



## Industrial Power Supply

DPR-60 Din Rail Series

## 产品规格书

Specification

# DPR-60-X

- ◇ Product Category: 60W Industrial Power Supply
- ◇ Version No.: R1.0
- ◇ Issued Date: August. 26th, 2024

# CHUANGLIAN

## ★ Features:

- Universal Wide Input Voltage Range:  
90-264VAC/120-370VDC
- Over voltage category III (OVC III)
- No load power consumption<0.3W
- Fanless design,free air convection
- 4000Vac isolation withstand voltage
- Suitable for TS-35/7.5 or TS-35/15 Din Rail
- All-around Protection Function: SCP, OVP, OCP
- Output voltage adjustment by potentiometer
- Operating Temperature: -30°C~+70°C
- 3 Years warranty

## 🗨 Product Description

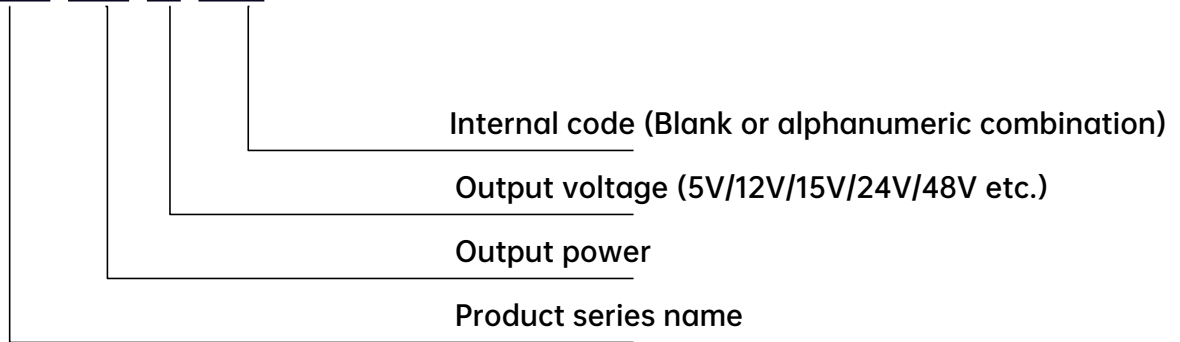
The DPR-60-X series products are a 60W self cooling rail industrial power supply. The entire series of products have wide voltage AC/DC input and output voltages including 5V/12V/15V/24V/48V, which can adapt to different load application requirements to meet most industrial application needs. In addition, the product's EMC and safety standards meet international IEC/EN/UL62368 and GB4943 standards. High conversion efficiency, compact housing design, good heat dissipation, and all-round protection ensure the high reliability and stability of this series of products.

### Applications

Industrial control, mechanical and electrical, electronic instruments, industrial automation devices, electronic equipment, semiconductor equipment, aging equipment, etc.

### Model Encoding

**DPR-60-X-YY**



### Model list:

Model	Output power (W)	Output voltage (V <sub>dc</sub> )	Output voltage adjustable range <sup>[3]</sup> (V <sub>dc</sub> )	Output current (A)	Ripple and noise (mV) <sup>[2]</sup>	Efficiency@ 230VAC (Typ.) <sup>[1]</sup>
DPR-60-5*	32.5	5	4.5-5.5	0-6.5	80	85%
DPR-60-12*	54	12	10.8-13.8	0-4.5	120	88%
DPR-60-15*	60	15	13.5-18	0-4	120	89%
DPR-60-24*	60	24	21.6-29	0-2.5	150	90%
DPR-60-48*	60	48	43.2-55.2	0-1.25	240	91%

#### Note:

[1] All parameters not specially mentioned are measured at rated input voltage, full load and 25°C ambient temperature.

[2] Ripple & noise is measured at 20MHz of oscilloscope bandwidth(oscilloscope probe cap and ground clamp are removed)by using a 20±2cm twisted pair-wire terminated with a 47uF electrolytic capacitor and a 0.1uF high frequency capacitor that are connected in parallel at the output end.

[3] Under any steady operating condition, the total output power shall not exceed the rated output power. When the output voltage is raised, the total output power cannot exceed the rated output power. When the output voltage is turned down, the output current cannot exceed the rated output current.

※ For the product models under development, please contact our sales team or distributor for more information.

### ◎ Input Specification:

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 V <sub>ac</sub>		264 V <sub>ac</sub>	
Rated Input AC Voltage	100 V <sub>ac</sub>		240 V <sub>ac</sub>	
Input DC Voltage	120 V <sub>dc</sub>		370 V <sub>dc</sub>	When DC input, L is positive and N is negative
Input Frequency	47 Hz		63 Hz	
Maximum Input Current			1.2 A	115Vac, full load
			0.6 A	230Vac, full load
Leakage Current			0.25 mA	240Vac/50Hz
Inrush Current		30 A		115Vac, Cold start
		60 A		230Vac, Cold start

### ◎ Output Specification:

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-2%		+2%	All models
Line Regulation	-1%		+1%	All models
Load Regulation	-1.5%		+1.5%	All models
Turn On Delay Time			2000ms	115Vac/230Vac, full load
Rise Time			50ms	115Vac/230Vac, full load
Hold up Time	30ms			230Vac, full load
	12ms			115Vac, full load

### ◎ Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency @115 V <sub>ac</sub>				
DPR-60-5	83%	84%		Ambient temp. 25±5°C, full load
DPR-60-12	86%	87%		
DPR-60-15	87%	88%		
DPR-60-24	88%	89%		
DPR-60-48	89%	90%		
Efficiency @230 V <sub>ac</sub>				
DPR-60-5	84%	85%		Ambient temp. 25±5°C, full load
DPR-60-12	87%	88%		
DPR-60-15	88%	89%		
DPR-60-24	89%	90%		
DPR-60-48	90%	91%		

### ◎ Protection:

Parameter	Min.	Typ.	Max.	Notes
Output Over Load	105%		160%	Hiccup mode, when the fault is resolved, the output automatically returns to normal
	50%		100%	Hiccup when output voltage<50%, constant current mode when output voltage is between 50% and 100%. After the fault is removed, the power supply automatically returns to normal
Over voltage	110%		150%	Constant voltage mode, when the fault is resolved, the output automatically returns to normal
Short Circuit	When there is a short circuit fault at the output terminal, the output hiccup mode protection is activated. When the short circuit fault is resolved, the power supply automatically resumes normal output.			

# AC/DC switching power supply

DPR-60 Din Rail Series



## ◎ Safety & EMC:

Safety Category	Country/Region	Item	Standards		
UL/CUL	USA/Canada	Safety Standard	UL 62368-1		
			CAN/CSA C22.2 No. 62368-1:19		
			EN 62368-1		
			IEC 62368-1		
			GB 4943.1		
CE	Europe				
CB	CB Scheme				
CCC	China				
EMI Category	Country/Region	Item	Standards/Criteria		
FCC	USA/Canada	Conducted Emission	FCC part 15(ANSI C63.4 )	Class B	
		Radiated Emission	FCC part 15(ANSI C63.4 )	Class B	
CE	Europe	Conducted Emission	EN 55032	Class B	
		Radiated Emission	EN 55032	Class B	
		Harmonic Current	EN 61000-3-2	Class A	
		Voltage Flicker	EN 61000-3-3		
CCC	China	Conducted Emission	GB/T 9254.1	Class B	
		Radiated Emission	GB/T 9254.1	Class B	
		Harmonic Current	GB/T 17625.1	Class A	
EMS Category	Country/Region	Item	Standards/Criteria		
CE	Europe	Electro-static Discharge	EN 61000-4-2	Air 8 kV / Contact 4 kV	Criteria B
		Radiated Susceptibility	EN 61000-4-3	80MHz-1GHz 10V/m	Criteria B
		Electrical Fast Transient	EN 61000-4-4	±2KV	Criteria B
		Surge Immunity	EN 61000-4-5	CM±4KV/DM ±2KV	Criteria B
		Conducted Emission Immunity	EN 61000-4-6	10Vr.m.s	Criteria B
		Power Frequency Magnetic Field Immunity	EN 61000-4-8	30A/m, continuity	Criteria B
		Voltage Dips, Drops and Interruptions Immunity	EN 61000-4-11	100% drop,0.5 cycles	Criteria B
				100% drop,250 cycles	Criteria B
				30% drop,25 cycles	Criteria B
				100% interrupt,250 cycles	Criteria C

# AC/DC switching power supply

## DPR-60 Din Rail Series

**Note:**

The power supply is considered as a component which will be installed into a final equipment. All the EMC tests are executed by mounting the unit on a metal plate with size 400mm\*400mm\*3mm. The final equipment must be re-confirmed that it still meets EMC directives.

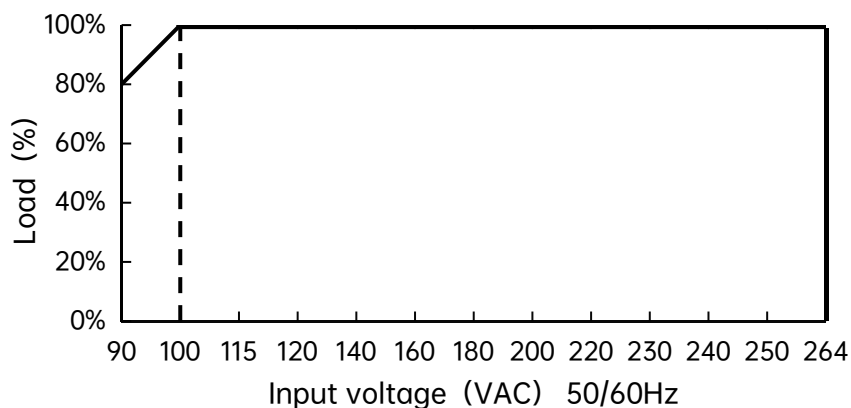
### ◎ General Specification:

Parameter		Min.	Typ.	Max.	Notes
Isolation and voltage resistance <sup>[4]</sup>	Input-Output	4000V <sub>ac</sub>			Test time 1 minute, leakage current less than 7mA
Insulation impedance	Input-Output	100MΩ			Test voltage: 500V <sub>dc</sub>
Working Temp.		-30°C		+70°C	Refer to "Derating Curve"
Working Humidity		20%RH		95%RH	Non-condensing
Storage Temp.		-40°C		+85°C	
Storage Humidity		10%RH		95%RH	Non-condensing
Temp. Coefficient		-0.03%/°C		0.03%/°C	0~50°C
Mean Time Between Failure (MTBF)		200000 hours			25°C, MIL-HDBK-217F
Dimension		90*58*52.5mm			L*W*H
Net Weight			200g		
Package		45PCS/10Kg/ctn, Carton Size: 455(L)*320(W)*275(H)mm			

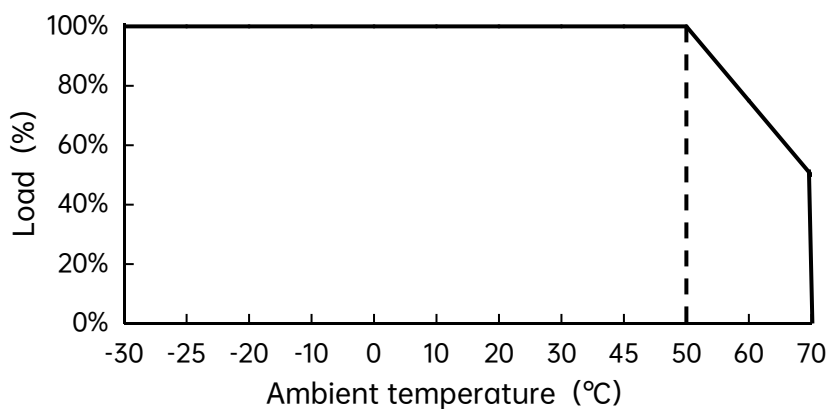
**Note:** [4] The minimum isolation withstand voltage of this product is 4000Vac. If higher testing standards are used, please contact our sales representative or FAE.

### ◎ Typical Curve:

#### Input voltage VS Output load



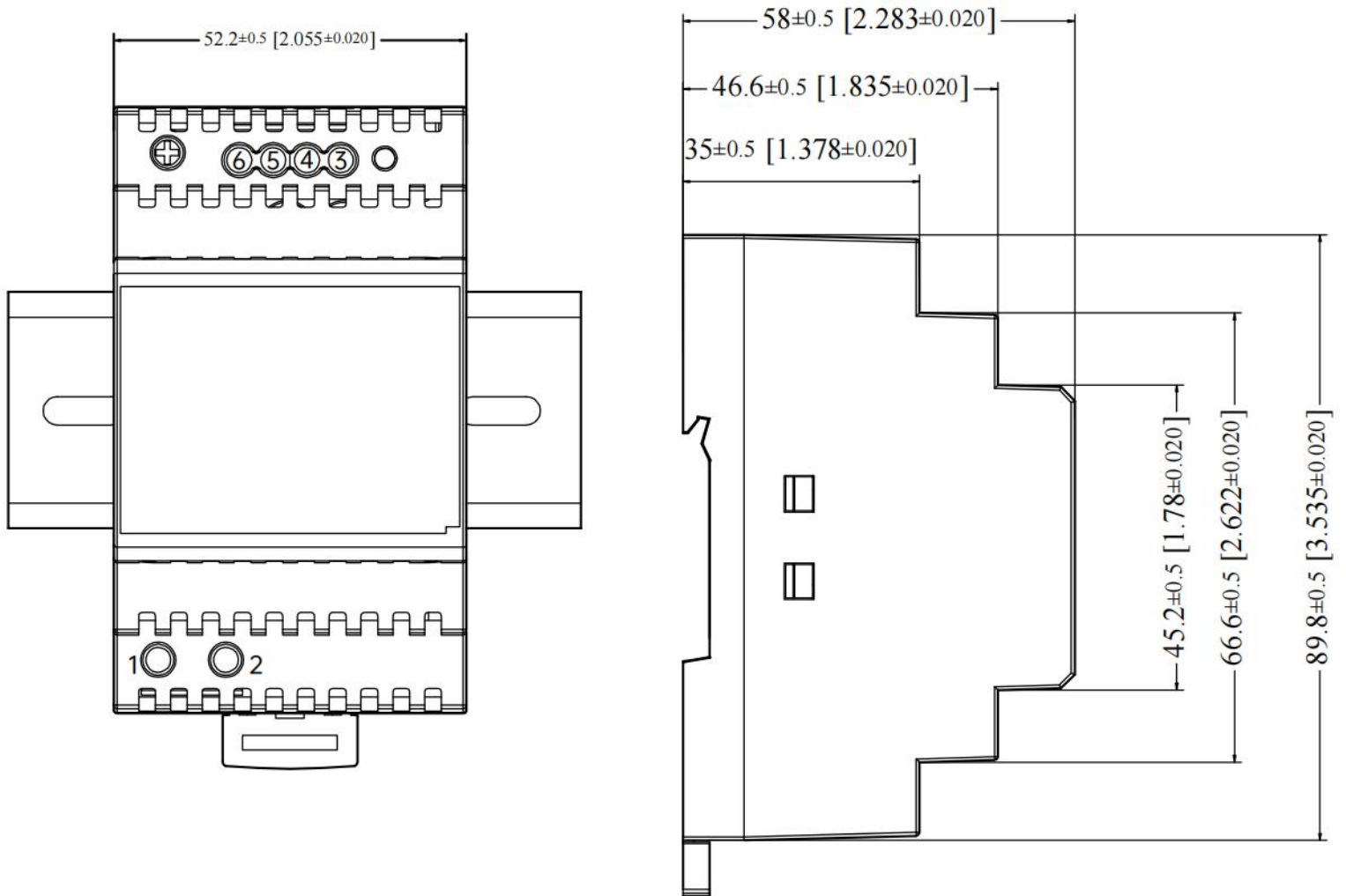
#### Working ambient temperature VS. Output power



#### Notes:

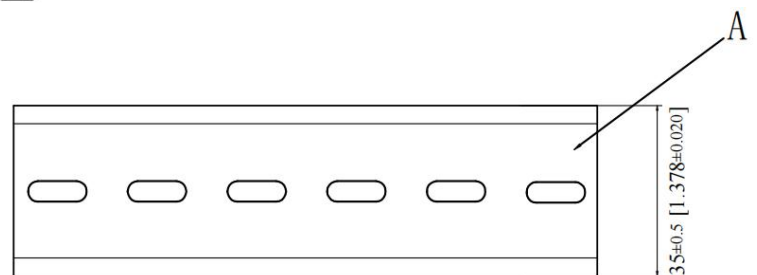
1. If you need to know more detailed test data when applying, please contact our technical support to obtain application notes for the corresponding product.
2. This product is suitable for use in natural air convection environments. If used in a closed environment, please consult our technical support personnel.

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Input/output pin function

Pin number	Pin	Function	Screw torque requirements
1	L	AC LINE	Screw: M2.5 Torque: 4Kgf.cn(0.4N.m)
2	N	AC NETURAL	
3	V+	DC output +	Screw: M2.5 Torque: 4Kgf.cn(0.4N.m)
4	V+	DC output +	
5	V-	DC output -	
6	V-	DC output -	



Model No.: TS35/7.5 or TS35/15

Screw:M4  
Torque:8Kgf.cn(0.8N.m)  
The screw should extend into the casing no more than 3mm

Note:  
Unit: mm[inch]; The unmarked tolerance is±0.5[±0.020]