



Industrial Power Supply

CMR-120 Din Rail Series

产品规格书

Specification

CMR-120-X


- ◇ Product Category: 120W Industrial Power Supply
- ◇ Version No.: R5.0
- ◇ Issued Date: August. 29th, 2024

CHUANGLIAN

★ Features:

- Universal Wide Input Voltage Range:
90-264VAC/120-370VDC
- LED power indicator light
- Suitable for TS-35/7.5 or TS-35/15 Din Rail
- All-around Protection Function: SCP, OVP, OLP, OTP
- Output voltage adjustment by potentiometer
- Operating Temperature: -30°C~+70°C
- 3 Years warranty



CE CB  RoHS

🗨 Product Description

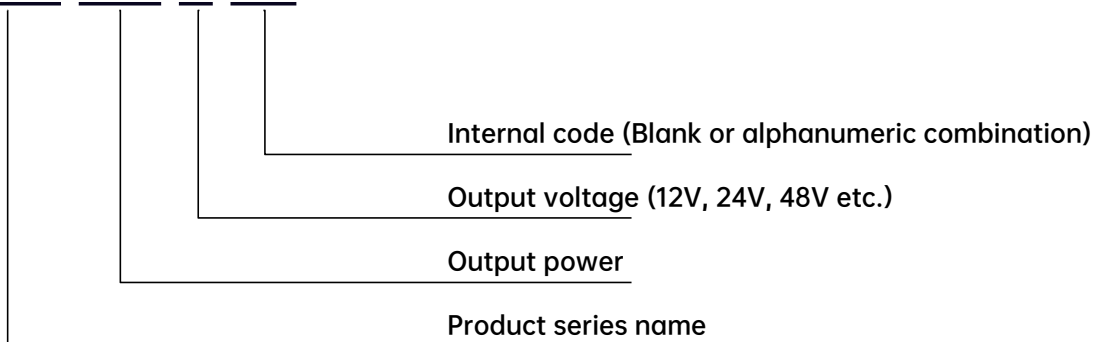
The CMR-120-X series products are a 120W rail industrial power supply, with a wide range of AC/DC input and output voltages including 12V/24V/48V, which can adapt to different load application requirements to meet most industrial application needs. In addition, the product's EMC and safety standards 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, industrial automation, mechanical and electrical, electronic instruments, electronic equipment, semiconductor equipment, etc. (excluding information technology equipment).

Model Encoding

CMR-120-X-YY



Model list:

Model	Output power (W)	Output voltage (V _{dc})	Output voltage adjustable range ^[3] (V _{dc})	Output current (A)	Ripple and noise (mV) ^[2]	Efficiency@2 30VAC (Typ.) ^[1]
CMR-120-12	120	12	10.8-13.2	0-10	120	85%
CMR-120-24	120	24	21.6-26.5	0-5	150	88%
CMR-120-48	120	48	44-53	0-2.5	240	88%

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 _{ac}		264 V _{ac}	
Rated Input AC Voltage	100 V _{ac}		240 V _{ac}	
Input DC Voltage	120 V _{dc}		370 V _{dc}	
Input Frequency	47 Hz		63 Hz	
Maximum Input Current			3 A	100Vac full load
PF		0.5		230Vac full load
Leakage Current			1 mA	240Vac/50Hz
Inrush current		20 A		115Vac, cold start
		40 A		220Vac, cold start

◎ Output Specification:

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-2.0%		+2.0%	All models
Line Regulation	-0.5%		+0.5%	All models
Load Regulation	-1.0%		+1.0%	All models
Turn On Delay Time			1500ms	220Vac, full load
Rise Time			50ms	220Vac, full load
Hold up Time	10ms			110Vac, full load
	16ms			220Vac, full load

◎ Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency @115 V _{ac}				
CMR-120-12	83%	84%		Ambient temp. 25±5°C, full load
CMR-120-24	85%	86%		
CMR-120-48	86%	87%		
Efficiency @230 V _{ac}				
CMR-120-12	84%	85%		Ambient temp. 25±5°C, full load
CMR-120-24	86%	87%		
CMR-120-48	87%	88%		

◎ Protections:

Parameter	Min.	Typ.	Max.	Notes
Output Over Voltage	110%V _o		140%V _o	Dual loop constant voltage output, when the fault is resolved, the output automatically returns to normal.
Over Load	105%I _o		130%I _o	Constant power mode, reducing output voltage (100% V _o ~50% V _o), limit output power for 3 seconds. After hiccups, when the fault is resolved, the output automatically returns to normal.
	130%I _o			After 2 seconds of constant current, enter hiccup mode, and when the fault is resolved, Output automatically returns to normal.
Over Temp. (Ambient temp.)		70°C		When the power supply is protected against overheating, the output is turned off; When the overheating fault is resolved, the output automatically returns to normal.
Short Circuit	When there is a short circuit fault at the output terminal, the power supply is protected. When the short circuit fault is resolved, the power supply automatically resumes normal output.			

AC/DC switching power supply

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◎ 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
CE	Europe		EN 62368-1
CB	CB Scheme		IEC 62368-1
CCC	China		GB 4943.1

EMI Category	Country/Region		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

EMI Category	Country/Region		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				

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Note:

The power supply is considered as a component which will be installed into a final equipment. All the EMC tests are to be 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.

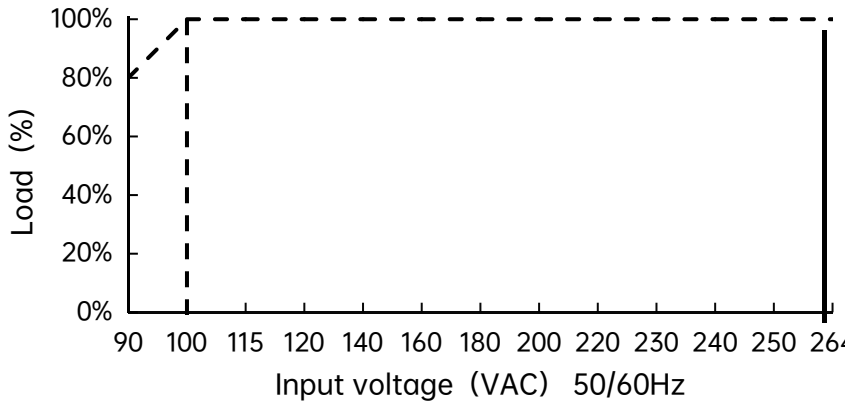
◎ General Specification:

Parameter		Min.	Typ.	Max.	Notes
Isolation and voltage resistance ^[4]	Input-Output	3000 V _{ac}			Test time 1 minute, leakage current less than 10mA
	Input-PE	1800 V _{ac}			
	Output-PE	500 V _{ac}			
Insulation impedance	Input-Output	10MΩ			Test Voltage: 500V _{dc}
	Input-PE	10MΩ			
	Output-PE	10MΩ			
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)		100000 hours			25°C, MIL-HDBK-217F
Dimension		138*126*47mm			L*W*H
Net Weight			500g		
Package		20PCS/11Kg/ctn, Carton Size: 360(L)*290(W)*200(H)mm			

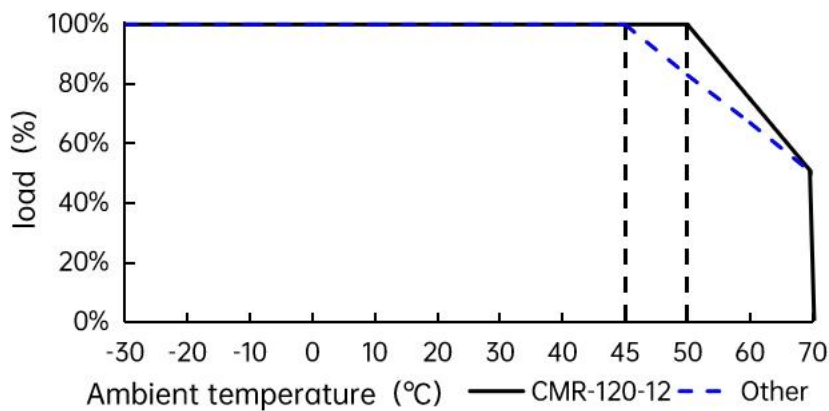
Note: [4] The minimum isolation withstand voltage of this product is 3000Vac. If higher testing standards are used, please contact our sales representative or FAE.

◎ Typical Curve:

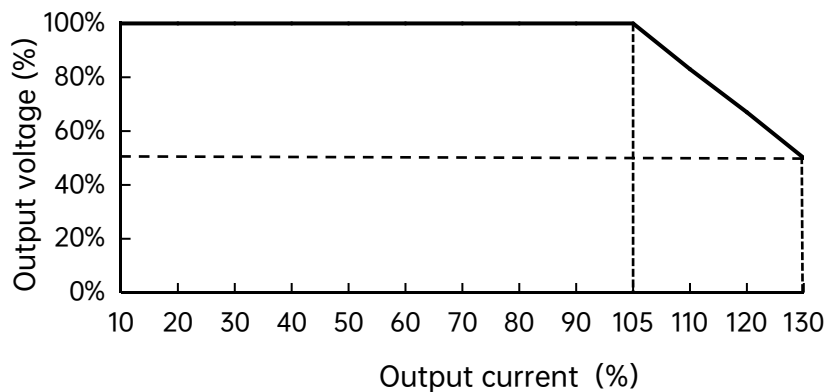
Input voltage VS Output load



Working ambient temperature VS Output load



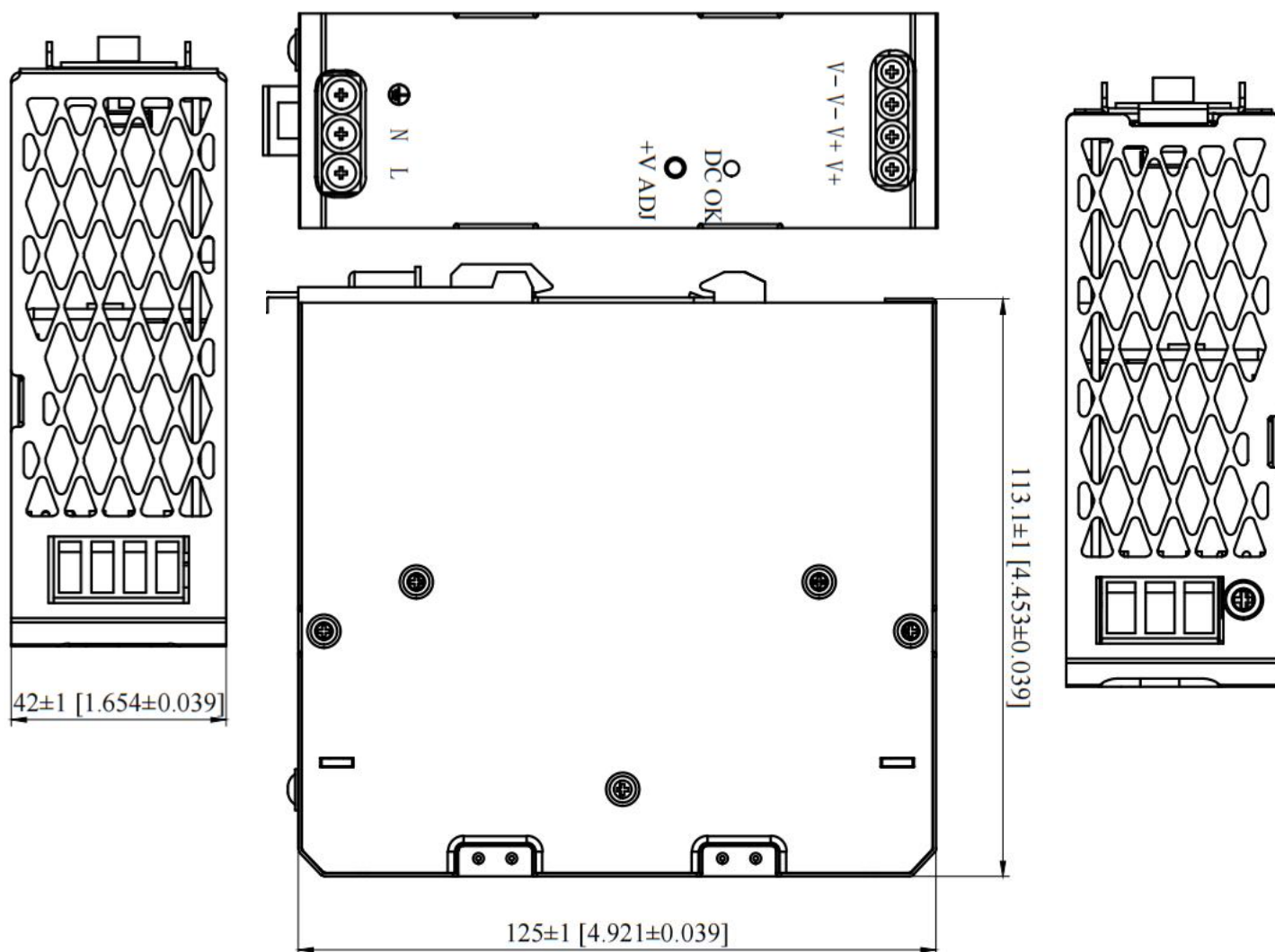
Output voltage VS Output current



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.

© Mechanical Drawing:



Input/output pin function

Pin	Function	Screw torque requirements
L	AC LINE	Screw: M3.5*7 Torque: 7Kgf.cn(0.7N.m)
N	AC NETURAL	
⊕	EARTH	
V-	DC output -	Screw: M3.5*7 Torque: 7Kgf.cn(0.7N.m)
V-	DC output -	
V+	DC output +	
V+	DC output +	

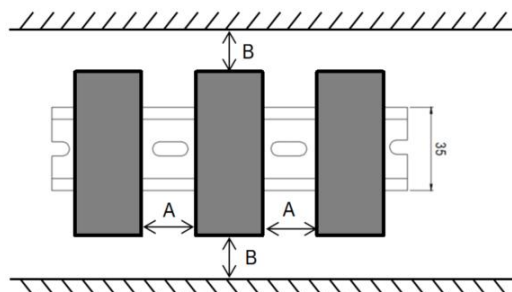
Note:
Unit: mm[inch]; The unmarked tolerance is $\pm 0.5[\pm 0.020]$

◎ Installation requirements:

Applicable orbit and space requirements:

TS-35/7.5 or TS-35/15 Din Rail

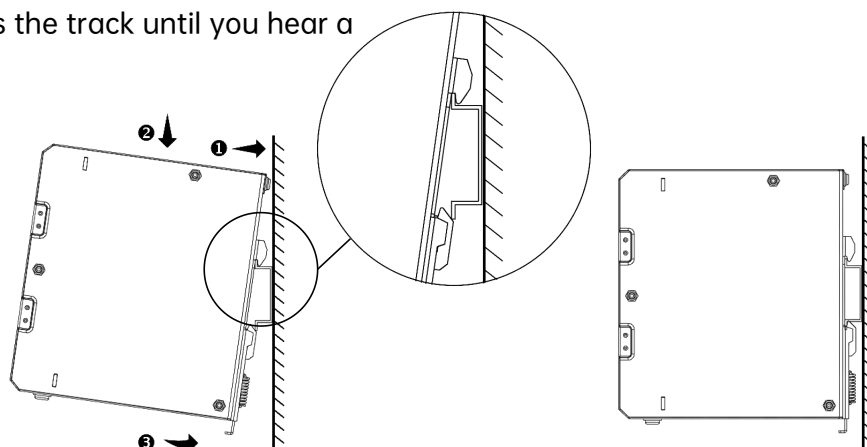
Space	mm	inch
A	20	0.8
B	100	3.9



Installation:

- ① Align the product buckle with the track
- ② Push the product body downwards into the guide rail
- ③ Push this product towards the track until you hear a snap sound

Connect the relevant wires, be sure to first connect the ground wire.



Disassemble:

Before dismantling, be sure to remove the live wire and the ground wire at the end.

- ① Use a screwdriver or other tool to push the buckle downwards.
- ② While the buckle is pushed downwards, promote the product outward so that the bottom of the buckle is off the track.
- ③ Push the product upwards until it is completely off track.

