Patron
Passive Elektronic

PPR/SDR-240-XS Series

DESCRIPTION: **240W AC-DC DIN RAIL Power Supply**

The rated output power of PPR/SDR-240-XS series is 240W,input voltage range 85-264VAC, output voltage : 24V, 48V,High reliability, precision,effificency, stable output voltage ,etc., with short circuit & overload protection, Widely used in telecommunications, industrial control,signal control ,instrumentation, data acquisition, New Energy, Security,and other electronic systems.

FEATURES

AC input 85VAC-264VAC,DC input:127-375VDC	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: 45mm
RoHS complaint	High reliability,effificency,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%(360W) peak load capacity
Built-in current sharing function	High efficiency up to 94%	/

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					
PPR/SDR-240-24S	220	85-264	120-375	24	24.00-24.24	10	240	94
PPR/SDR-240-48S	220	85-264	127-375	48	48.0-48.48	5	240	≥93

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

OUTPUT CHARACTERISTICS

Conditions	Conditions	Parameter
Output voltage regulation	24V output voltage	24-28V
	48V output voltage	48-56V
Rated Output current	24V output voltage	10A at 24V
		9A at 28V
	48V output voltage	5A at 48V
		4.5A at 56V
Rated Output power	24V output voltage	240W/24V , 252W/28V
	48V output voltage	240W/48V , 252W/56V
Ripple&Noise0＜Ta≤70℃	24V output voltage	≤240mVp-p
	48V output voltage	≤480mVp-p
Ripple&Noise-25＜Ta≤0℃	24V output voltage	≤480mVp-p
	48V output voltage	≤480mVp-p
Capacitive load capacity	24V output voltage	10000uF
	48V output voltage	10000uF
Line regulation @-25~70℃	±0.5%	
Load regulation @-25~70℃	±1.0%	
Temp. coefficient @-25~70℃	±0.03%/℃	
Set-up time @25℃	≤3S@ 230Vac	
Hold-up time @25℃	≥20mS@(110/230Vac input, Full load)	
Overshoot&Undershoot	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Rated Input voltage range	100VAC~240 VAC
Input voltage range	85VAC~264 VAC (300VAC max. at 10s)
Input voltage range	120VDC-375VDC@24V 127VDC-375VDC@48V

PPR/SDR-240-XS Series

INPUT CHARACTERISTICS

Frequency Range	47Hz~63Hz
Set-up voltage @-25~70℃	<85 VAC , <120VDC@24V ; <127VDC@48V
Input current @25℃	<3A/100VAC <1.5A/230VAC
Inrush current @25℃	<20A@110 Vac input <40A@230Vac input
Power factors@25℃	0.99/110VAC，0.95/230VAC

PROTECTION

Conditions	Parameter	Notes
Over-Load （24Voutput）	≥12A，≤15A（≥3S）	110%~150% of rated current, Constant current limiting for some time(150% of rated current, last 3S) then PS stop working for 7S,after 7S,if the load <=rated current, PS will work normally, auto recovery
Over-Load （24Voutput）	≥15A（≤3S）	
Over-Load （48Voutput）	≥6A，≤7.5A（≥3S）	
Over-Load （48Voutput）	≥7.5A（≤3S）	
Over-voltage（24Voutput）	29~33V	constant voltage, Auto recovery
Over-voltage（48Voutput）	58~65V	
Over-temperature	105±5℃, detect on heat sink of power transistor; shut down O/P, auto recovery after temperature goes down	
Output short circuit protection	Long-term model , auto recovery	

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-25℃~70℃； 20%~90%RH No condensing 60℃~70℃ 6W/℃ 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	meet UL508, UL60950, EN60950
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	1I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
Grounding test	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

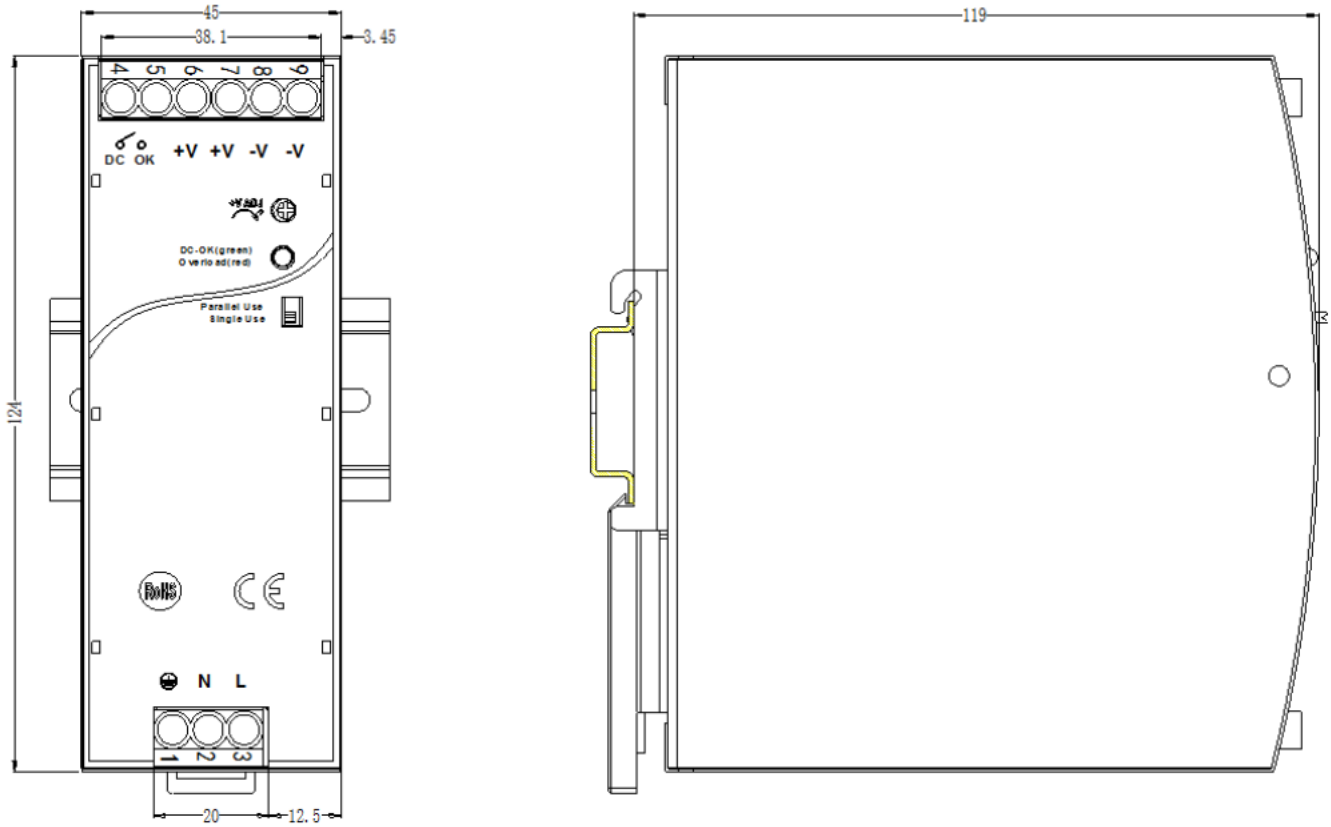
OTHERS

Conditions	Parameter		
Net Weight	0.76kg	Dimension (L*W*H)	45*124*119mm
Cooling method	Cooling by free air flow		
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		
Power boost	150% of rated current		

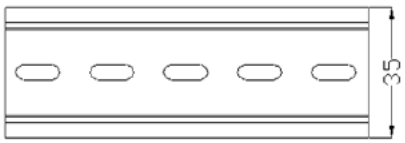
RELIABIILITY CHARACTERISTICS

Conditions	Parameter
MTBF	300，000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method
Design electrolytic capacitor life-time	>5years AT 40℃ 230VAC input 100% output

MECHANICAL DIMENSIONS



1.AC terminal blocks installation information			
Terminal No.	Function	Wire Spec	Recommended torque
1	PG	20~10AWG	5Nm
2	N		
3	L		



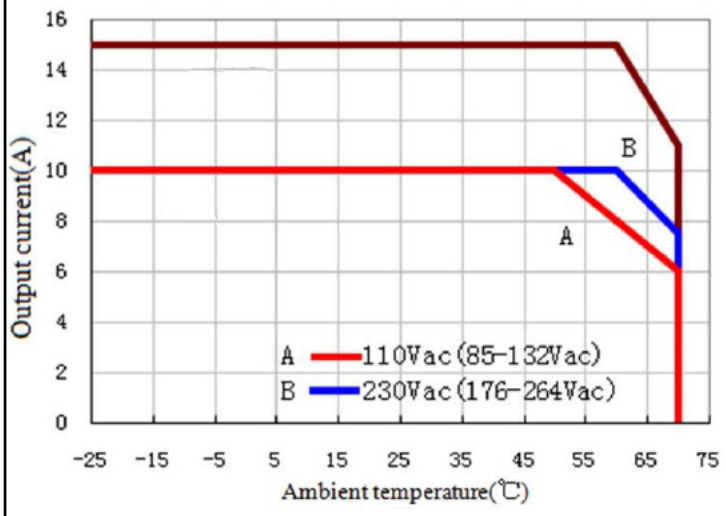
Mounting way: TS35/7.5 or TS35/15

2.DC terminal blocks installation information			
Terminal No.	Function	Wire Spec	Recommended torque
4 & 5	DC OK Relay Contact	20~10AWG	5Nm
6 & 7	+V		
8 & 9	-V		

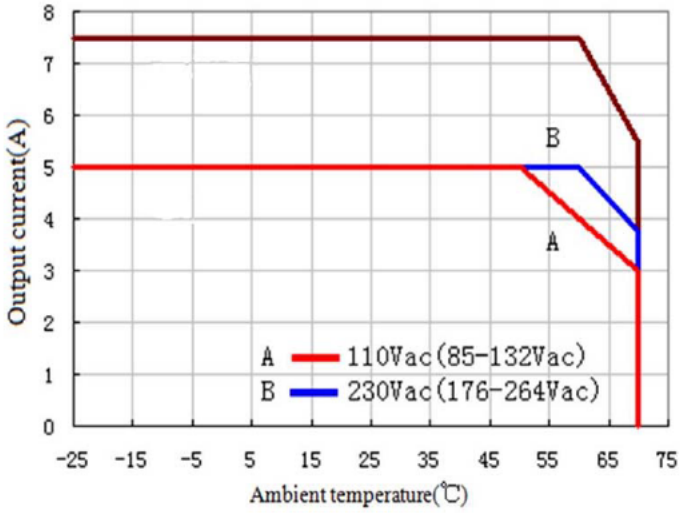
	AC/DC Terminal
Type	Screw terminal blocks
Solid Wire	0.5-6mm^2
Strand Wire	0.5-4mm^2
Wire Spec	AWG20-10 (PG Wire>18AWG)
Max Wire Diameter	2.8mm
Recommended stripping length	7mm
Screwdriver	3.5mm Straight or Cross Screwdriver
Recommended Torque	5NM

CHARACTERISTICS CURVE

24V

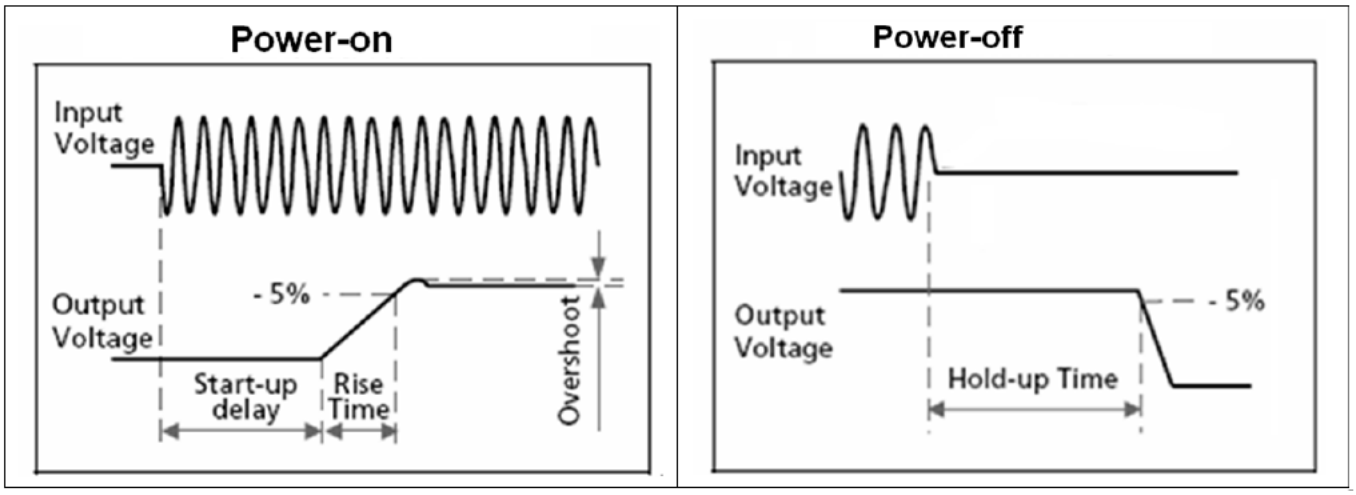


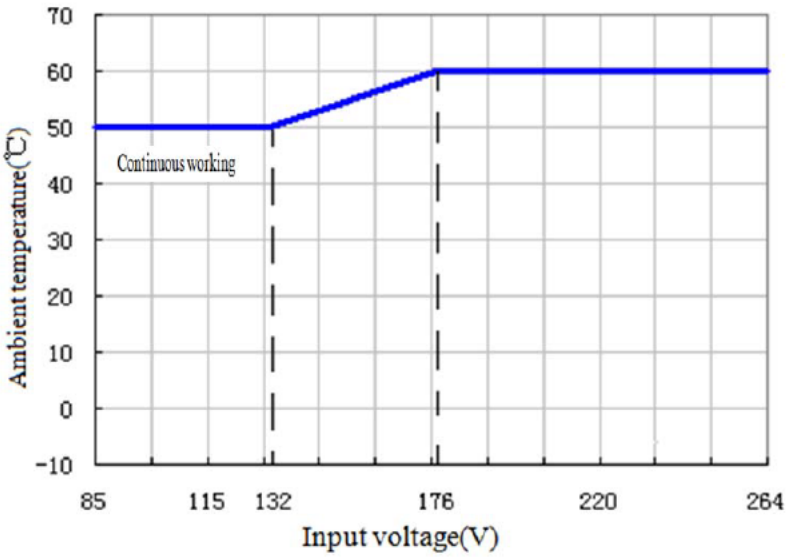
48V



short time working,3S

continuous working





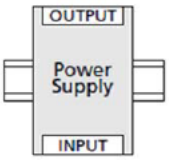
MOUNTING METHOD INSTRUCTION

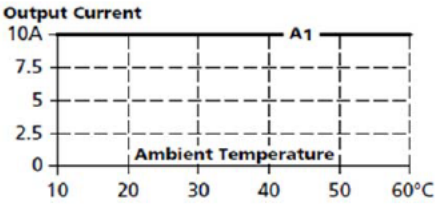
A1 is recommended output current , A2 is the allowed max output current (PSU lifetime is around half of A1)

Below curves are tested under 230Vac(179~264Vac), when 110Vac input(85~175Vac), all derating points drops 10℃

24V output

Mounting 1:





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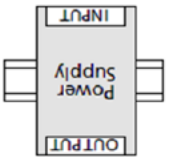

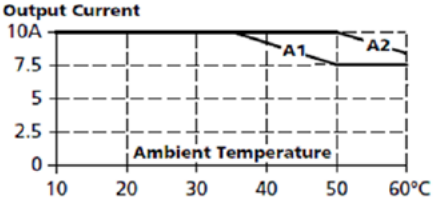

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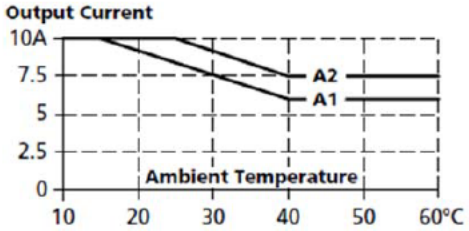
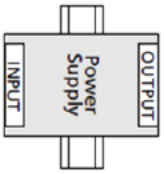
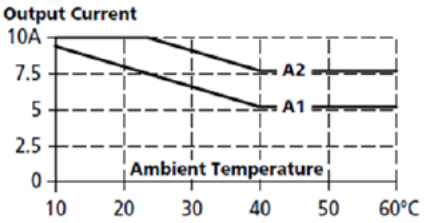


Mounting 4:





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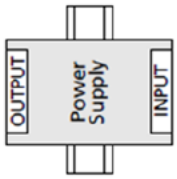
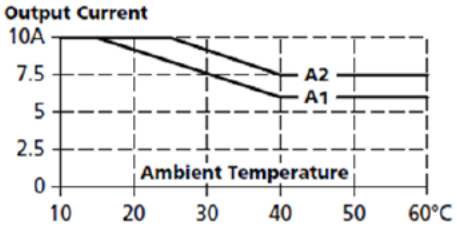
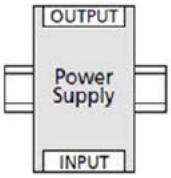
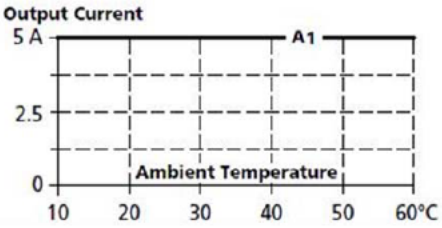




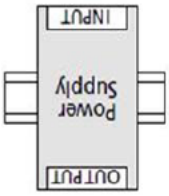
48V output

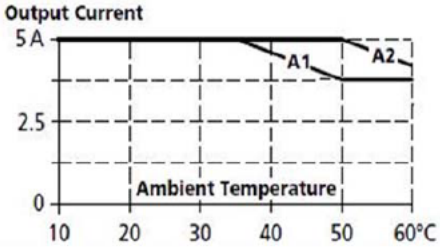
Mounting 1:





Mounting 2:





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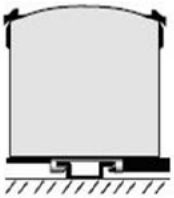
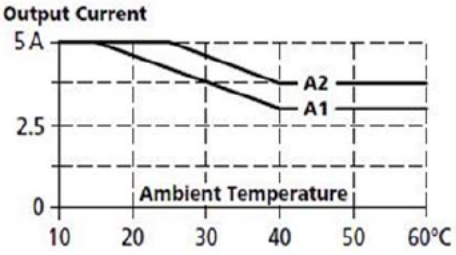
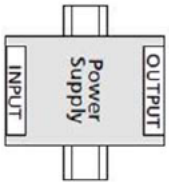
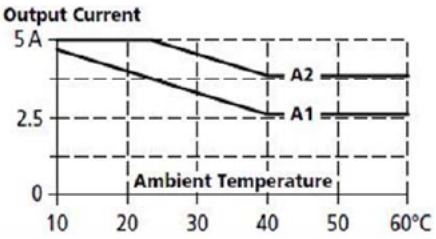




Mounting 4:





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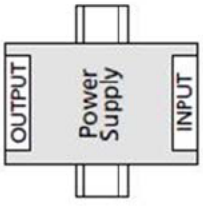
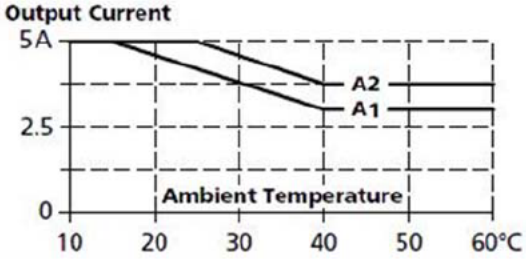
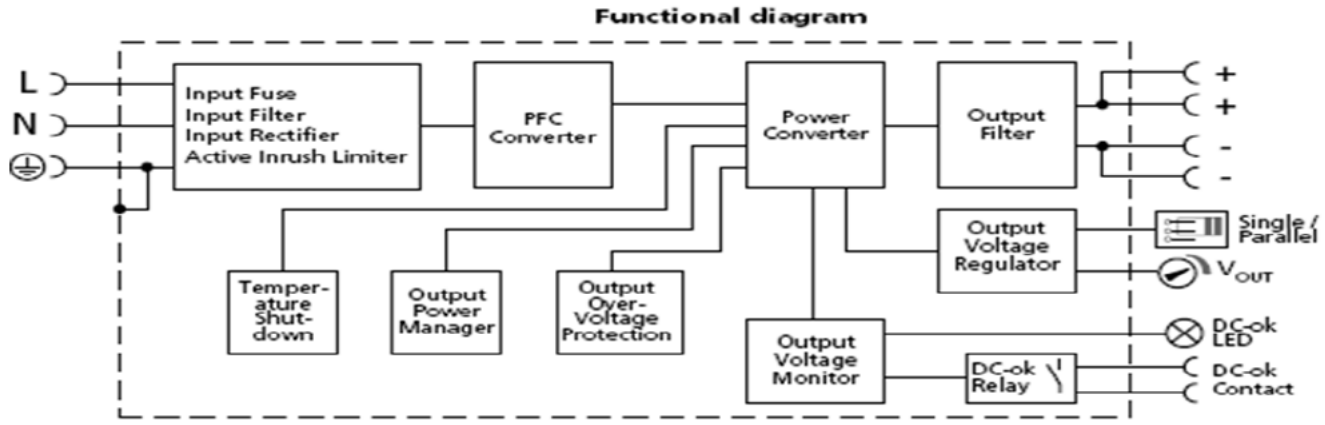




BLOCK DIAGRAM



MODEL SELECTION