


DESCRIPTION:
1200W wide input AC/DC switching power supply

The rated output power of TPC/PDF-1200-XS series is 1200W, input voltage range: 90-264VAC, output voltage: 24V, 36V, 48V, High reliability, precision, efficiency, ultra-small size, no external heat sink required, stable output voltage and etc, with over current protection, short circuit, overload protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control, New Energy, Security, and other electronic systems.

FEATURES

AC input : 90VAC-264VAC	short circuit, overload, over-voltage protection	Operating temperature: -25°C ~50°C
RoHS complaint	High reliability, efficiency, 100% full load burn-in test	Built-in active PFC function, PF>0.96
Build in DC OK signal	Using ZVS technology to reduce power dissipation	Built in AC inrush current limiting circuit(<20A)
1 U low profile, 41mm	Built in Fan speed control/Built in Remote Sense Function	PCB soldering side with conformal coating

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/PDF-1200-24S	220	90-264	24	24.00-24.10	25/50	0-50	1200	89
TPC/PDF-1200-36S	220	90-264	36	35.75-36.25	15/34	0-34	1200	89
TPC/PDF-1200-48S	220	90-264	48	48.00-48.10	25	0-25	1200	≥90

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

OUTPUT CHARACTERISTICS

Conditions	Conditions	Parameter
Ripple and noise, Ta is ambient, 0<Ta≤50°C	24V 36V output voltage	≤150mVp-p
Ripple and noise, Ta is ambient, 0<Ta≤50°C	48V output voltage	≤200mVp-p
Ripple and noise, Ta is ambient, -25<Ta≤0°C	24V 36V output voltage	≤150mVp-p
Ripple and noise, Ta is ambient, -25<Ta≤0°C	48V output voltage	≤400mVp-p
Dynamic load characteristics, -25<Ta≤50°C	24V output voltage	5A-25A: Vp-p<1200mV 25A-50A: Vp-p<1200mV 5A-50A: Vp-p<1200mV (2mS)
	36V output voltage	8.5A-17A: Vp-p<1200mV 17A-25.5A: Vp-p<1200mV
	48V output voltage	ΔV: < 5%Vo
Output adjustment range @25°C	24V output voltage	21~27V
	36V output voltage	32~37V
	48V output voltage	45~53V
Rated output current	24V output voltage	50A at 176~246VAC input, 25A at 90~176VAC input
	36V output voltage	34A at 176~246VAC input, 15A at 90~176VAC input
	48V output voltage	25A
Voltage regulation accuracy @-20~50°C	±2% at 48V	
Voltage regulation accuracy @-25~50°C	±1% at 24V 36V	
Line regulation @-25~50°C	±0.5%	
Load regulation @-25~50°C	±1%	
Temp. coefficient @-25~50°C	±0.03%/°C	
Set-up time @25°C	≤2.0S@115Vac input	≤1.0S@(230Vac input, Full load)
Hold-up time @25°C	≥10mS@115Vac input	≥20mS@(230Vac input, Full load)
Overshoot&Undershoot	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	90Vac~264Vac
Rated input voltage range	100Vac~240Vac (24V 36V) 200Vac~240Vac (48V)
Frequency Range	47Hz~63Hz
Set-up voltage @-20~65℃	90Vac (refer to the derating curve)
Input current @25℃	<10 A
Inrush current @25℃	<10A@230Vac input 24V output <20A@230Vac input 36V output <30A@264Vac input 48V output
Power Factor(Typical)	PF≥0.96/230VAC PF≥0.98/115VAC Full Load
Leakage Current	Input—output: ≤0.25mA Input—PG: ≤3.5mA

PROTECTION @-20~65℃

Conditions	Parameter	Notes
Over-Load	24V 36V 48V	105%~125% of rated current, constant current, auto recovery
Over-power	24V 36V 48V	105%~125% of rated power, constant current, auto recovery
Over-voltage	24V 36V 48V	110%~130% of rated output voltage, constant voltage
Over-temperature	24V 36V 48V	115℃+5℃(detect on Mosfet temperature);shut down,auto recovery after the temperature goes down to 75℃
Output short circuit protection	Long-term model , constant current,auto recovery	

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-25℃~50℃; 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 (48V) 3000m (24V 36V)

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.
Isolation resistance	I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
Grounding test	24V/36V: Test condition: 40A / 1min.Grounding resistance: <0.1 ohms. 48V: Test condition: 32A / 2min.Grounding resistance: <0.1 ohms.
DC OK signal	4~6V
EMC emission	Compliance to EN55022, CLASS B FCC PART15B
EMC immunity	Compliance to EN61000-4-2,3,4,5,6,8,11 heavy industry Leve
Harmonic Current	Compliance to EN61000-3-2,Class D

OTHERS

Conditions	Parameter
Cooling method	Cooling by free air flow
Dimension (L*W*H)	226*116.5*41mm
Net Weight	1.22kg

RELIABILITY CHARACTERISTICS

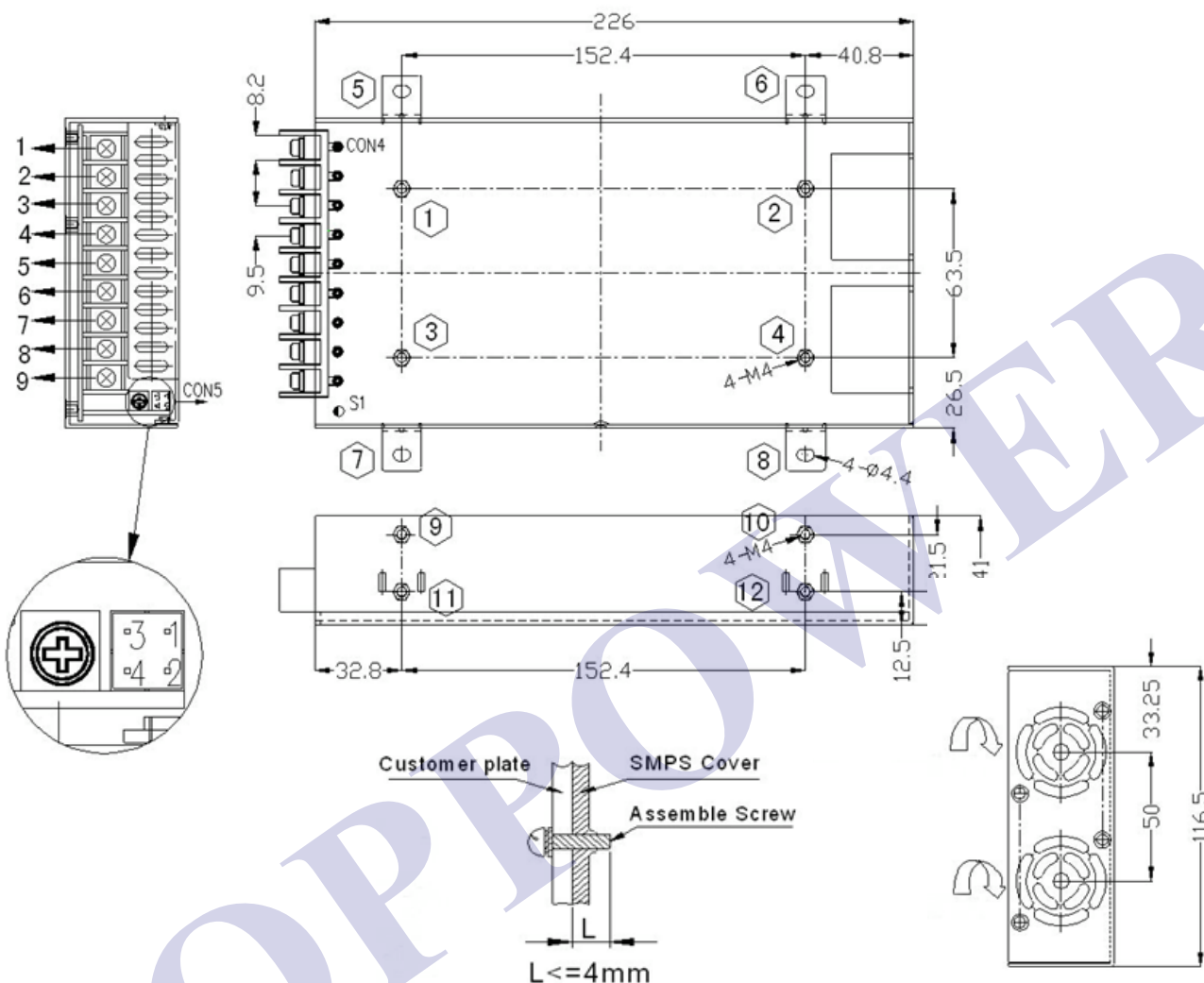
Conditions

Parameter

MTBF

200, 000Hrs AT 25°C, MIL-217 Method 2 Components Stress Method

MECHANICAL DIMENSIONS



1.AC terminal blocks installation information

	Terminal No.	Function	Wire Spec	Recommended torque
CON4	1	L	22~12AWG	12Kgf.cm(max)
	2	N		
	3	⊕		

2.DC terminal blocks installation information

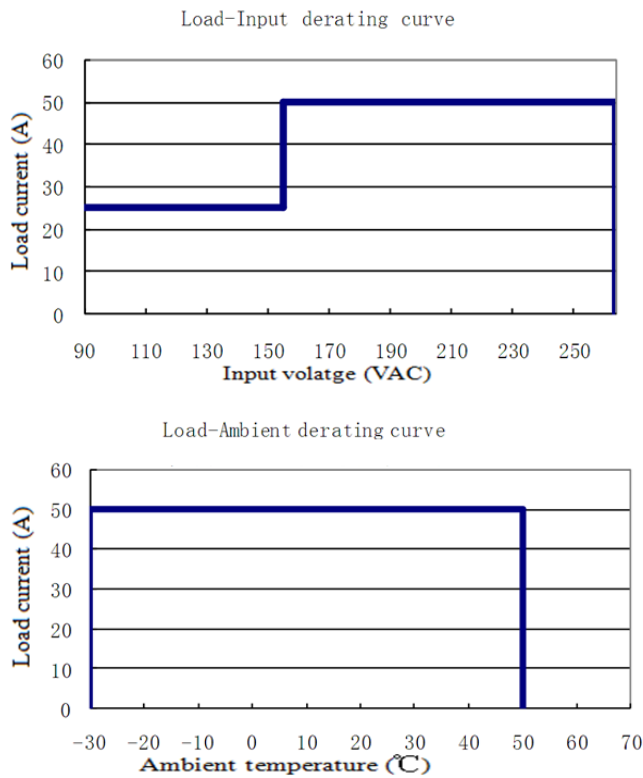
Terminal No.	Function	Wire Spec	Recommended torque
4 / 5/6	+V	22~12AWG	12Kgf.cm(max)
7/8/9	-V		

3.Signal terminal blocks installation information

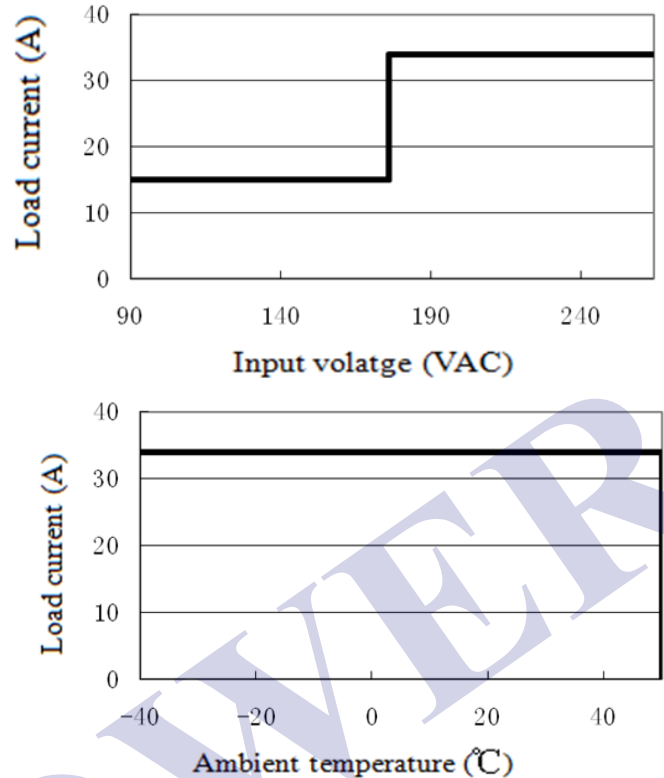
	Terminal No.	Function	Terminal Standard
CON5	1	+S	A2006WR-2X2PIN
	2	-S	
	3	DC OK	
	4	GND	

DERATING CURVE

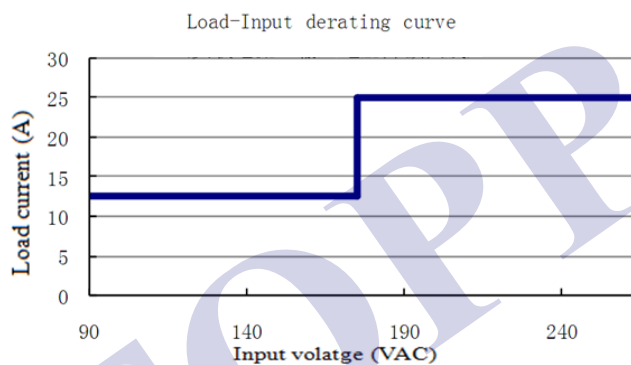
24V



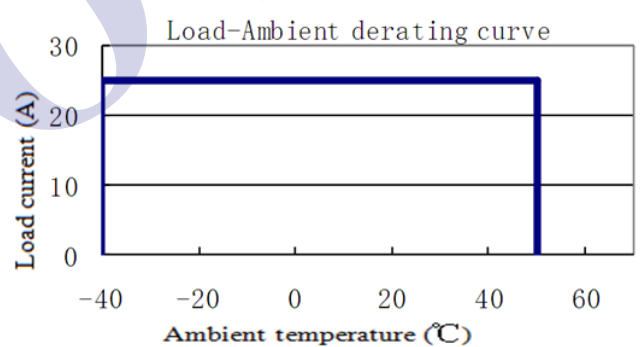
36V



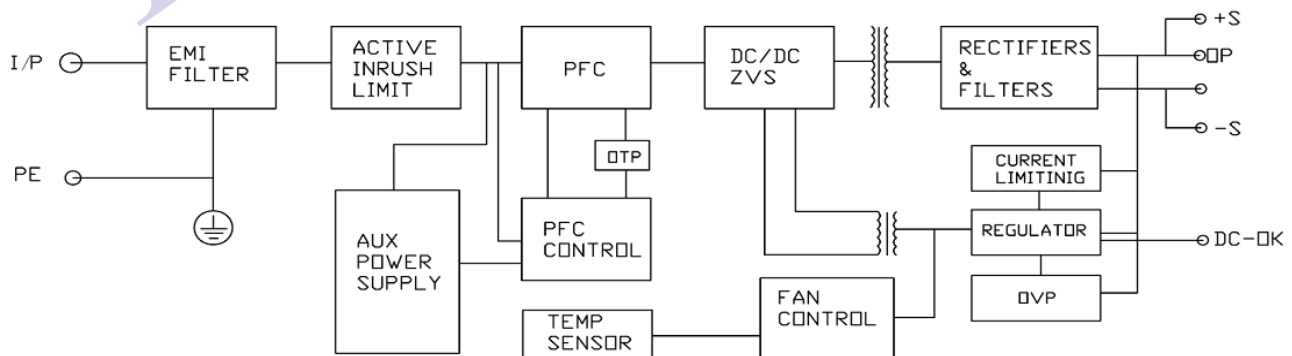
48V



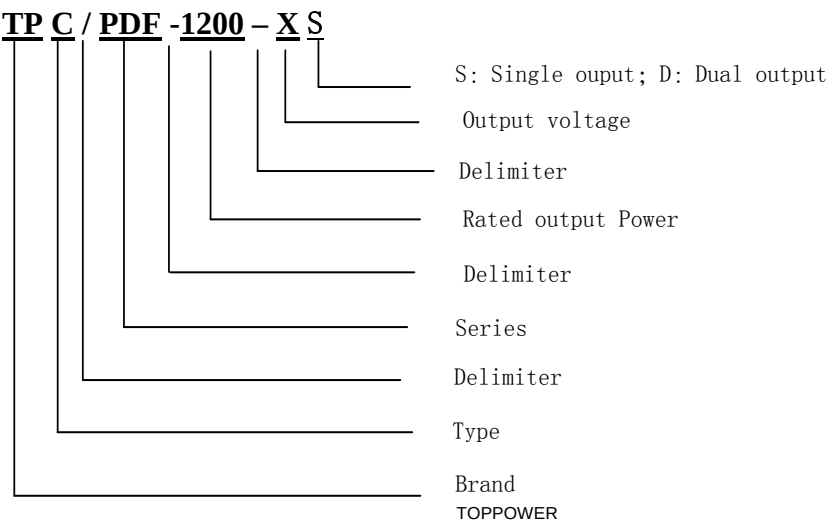
48V



BLOCK DIAGRAM



MODEL SELECTION



TOPPOWER