TOPPOWER

TPC/LR-200-XS series



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

The rated output power of TPC/LR-200-XS series is 200W，input voltage range：90-264VAC, output voltage : 12V,24V. High reliability, precision,effificency , 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,and other electronic systems.

FEATURES

AC input selectable by switch (115Vac/230Vac)	100% full load burn-in test	short circuit, over-load,over-voltage protection
Operating temperature：-25℃~70℃	RoHS complaint	Cooling by free air convection
Altitude up to 5000m	High efficiency, long life and high reliability	1U low profile

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/LR-200-12S	220	90-132 / 180-264	12	12.00-12.10	16.67	0-16.67	200	≥86.5
TPC/LR-200-24S	220	90-132 / 180-264	24	24.00-24.10	8.33	0-8.33	200	≥88.5

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≤70℃	12V 24V output voltage	≤150mVp-p
Ripple and noise,Ta is ambient -25＜Ta≤0℃		≤150mVp-p at 12V , ≤300mVp-p at 24V
Dynamic load characterstics, -25＜Ta≤70℃	12V output voltage	1.667A-16.67A：<±1200mV 1.667A-8.335A：<±600mV 8.335A-16.67A：<±600mV
	24V output voltage	0.833A-8.33A：<±2400mV 0.833A-4.165A：<±1200mV 4.165A-8.33A：<±600mV
Output adjustment range @25℃	12V output voltage	10.2V~13.8V
	24V output voltage	21.6V-28.8V
Voltage regulation accuracy@-25~70℃	±1.5%	
Line regulation@-25~70℃	±0.5%	
Load regulation@-25~70℃	±0.5%	
Temp. coefficient@-25~70℃	±0.03%/℃	
Set-up time@25℃	≤2.0S / 50mS (230Vac/115Vac input, full load) @ 12V 16.67A output /24V 8.33A output	
Hold-up time@25℃	≥16mS(230Vac input, Full load) ≥12mS(115Vac input, Full load) @ 12V 16.67A output /24V 8.33A output	
Overshoot&Undershoot@-25~70℃	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	90Vac~132Vac 180Vac~264Vac
Rated input voltage range	100Vac~120Vac 200-240Vac
Frequency Range	47Hz~63Hz

INPUT CHARACTERISTICS

Set-up voltage@-25~70℃	90/180Vac（90/180VAC 50% load set-up, 100/200VAC 80% load set-up @25℃）
Input current@25℃	≤4A@115Vac / ≤2.2A@230Vac
Inrush current @25℃	≤60A@115/230Vac Cold start
Standby power@25℃	＜0.5W

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PROTECTION @-25～70℃

Conditions	Parameter
Over-power	120%~180% of rated power, Hiccup mode, auto recovery
Over-voltage	120%~140% of rated output voltage, constant voltage, auto recovery
Over-load	120%~180% of rated current, Hiccup mode, 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 （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:2KVac/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≤2.0mA； I/P-O/P ≤0.25mA 240Vac
Isolation resistance	I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
EMC emission	EN55032 Class B/FCC Part15 Class B
EMC immunity	EN61000-4-2,3,4,5,6,8,11

OTHERS

Conditions	Parameter
Cooling method	Cooling by free air flow
Dimension (L*W*H)	190*99*30mm
Net Weight	0.57kg

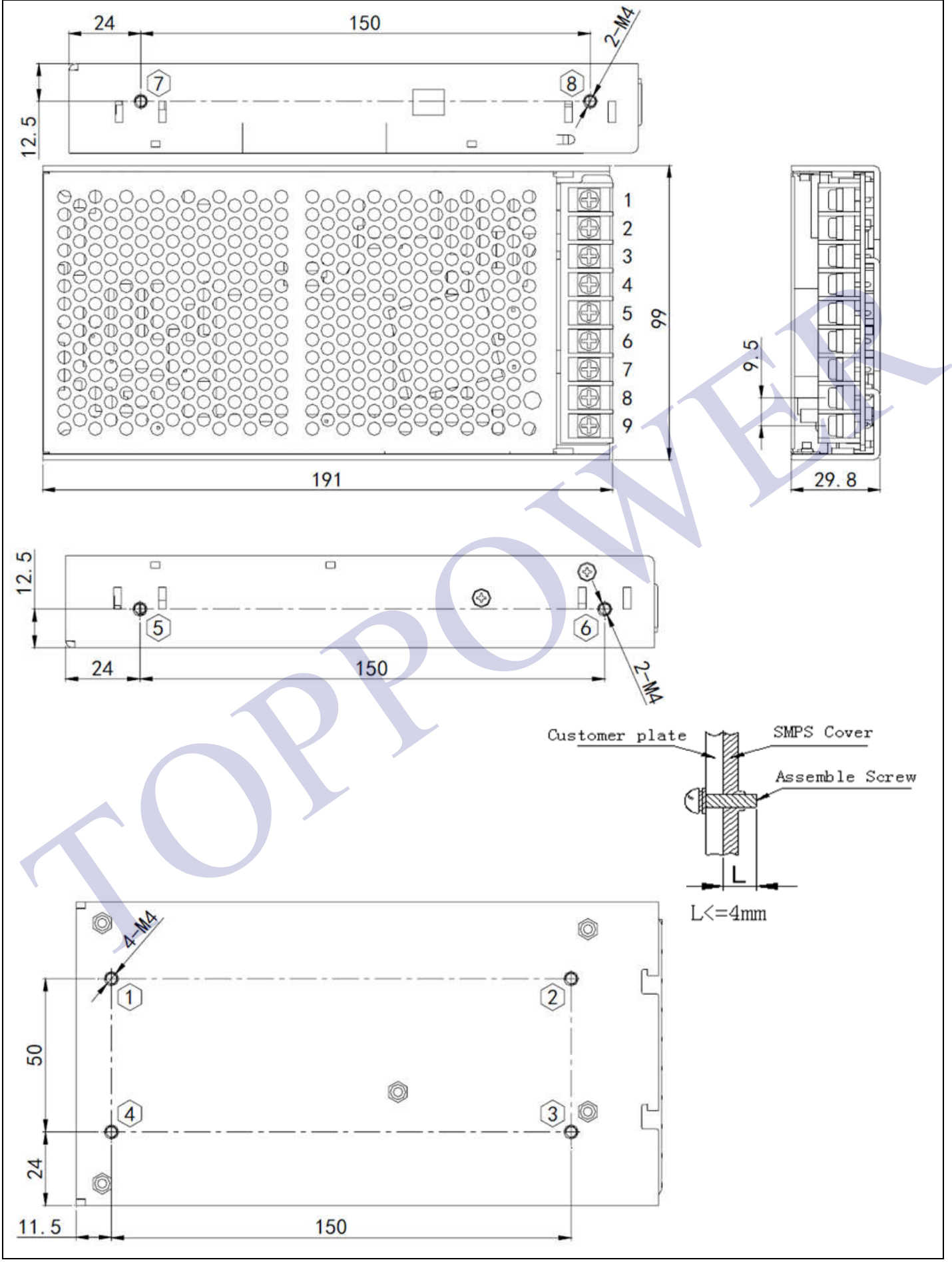
RELIABIILITY CHARACTERISTICS

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

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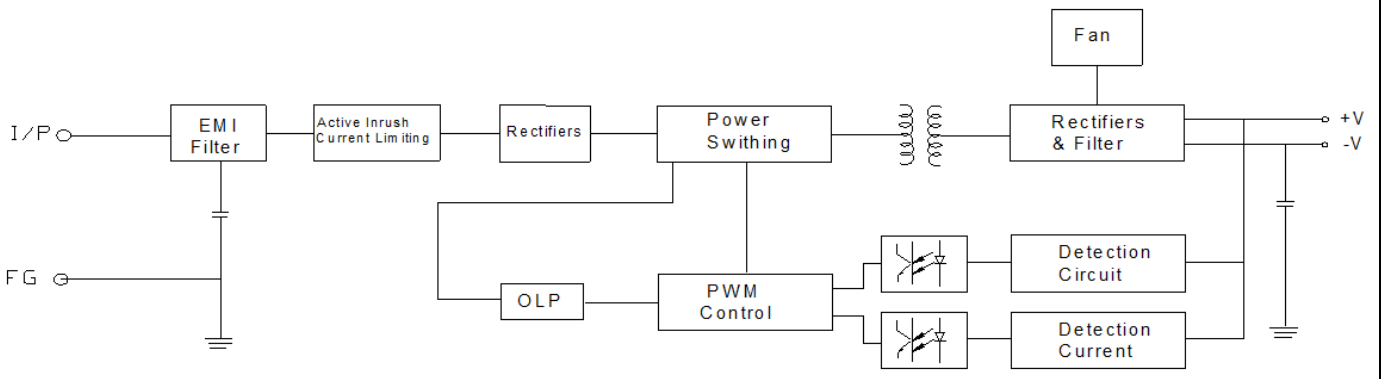
MECHANICAL DIMENSIONS



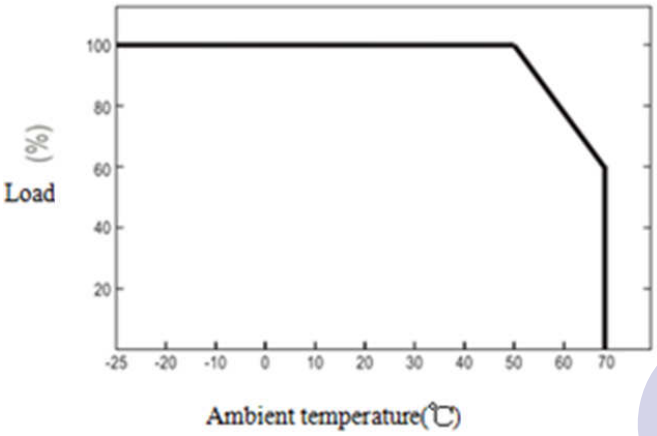
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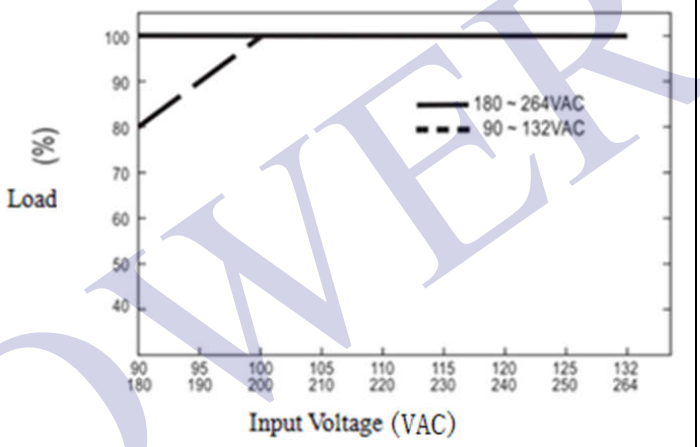
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BLOCK DIAGRAM



DERATING CURVE





MODEL SELECTION

TP C / LR -200– X S

- S: Single ouput; D: Dual output
- Output voltage
- Delimiter
- Rated output power
- Delimiter
- Series
- Delimiter
- Type
- Brand TOPPOWER

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