



**DESCRIPTION:**

**100W Wide input AC/DC switching power supply**

The rated output power of TPC/PWF-100-XS series is 100W, input voltage range: 85-264VAC, output voltage: 12V,24V,36V,48V,High reliability, precision,efficiency, stable output voltage and etc, with short circuit, over-load protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control, New Energy, Security,and other electronic systems.

**FEATURES**

Universal AC input : 85VAC-264VAC	100% full load burn-in test	short circuit, over-load,over-voltage protection
Operating temperature: -20℃~65℃	RoHS complaint	Miniature size, high power density, high efficiency, long life and high reliability
Built-in Active PFC function, PF>0.93	Easy assembling from top side	PCB soldering side with conformal coating

**SELECTION GUIDE**

Part Number	Input		Output				Efficiency @25℃, (Typ) %	
	Volatge (VAC)		Voltage (VDC)	Rated current (A)	Current range (A)	Rated power(W)	120VAC input	230VAC input
	Rated	Range						
TPC/PWF-100-12S	220	85-264	12	8.5	0-8.5	102	85	83
TPC//PWF-100-24S	220	85-264	24	4.2	0-4.2	100.8	86	83
TPC//PWF-100-36S	220	85-264	36	2.75	0-2.75	99	86	83
TPC//PWF-100-48S	220	85-264	48	2.15	0-2.15	103.2	87	84

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	≤100mVp-p
	24V output voltage	≤150mVp-p
	36V,48V output voltage	≤250mVp-p
Ripple and noise,Ta is ambient , -20<Ta≤0℃	12V output voltage	≤200mVp-p
	24V output voltage	≤300mVp-p
	36V,48V output voltage	≤500mVp-p
Dynamic load characteristics, 0<Ta≤65℃	10%-100%: <±10%Vp-p	50%-100%: <±5%Vp-p    10%-50%: <±5%Vp-p
Dynamic load characteristics, -20<Ta≤0℃	10%-100%: <±15%Vp-p	50%-100%: <±10%Vp-p    10%-50%: <±10%Vp-p
Output adjustment range @25℃	12V output voltage	10.8V-13.2V
	24V output voltage	21.6V-26.4V
	36V output voltage	32.4V~39.6V
	48V output voltage	43.2V-52.8V
Voltage regulation accuracy@-20~65℃	±2.0% @12V , ±1.0% @24V 36V 48V	
Line regulation@-20~65℃	±0.5%	
Load regulation@-20~65℃	±0.5%@12V24V 48V, ±1.0%@36V	
Temp. coefficient@-20~65℃	±0.03%/℃	
Set-up time@25℃	≤2S ( 230Vacinput, full load )	
Hold-up time@25℃	≥20mS(230Vac input, Full load)	
Overshoot&Undershoot@-20~65℃	<5.0%	

**INPUT CHARACTERISTICS**

Conditions	Parameter
Input voltage range	85Vac~264Vac
Power factor @25℃	PF>0.93@230Vac
Rated input voltage range	100Vac~240Vac
Frequency Range	47Hz~63Hz

## INPUT CHARACTERISTICS

Set-up voltage@-30~70℃	90Vac (refer to the derating curve)
Input current@25℃	1.7A@115Vac / 0.8A@230Vac
Inrush current @25℃	≤50A@230Vac Cold start & <30A@115VAC Cold start

## PROTECTION @-30~70℃

Conditions	Parameter
Over-power	105%~200% of rated output current, hiccup mode, auto recovery
Over-load	105%~200% of rated output current, hiccup mode, auto recovery
Output short circuit protection	Long-term 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.	-20℃~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
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 input 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 Class B
EMC immunity	EN61000-4-2,3,4,5,6,8,11 heavy industry level
Harmaonic current	EN61000-3-2, CLASS D

## OTHERS

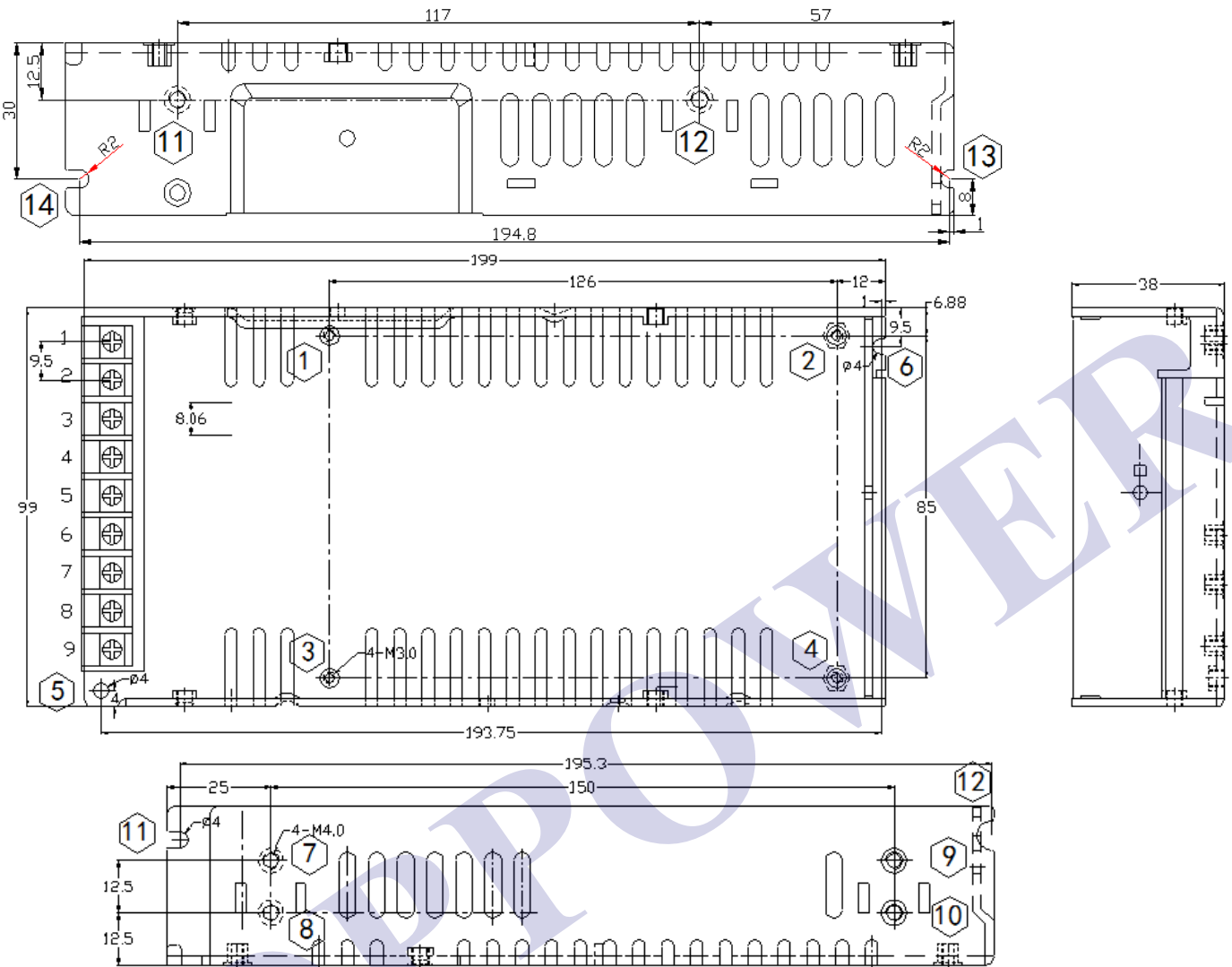
Conditions	Parameter
Cooling method	Cooling by free air flow
Dimension (L*W*H)	190*99*38mm
Net Weight	0.7kg

## 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 100% load output

**MECHANICAL DIMENSIONS**

Unit: mm tolerance: +1mm



**Instruction of AC output Connector**

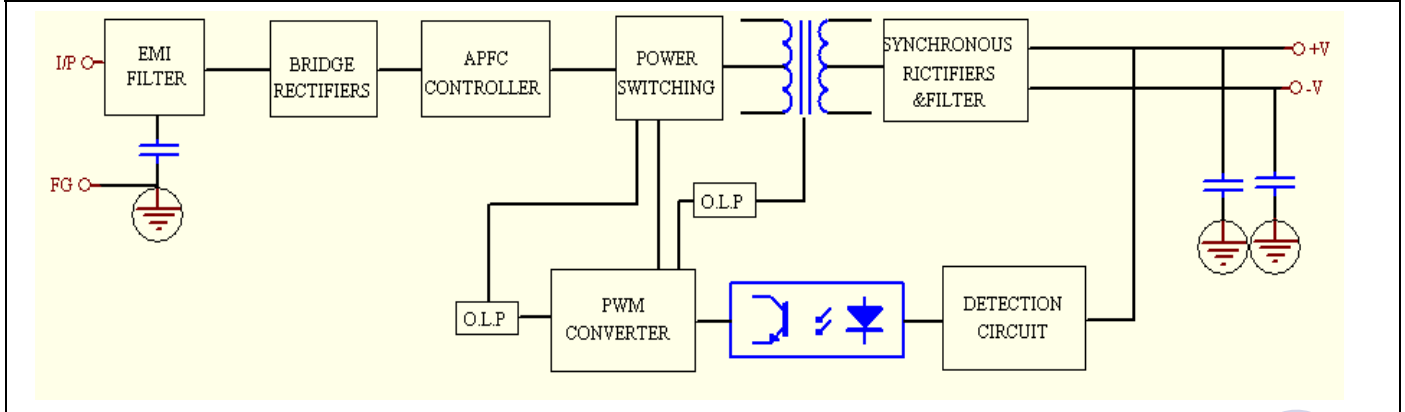
Part No.	Function	Connector	Requirement	Torque(max)
1	AC-L	95 Terminal Block	22-12AWG	8Kgf.cm
2	AC-N			
3	⊕			

**Instruction of DC output Connector**

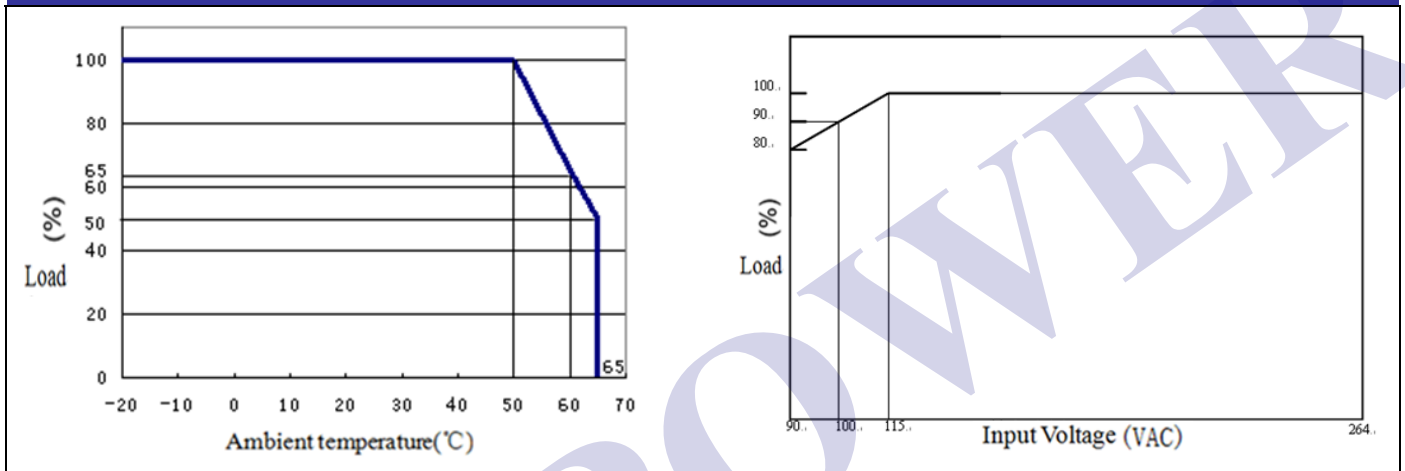
Part No.	Function	Connector	Requirement	Torque(max)
4/5/6	-V	95 Terminal Block	22-12AWG	8Kgf.cm
7/8/9	+V			

Mounting No.	position	Screw Type	L (Max)	Mounting torque(Max)
①—④		M3	2.5MM	6.5Kgf.cm
⑤—⑥		M3	4MM	6.5Kgf.cm
⑦—⑩ ⑪—⑫		M3	4MM	6.5Kgf.cm
⑬—⑭		M4	4MM	6.5Kgf.cm

**BLOCK DIAGRAM**



**DERATING CURVE**



**MODEL SELECTION**

