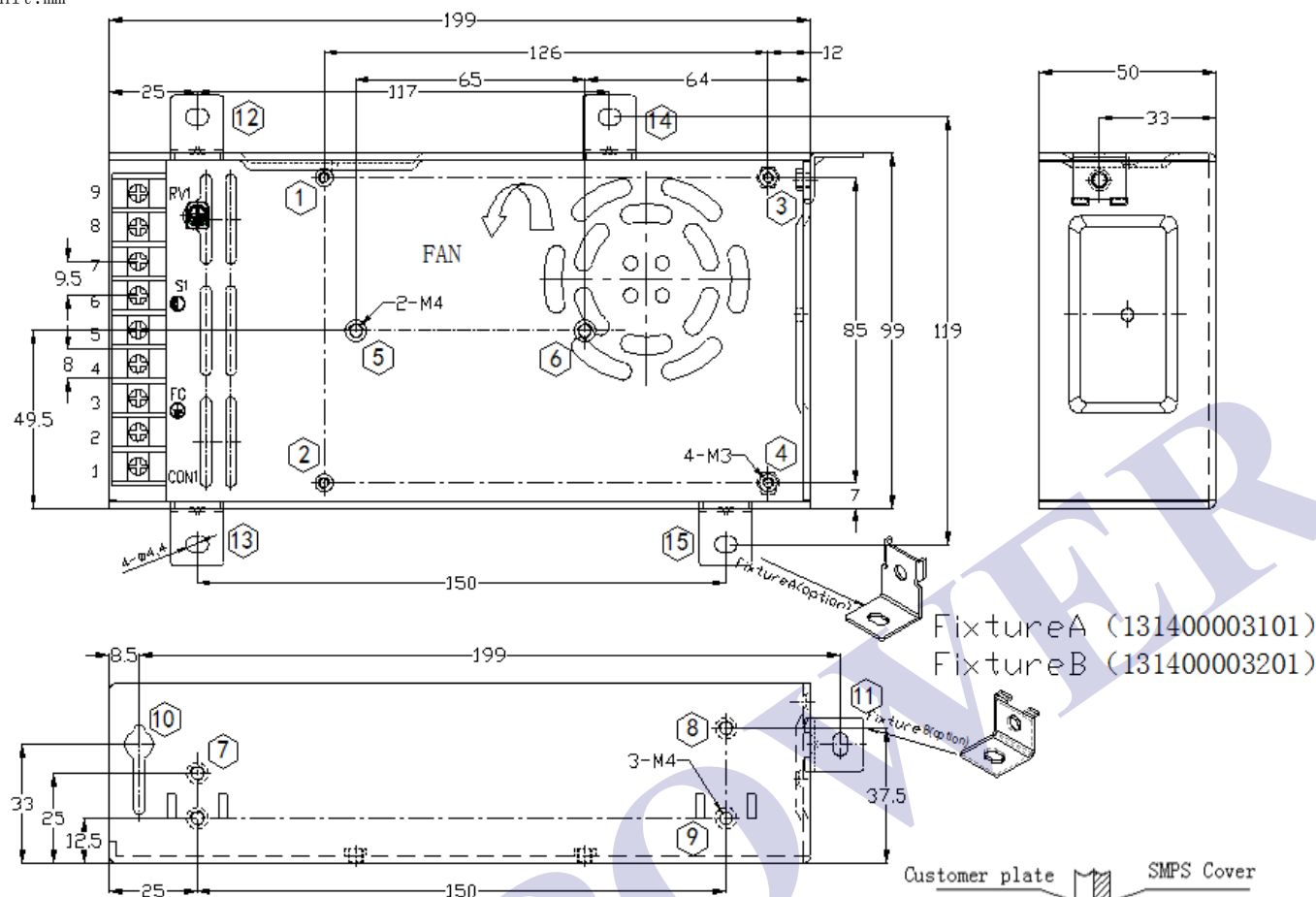
Conditions	Parameter
Cooling method	Cooling by forced air (built-in DC fan)
Dimension (L*W*H)	199*99*50mm
Net Weight	0.8kg

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

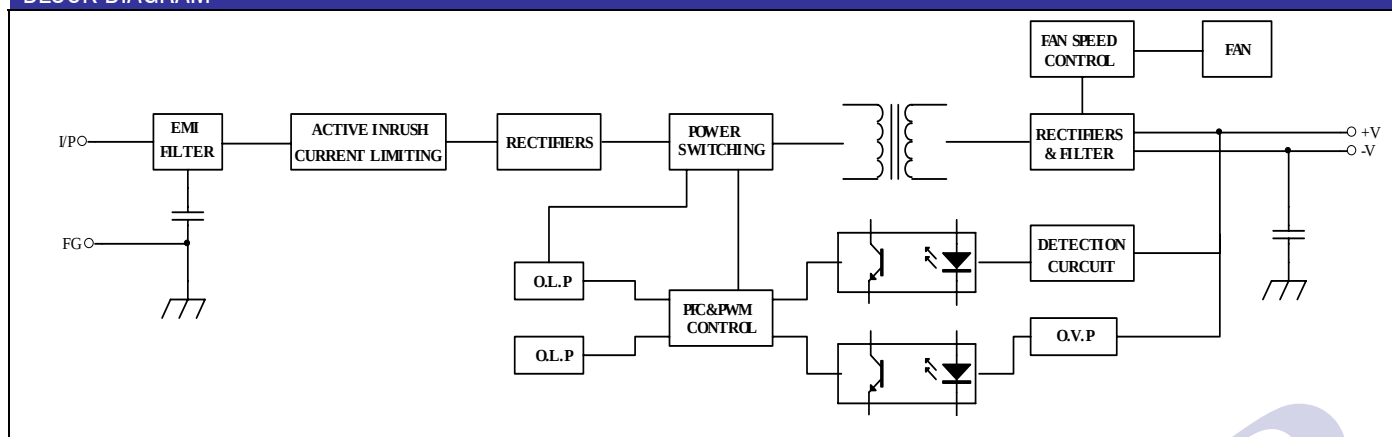
Terminal No.	Function	Wire Spec.	Recommended Torque
1	N	22-12AWG	7.5Kgf.cm (max)
2	L		
3	⊕		

2. DC terminal blocks installation information

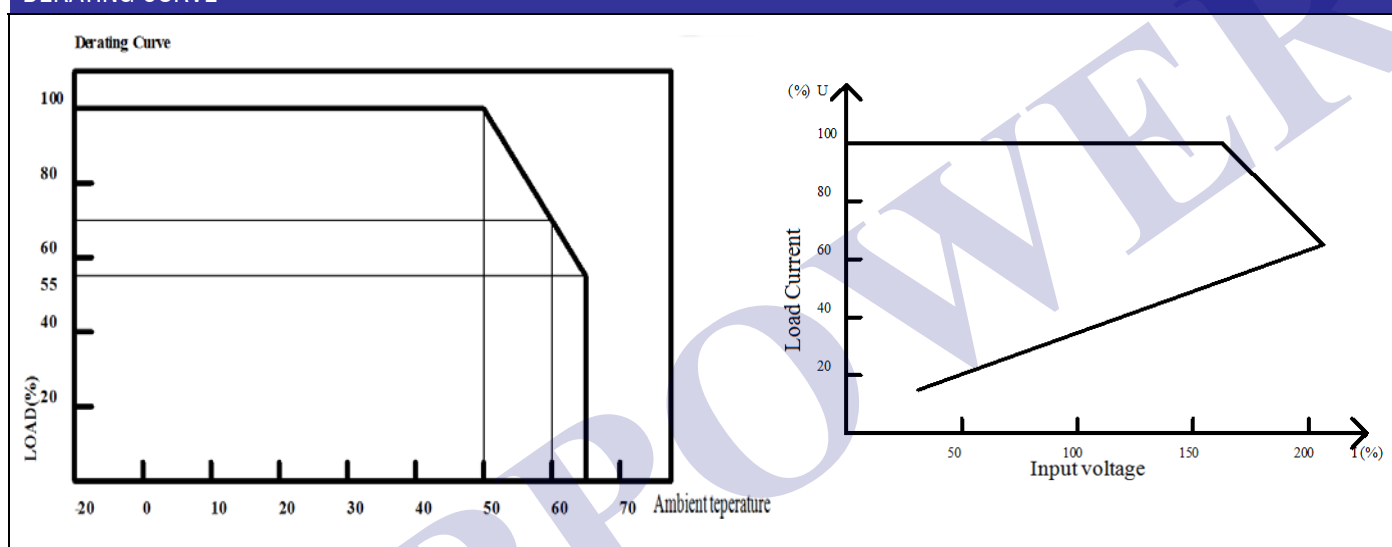
Terminal No.	Function	Wire Spec.	Recommended Torque
4/5/6	-V	22-12AWG	7.5Kgf.cm (max)
7/8/9	+V		

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

