


DESCRIPTION:
100~120W AC-DC DIN RAIL Power Supply

The rated output power of TPR/SDR-120-XS series is 100~120W, input voltage range : 85-264VAC, output voltage : 12V, 24V, 48V, High reliability, precision, efficiency, ultra-small size, stable output voltage and etc., with 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 : 85VAC-264VAC, DC input: 127-360VDC	Built-in DC OK relay contact, Excellent Partial Load Efficiency	Operating temperature : -25℃~70℃
Mounting track: TS-35/7.5 or TS-35/15	Protection: short circuit, over-load, over-voltage, over-temperature	Mini width: 32mm
RoHS complaint	High reliability, efficiency, 100% full load burn-in test	Built-in current limiting circuit
Built-in active PFC, PF>0.95	Easy Fuse Tripping due to High Overload Current	150%(180W) peak load capacity

SELECTION GUIDE

Part Number	Input Volatge			Output				Efficiency @25℃, (Typ) %
	(VAC)		(VDC)	Voltage (VDC)	Pre-set voltage @25℃(V)	Rated current (A)	Rated power(W)	
	Rated	Range	Rated					
TPR/SDR-120-12S	220	85-264	127-360	12	12.00-12.10	8.33	120	89.5
TPR/SDR-120-24S	220	85-264	127-360	24	24.00-24.20	5.00	120	91
TPR/SDR-120-48S	220	85-264	127-360	48	48.0-48.40	2.50	120	92

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

OUTPUT CHARACTERISTICS

Conditions	Conditions	Parameter
Output voltage regulation	12V output voltage	12-14V
	24V output voltage	24-28V
	48V output voltage	48-56V
Rated Output current	12V output voltage	8.33A at 12V
		7.15A at 14V
	24V output voltage	5A at 24V
		4.5A at 28V
	48V output voltage	2.5A at 48V
Rated Output power	12V output voltage	100W/12V
	24V output voltage	120W/24V, 126W/28V
	48V output voltage	120W/48V, 126W/56V
Ripple&Noise 0<Ta≤70℃	12V 24V output voltage	≤120mVp-p
	48V output voltage	≤240mVp-p
Ripple&Noise -25<Ta≤0℃	12V output voltage	≤200mVp-p
	24V 48V output voltage	≤240mVp-p
Capacitive load capacity	12V output voltage	5000uF
	24V output voltage	3500uF
	48V output voltage	1250uF
Line regulation @-25~70℃	±0.5%	
Load regulation @-25~70℃	±1.0%	
Temp. coefficient @-25~70℃	±0.03%/℃	
Set-up time @25℃	≤250mS@230Vac input	≤500mS@100Vac
Hold-up time @25℃	≥20mS@ (230Vac input, Full load)	
Overshoot&Undershoot	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Rated Input voltage range	100VAC~240 VAC
Input voltage range	85VAC~264 VAC
input voltage range	127VDC-360VDC
Frequency Range	47Hz~63Hz
Set-up voltage @-25~70℃	<85 VAC <127VDC
Input current @25℃	<1.3 A/100VAC at 12V, <1.5 A/100VAC at 24V/48V, 1.1A/130VDC 0.4A/300VDC at 12V , 1.2A/130VDC 0.45A/300VDC at 24V/48V
Inrush current @25℃	<30A@100 Vac input <60A@230Vac input

PROTECTION

Conditions	Parameter	Notes
Over-Load （12Voutput）	10.7~12.5A	Limit output current
Over-Load （24Voutput）	6.7~7.5A	
Over-Load （48Voutput）	3.375~3.75A	
Over-voltage （12Voutput）	15~18V	Protection type:Locked, auto recovery
Over-voltage （24Voutput）	29~33V	
Over-voltage （48Voutput）	58~65V	
Over-temperature	Protection type: power-off , recovery after restart	
Output short circuit protection	Long-term model , auto recovery	

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi. (12V output)	-25℃~70℃; 20%~90%RH No condensing 60℃~70℃ 2.5W/℃ derating
Operating amb. Temp.&Humi. (24V output)	-25℃~70℃; 20%~90%RH No condensing 60℃~70℃ 3W/℃ derating
Operating amb. Temp.&Humi. (48V output)	-25℃~70℃; 20%~90%RH No condensing 60℃~70℃ 3W/℃ derating
Storage Temp. & Humi.	-40℃~85℃; 5%~95%RH No condensing
Vibration	10 ~ 500Hz, 2G, 10min./1cycle, each along X,Y, Z axes IEC 60068-2-6
Pulse	20G/11ms pulse ,3 times at each X,Y,Z axes IEC 60068-2-27
Altitude	6000m

SAFETY&EMC STANDARDS @25℃

Conditions	Parameter
Safety Standards	GB4943 ,EN60950 (for reference)
Withstand Voltage	I/P-O/P:3.0KVac/10mA; I/P-FG:2.5KVac/10mA; O/P-FG:0.5KVdc/20mA O/P- DC OK :0.5KVdc/1mA Test time:1min.
Isolation resistance	1/I-P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
Grounding test	12V,48V: Test condition: 32A / 1min 24V: Test condition: 32A / 2min.; Grounding resistance: <0.1 ohms
Leakage Current @ 25℃	I/P-Grounding≤3.5mA; I/P-O/P ≤0.25mA (264Vac input, 63Hz)
EMC emission	Compliance to EN55022, EN55024, FCC PART 15 CLASS B
EMC immunity	Compliance to EN61000-4-2,3,4,5,6,11 heavy industry level
Harmaonic current	EN61000-3-2, CLASS A

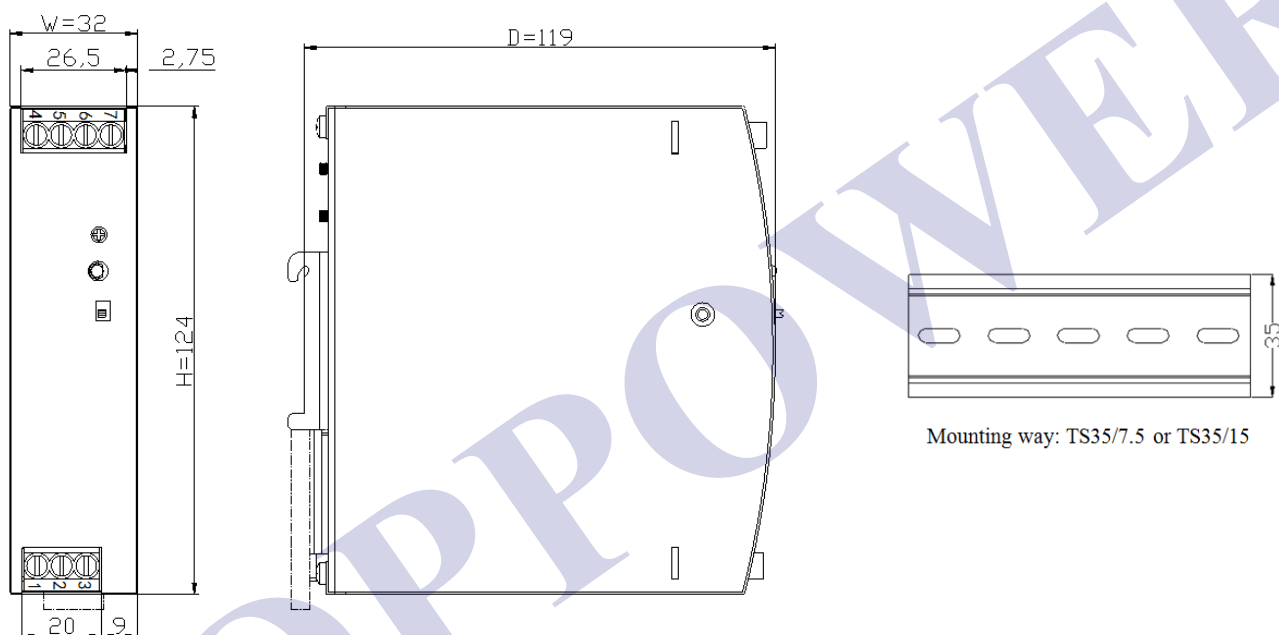
OTHERS

Conditions	Parameter		
Net Weight	0.53kg	Dimension (L*W*H)	124*119*32mm
Cooling method	Cooling by free air flow		
Series / parallel function	yes		
DC OK relay contact rating	Max 30V/1A or 60V/0.3A or 30Vac/0.3A Resistive load		
DC OK LED	V On: when output voltage is up to 90% of rated output voltage, V Off: when output voltage is down to 80% of rated output voltage		

RELIABILITY CHARACTERISTICS

Conditions	Parameter
MTBF	300, 000Hrs AT 25°C, MIL-217 Method 2 Components Stress Method

MECHANICAL DIMENSIONS



Mounting way: TS35/7.5 or TS35/15

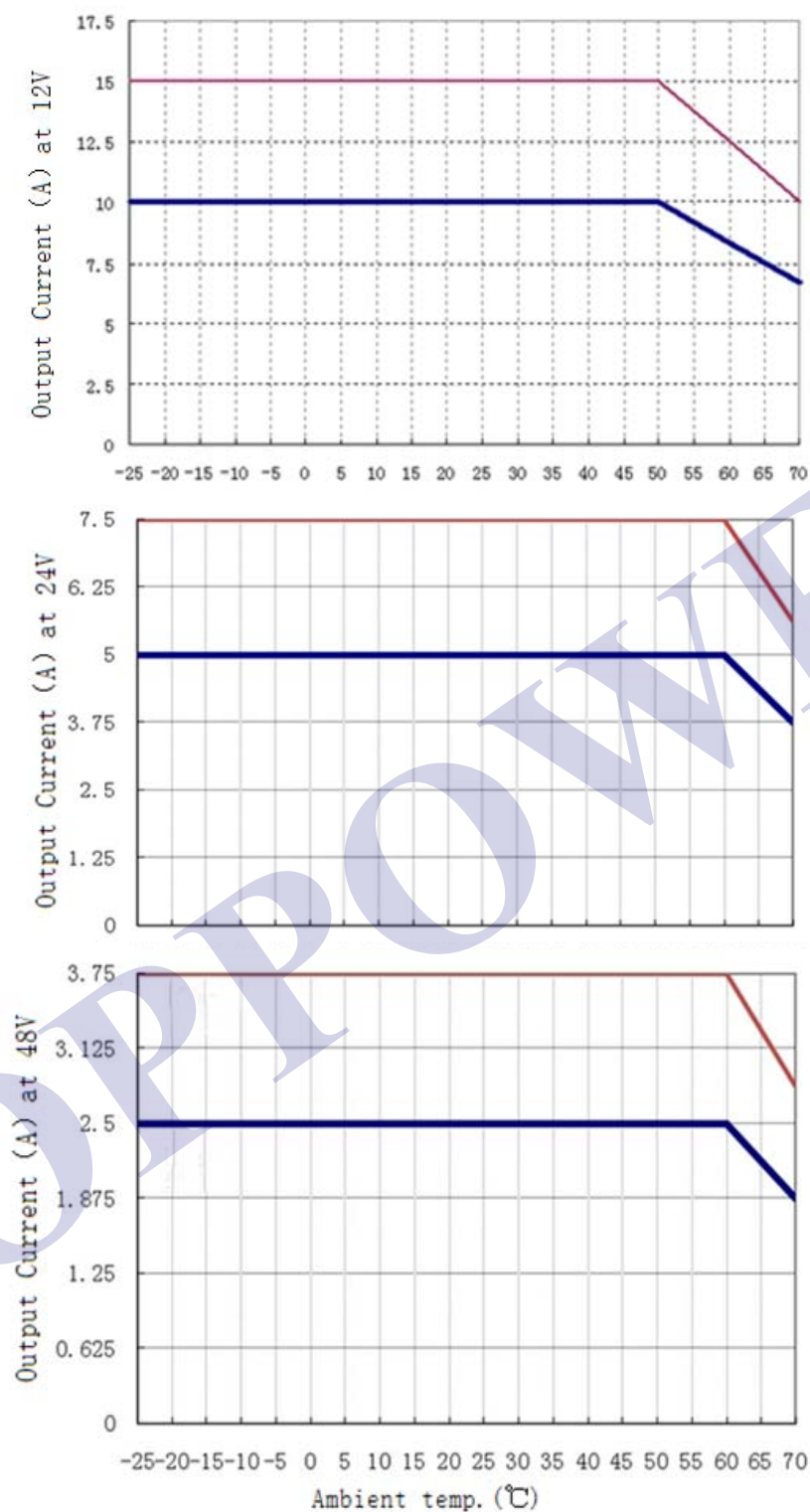
1.AC terminal blocks installation information

Terminal No.	Function	Wire Spec	Recommended torque
1	L	20~10AWG	1Nm
2	N		
3	PG		

2.DC terminal blocks installation information

Terminal No.	Function	Wire Spec	Recommended torque
4 & 5	DC OK Relay Contact	20~10AWG	1Nm
6	-V		
7	+V		

	AC/DC Terminal
Type	Screw terminal blocks
Solid Wire	0.5-6mm ²
Strand Wire	0.5-4mm ²
Wire Spec	AWG20-10 (PG wire >18AWG)
Max Wire Diameter	2.8mm
Recommended stripping length	7mm
Screwdriver	3.5mm Straight or Cross Screwdriver
Recommended Torque	1NM



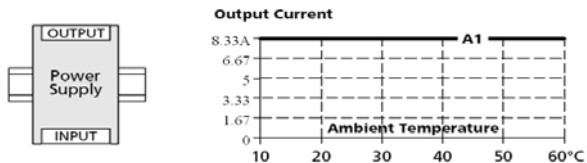
— Short time working
— Continuous working

MOUNTING METHOD INSTRUCTION

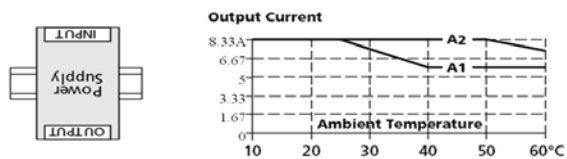
A1 is recommended output current , A2 is the allowed max output current (PSU lifetime is around half of A1)

12V output

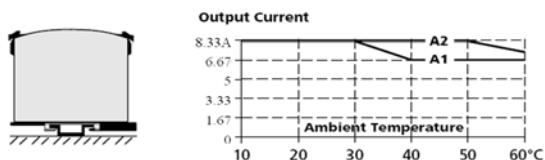
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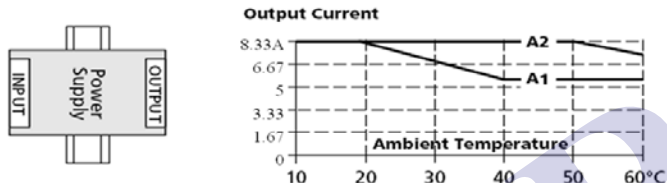
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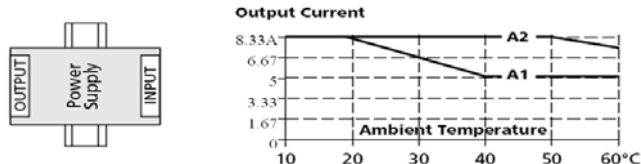
Mounting 3:



Mounting 4:

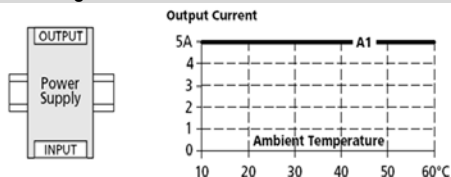


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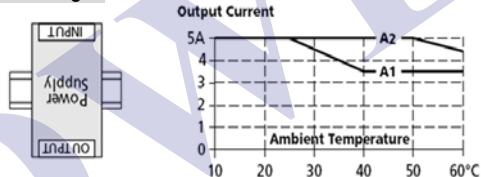


24V output

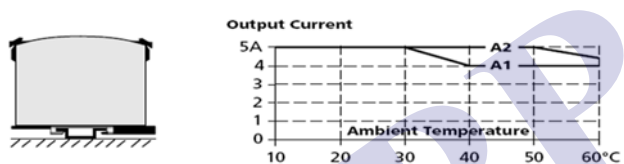
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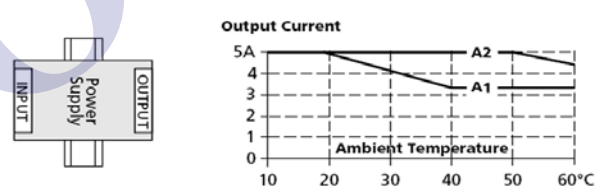
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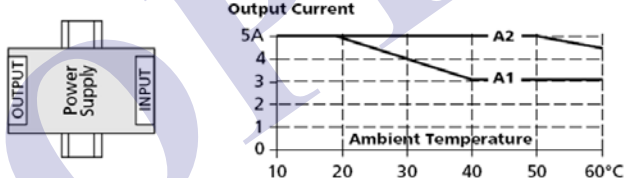
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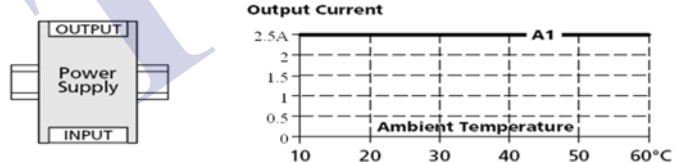


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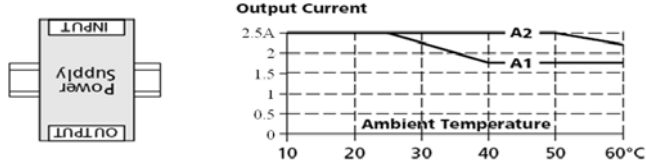


48V output

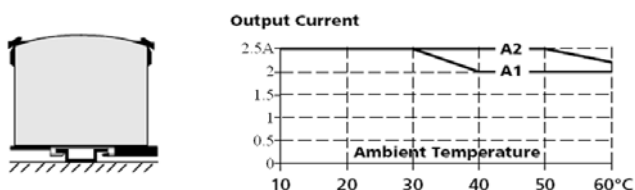
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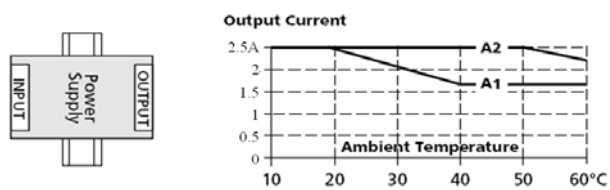
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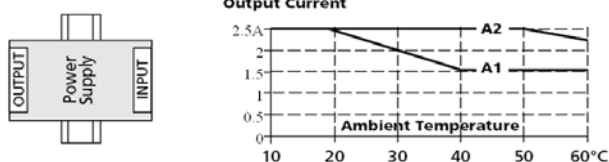
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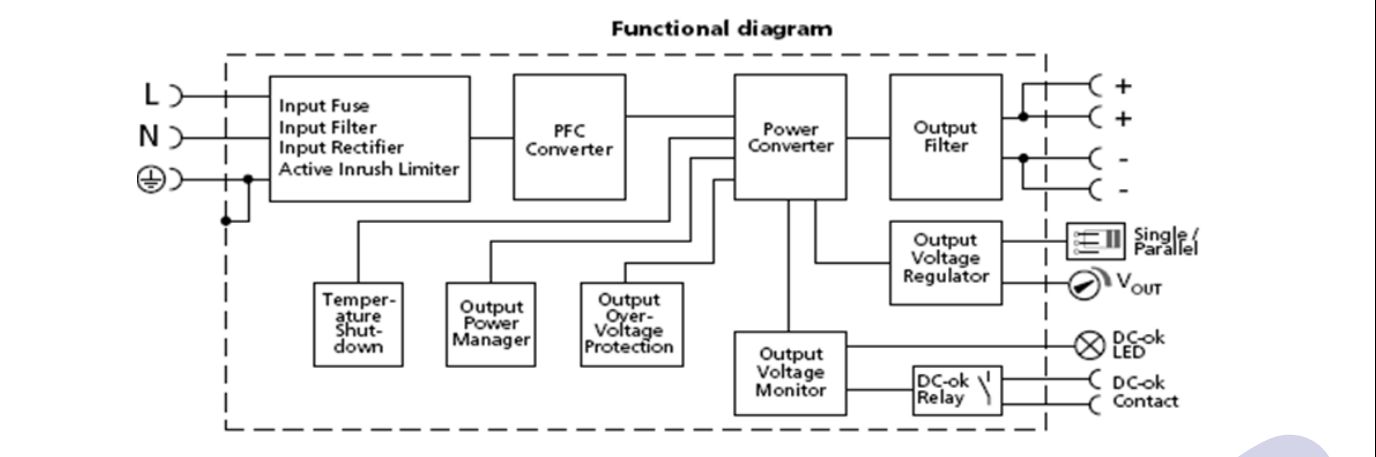
Mounting 4:



Mounting 5:



BLOCK DIAGRAM



MODEL SELECTION

