

**DESCRIPTION:****30W AC-DC DIN RAIL Power Supply**

The rated output power of TPR/DG-30-XS series is 30W, input voltage range: 90-264VAC, output voltage: 12V, 24V. 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 : 90VAC-264VAC, DC input: 127-370VDC	100% full load burn-in test	Operating temperature : -25℃~70℃
Mounting track: TS-35/7.5 or TS-35/15	Protection: short circuit, over-load, over-voltage	Mini width: 32mm
RoHS complaint	High reliability, efficiency, long life	Built-in current limiting circuit

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/DG-30-12S	220	90-264	127-370	12	12.00-12.20	2.5	30	82
TPR/DG-30-24S	220	90-264	127-370	24	24.00-24.20	1.25	30	85

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
Rated Output current	12V output voltage	2.5A at 12V
		2.15A at 14V
	24V output voltage	1.25A at 24V
		1.08A at 28V
Rated Output power	12V output voltage	15W/12V 15.12W/14V
	24V output voltage	15.6W/24V, 15.4W/28V
Ripple&Noise 10<Ta≤70℃	output voltage	≤50mVp-p @12V ≤70mVp-p @24V
Ripple&Noise -25<Ta≤10℃	output voltage	≤100mVp-p @12V ≤140mVp-p @24V
Capacitive load capacity	output voltage	3000uF @12V 1500uF@24V
Voltage regulation accuracy @-25~70℃	±1.0%	
Line regulation @-20~65℃	±0.5%	
Load regulation @-20~65℃	±1.0%	
Temp. coefficient @-20~65℃	±0.03%/℃	
Set-up time @25℃	≤1500mS@(230Vac input, Rated load)	
Hold-up time @25℃	≥20mS@(230Vac input, Rated load)	
Overshoot&Undershoot	<5.0%	
Capacitive load capacity	3000uF@12V 1500uF@24V	

INPUT CHARACTERISTICS

Conditions	Parameter
Rated Input voltage range	100VAC~240VAC
Input voltage range	90VAC~264 VAC
Input voltage range	127VDC-370VDC
Frequency Range	47Hz~63Hz
Set-up voltage @-20~65℃	<90 VAC <127VDC
Input current @25℃	<0.8 A/ AC input ; 0.3A/127VDC 0.15A/300VDC
Inrush current @25℃	50A@230 Vac input

PROTECTION

Conditions	Parameter	Notes
Over-Load (12Voutput)	1.5~2.5A	Limit output current , hiccup mode, auto recovery
Over-Load (24Voutput)	3.0~4.0A	
Over-voltage (12Voutput)	15~16.8V	Constant voltage, auto recovery
Over-voltage (24Voutput)	28.8~31.2V	
Output short circuit protection	Long-term model , auto recovery	

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi. (12V 24V output)	-25℃~70℃; 20%~90%RH No condensing 60℃~70℃
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	2000m

SAFETY&EMC STANDARDS @25℃

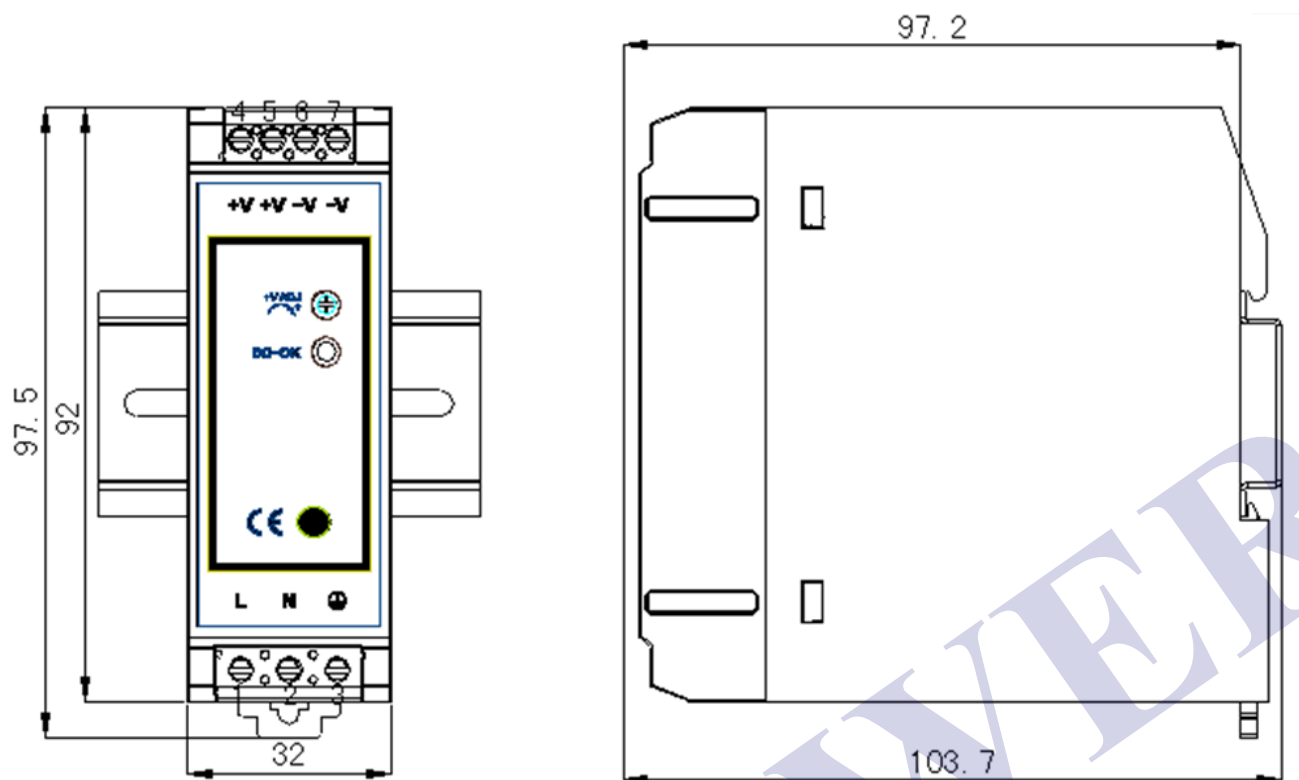
Conditions	Parameter
Safety Standards	GB4943 ,EN60950(for reference)
Withstand Voltage	I/P-O/P:3.0KVac/10mA; I/P-PE:1.5KVac/10mA; O/P-PE:0.5KVdc/10mA Test time:1min.
Isolation resistance	1I/P-O/P: 10M ohms; I/P-PE: 10M ohms; O/P-PE : 10M ohms
Grounding test	Test condition: 32A / 2min.; Grounding resistance: <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, 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	0.19kg
Dimension (L*W*H)	103.7*32*97.5mm
Cooling method	Cooling by free air flow
Series / parallel function	yes
Output indicator	Green light

RELIABILITY CHARACTERISTICS

Conditions	Parameter
MTBF	590, 000Hrs AT 25℃, Telcordia SR332
Design electrolytic capacitor life-time	>3years AT 50℃ 230VAC input @12V 2.5A output @24V 1.25A output

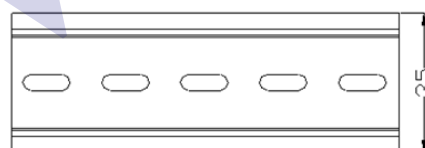


1.AC Screw terminal information

No.	Function	Wire Specs	Recommended torque
1	L	26-12AWG	0.5Nm
2	N		
3	PE		

2.DC Screw terminal information

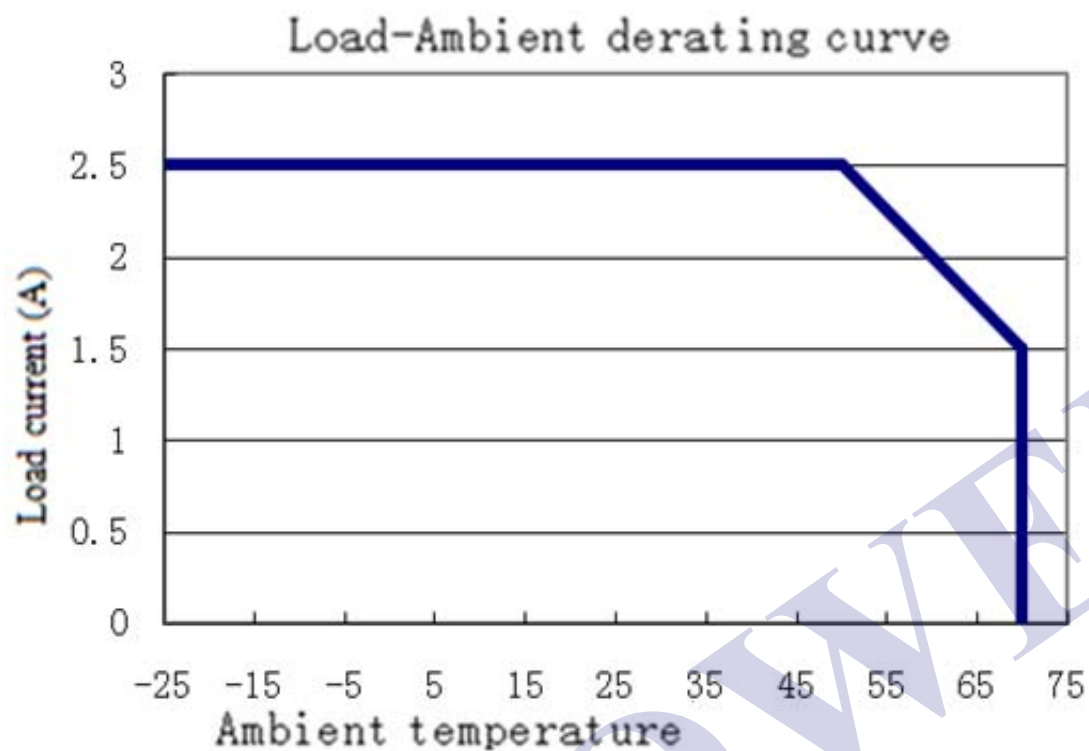
No.	Function	Wire Specs	Recommended torque
4	V+	26-12AWG	0.5Nm
5			
6	V-		
7			



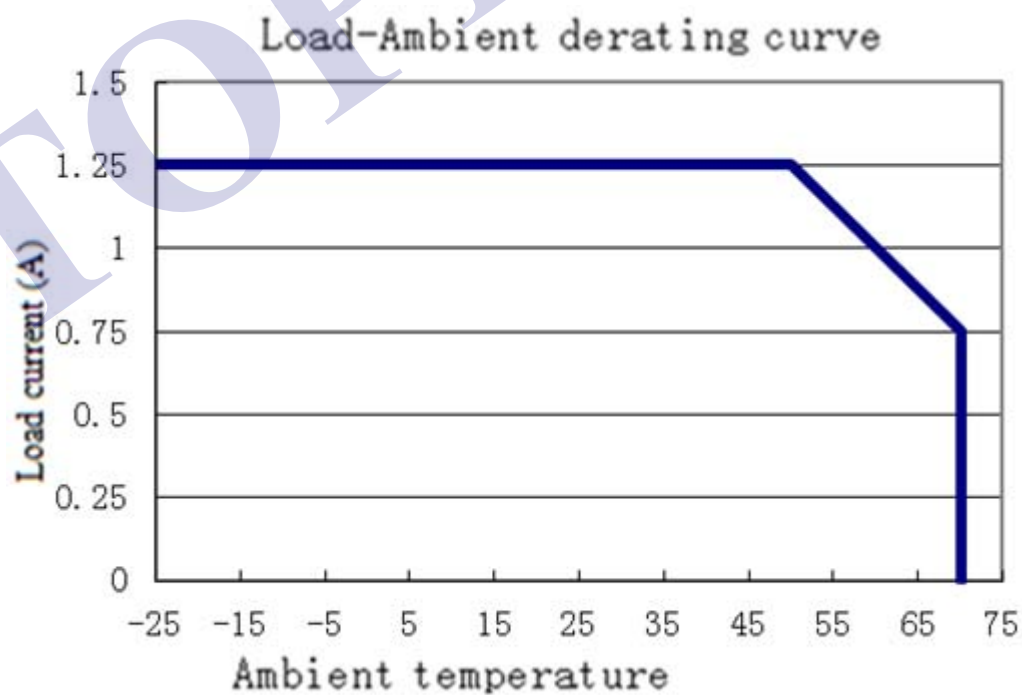
Mounting way: TS35/7.5 or TS35/15

	AC Terminal	DC Terminal
Type	Screw terminal blocks	
Solid Wire	0.32-2.5mm ²	0.65-2.5mm ²
Strand Wire	0.32-2.5mm ²	0.65-2.5mm ²
Wire Spec	AWG26-12	
Max Wire Diameter	2.05mm	
Recommended stripping length	6-7mm	
Screwdriver	3.5mm Straight Screwdriver	
Recommended Torque	0.5NM	

12V



24V

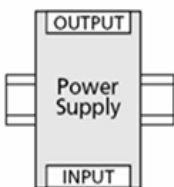


MOUNTING METHOD INSTRUCTION

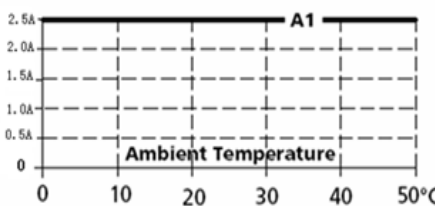
A1 is recommended output current, A2 is the allowed max output current (PSU lifetime is around half of A1)

12V output

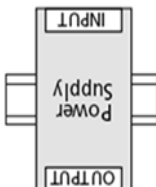
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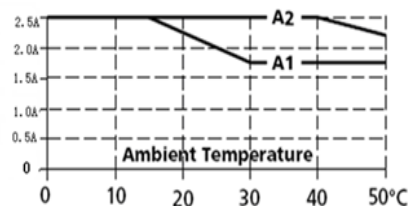
Output Current



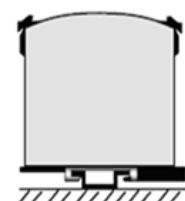
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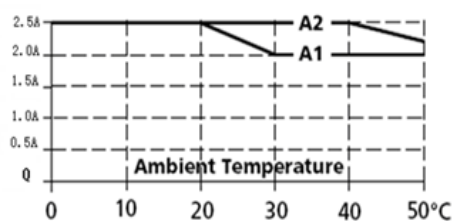
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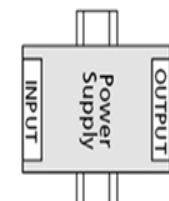
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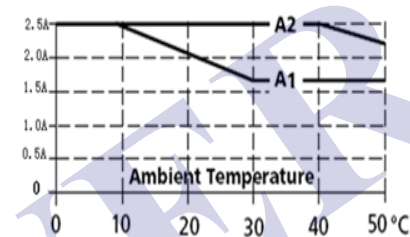
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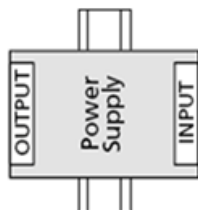
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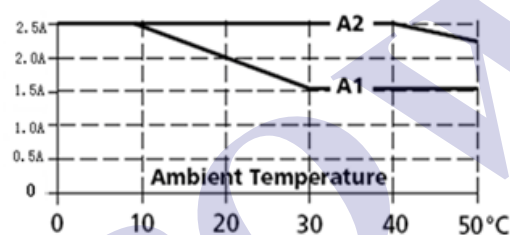
Output Current



Mounting 5:

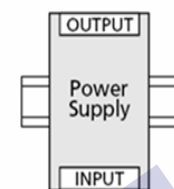


Output Current

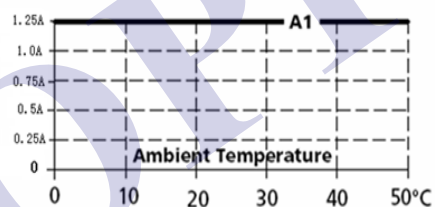


24V output

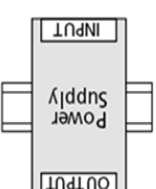
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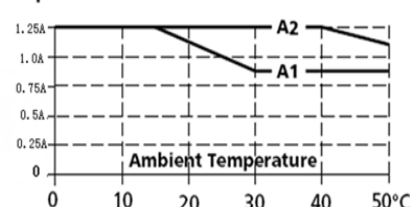
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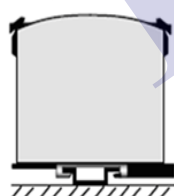
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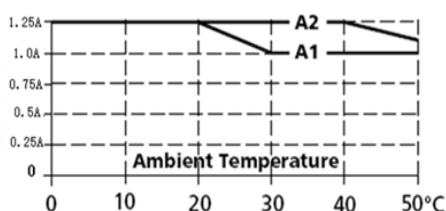
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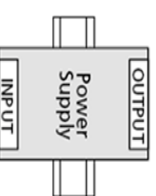
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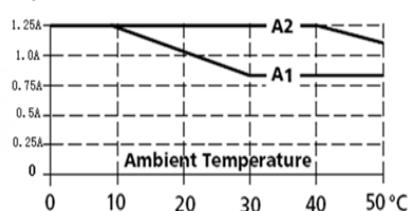
Output Current



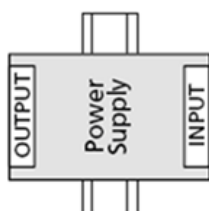
Mounting 4:



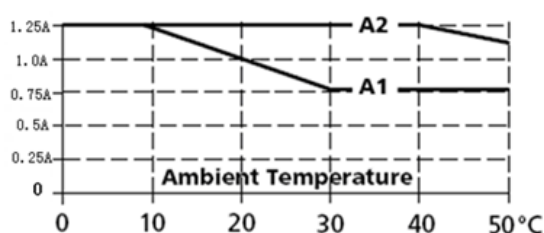
Output Current



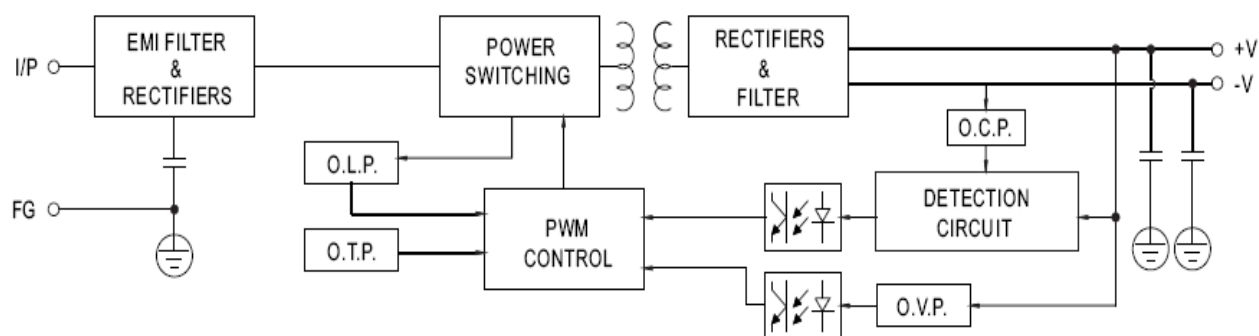
Mounting 5:



Output Current



BLOCK DIAGRAM



MODEL SELECTION

TP C / DG - 30 - X S

S: Single output; D: Dual output

Output voltage

Delimiter

Rated output Power

Delimiter

DIN RAIL Series

Delimiter

Type

Brand

TOPPOWER