TOPPOWER

TPC/NE-50-XS series

DESCRIPTION : **40-53.76W Wide input AC/DC switching power supply**

The rated output power of TPC/NE-50-XS series is 40-53.76W, input voltage range: 90~264Vac, output voltage : 5V,12V,24V,48V,High reliability, precision,effificency , with short circuit, over-voltage,over-load protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control , New Energy, Security,and other electronic systems.

FEATURES

AC input selectable by switch : 90~264 VAC	100% full load burn-in test	short circuit ,over-voltage, over-load protection
Operating temperature: -25℃~70℃	RoHS complaint	High reliability,effificency
All using 105℃ long-life electrolytic capacitors	/	/

SELECTION GUIDE

Part Number	Input		Output					
	Volatge (VAC)		Voltage (VDC)	Pre-set voltage @25℃(V)	Rated current (A)	Current range(A)	Rated power(W)	Efficiency @25℃, (Typ) %
	Rated	Range values						
TPC/NE-50-5S	220	90-264	5	5.00-5.05	8	0-8	40	⩾78
TPC/NE-50-12S	220	90-264	12	12.00-12.10	4.2	0-4.2	50.4	⩾82.5
TPC/NE-50-24S	220	90-264	24	24.00-24.10	2.2	0-2.2	52.8	⩾85
TPC/NE-50-48S	220	90-264	48	48.00-48.10	1.12	0-1.12	53.76	⩾86

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 @0~70℃	5V output voltage	⩽80mVp-p
	12V output voltage	⩽120mVp-p
	24V,48V output voltage	⩽200mVp-p
Ripple and noise,Ta is ambient @-25~0℃	5V output voltage	⩽160mVp-p
	12V,24V output voltage	⩽300mVp-p
	48V output voltage	⩽500mVp-p
Output adjustment range @25℃	5V output voltage	4.75V-5.5V
	12V output voltage	10.8V~13.2V
	24V output voltage	21.6V-26.4V
	48V output voltage	43.2V~52.8V
Voltage regulation accuracy@-25~70℃	±3%@5V, ±1%@12V24V48V	
Line regulation@-25~70℃	±0.5%	
Load regulation@-25~70℃	±1%	
Temp. coefficient@-25~70℃	±0.03%/℃	
Set-up time@25℃	⩽2.0S (120Vac input, full load), ⩽1.0S (230Vac input, full load)	
Hold-up time@25℃	⩾10mS(120Vac input, Full load) ⩾20mS(230Vac input, Full load)	
Overshoot&Undershoot@-25~70℃	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	90~264Vac
Rated input voltage range	100~240Vac selectable by switch
Max input voltage	300Vac @5000mS

TPC/NE-50-XS series

INPUT CHARACTERISTICS

Frequency Range	47Hz~63Hz
Set-up voltage@-25~70℃	88Vac（refer to the derating curve）
Input current@25℃	<1.3A
Inrush current @25℃	45A@230Vac Cold start
Standby power@25℃	＜0.5W
Capacitive load	5V,12V @10000uF
	24V,48V @5000uF

PROTECTION @-25～70℃

Conditions	Parameter
Over-power	105%~150% of rated power, Hiccup mode, auto recovery
Over-load	105%~150% of rated current constant power, auto recovery
Over-voltage	105%~150% of rated voltage constant voltage, auto recovery
Output short circuit protection	Long-term mode, Auto recovery

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-25℃~70℃; 20%~90%RH No condensing
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：40A / 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: 100M ohms; I/P-FG : 100M ohms; O/P-FG : 100M ohms
EMC emission	EN55022 Class B
EMC immunity	EN61000-4-2,3,4,5,6,8,11 light industry level, criteria A

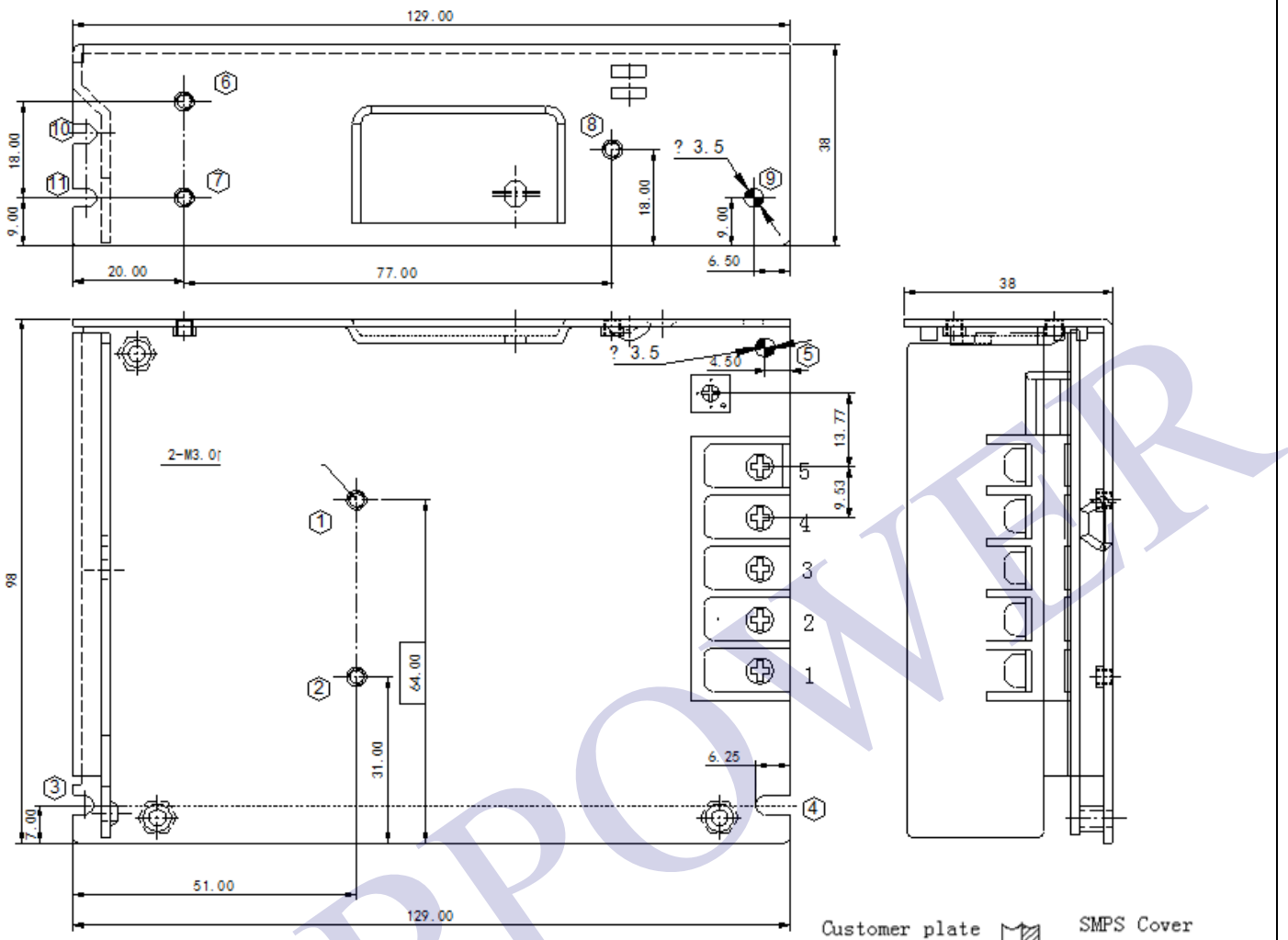
OTHERS

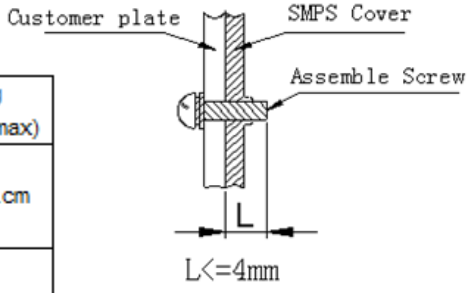
Conditions	Parameter
Cooling method	Cooling by flow air
Dimension (L*W*H)	129*98*38mm
Net Weight	0.41kg

RELIABIILITY CHARACTERISTICS

Conditions	Parameter
MTBF	200,000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method
Design electrolytic capacitor life-time	>2years AT 50℃ 220VAC input 100% output

MECHANICAL DIMENSIONS





1.Mounting Way

Mounting position	Mounting type	Mounting position No.	Screw Type	Lmax	Mounting Torque(max)
Bottom mounting	Fixing by Screw	① — ②	M3	3mm	6.5Kgf.cm
		③ — ⑤	M3	5mm	
Side mounting	Fixing by Screw	⑥ — ⑧	M3	3mm	6.5Kgf.cm
		⑨ — ⑪	M3	5mm	

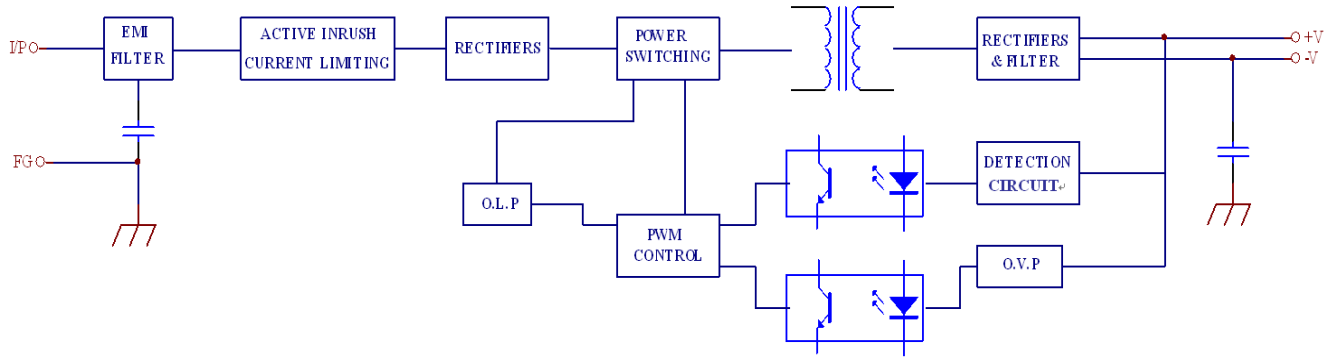
2.Instruction of AC output Connector

Part No.	Function	Connector	Requirement for Cable	Torque(max)
1	AC-L	95 Terminal Block	22-14AWG	7.5Kgf.cm
2	AC-N			
3	⏚			

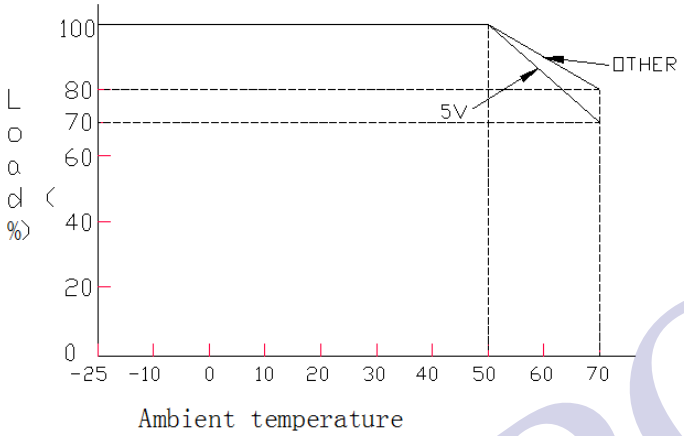
3.Instruction of DC output Connector

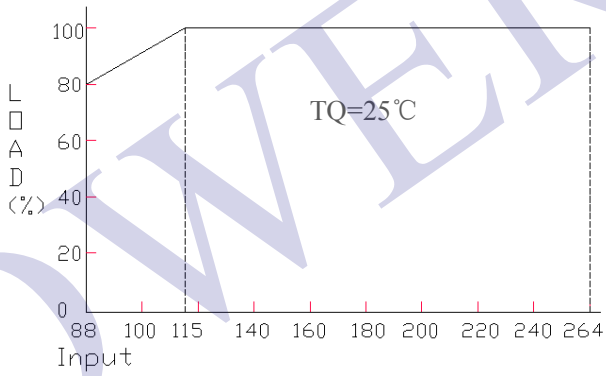
Part No.	Function	Connector	Requirement for Cable	Torque(max)
4	-V	95 Terminal Block	22-14AWG	7.5Kgf.cm
5	+V			

BLOCK DIAGRAM



DERATING CURVE





MODEL SELECTION