创联电源
CHUANGLIAN POWER SUPPLY

# Industrial Power Supply

CMR-240 Din Rail Series

产品规格书

Specification

# CMR-240-XP

◇ Product Category：240W Industrial Power Supply
◇ **Version No.**：R3.1
◇ Issued Date：August. 30th, 2024

CHUANGLIAN

## Features:


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

CE CB cULus E255042 RoHS

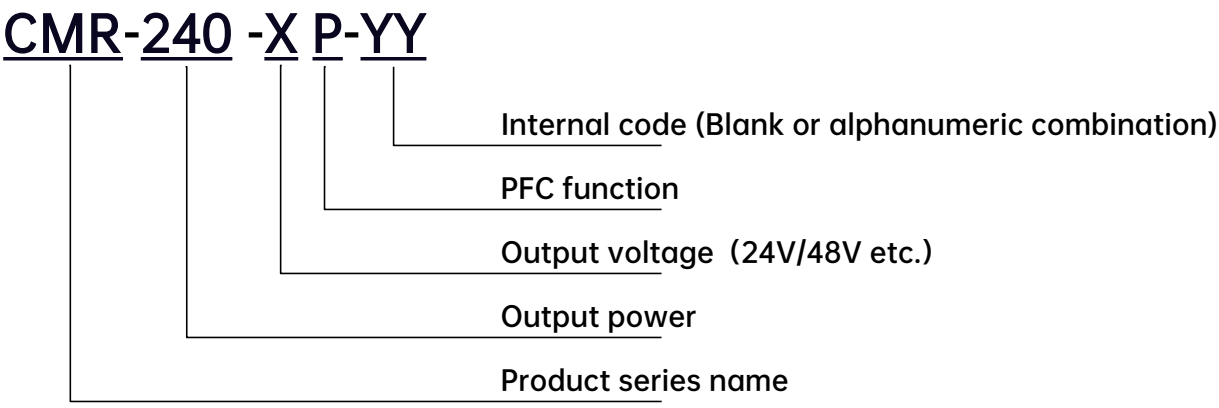
## Product Description

The CMR-240-xP series products are a 240W rail industrial power supply, with a wide range of AC/DC input and output voltages including 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




## ◎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@230VAC (Typ.)[1] |
|---|---|---|---|---|---|---|
| CMR-240-24P | 240 | 24 | 21.6-26.5 | 0-10 | 150 | 88% |
| CMR-240-48P | 240 | 48 | 44-53 | 0-5 | 240 | 89% |

**Note**:

**[1]** All parameters not specially mentioned are measured at rated input voltage, full load and 25℃ 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 | | | 7 A | 115Vac full load |
| | | | 3.5 A | 230Vac full load |
| PF | | 0.98 | | 110Vac full load |
| | | 0.95 | | 220Vac full load |
| Leakage Current | | | 1 mA | 240Vac/50Hz |
| Irush current | | 35 A | | 115Vac, cold start |
| | | 70 A | | 220Vac, cold start |

## ◎ Output Specification:

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Output Voltage Tolerance | -2% | | +2% | All models |
| Line Regulation | -0.5% | | +0.5% | All models |
| Load Regulation | -1% | | +1% | All models |
| Turn On Delay Time | | | 1500ms | 115Vac/230Vac，full load |
| Rise Time | | | 50ms | 115Vac/230Vac，full load |
| Hold up Time | 10ms | | | 115Vac，full load |
| | 16ms | | | 230Vac，full load |

## ◎ Efficiency:

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Efficiency @115 $V_{ac}$ | | | | |
| CMR-240-24P | 86% | 87% | | Ambient temp.25±5°C, full load |
| CMR-240-48P | 88% | 89% | | |
| Efficiency @230 $V_{ac}$ | | | | |
| CMR-240-24P | 87% | 88% | | Ambient temp.25±5°C, full load |
| CMR-240-48P | 89% | 90% | | |

## ◎Protections:

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Output Over Voltage | 110%Vo | | 130%Vo | Dual loop constant voltage output, when the fault is resolved, the output automatically returns to normal. |
| Over Load | 105%Io | | 130%Io | Constant power mode, reducing output voltage (100% Vo~50% Vo), limit output power for 3 seconds. After hiccups, when the fault is resolved, the output automatically returns to normal. |
| | 130%Io | | | After 2 seconds of constant current, enter hiccup mode, and when the fault is resolved, Output automatically returns to normal. |
| Over Temp. (Ambient temp. ) | | 80℃ | | 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. | | | |

## ◎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 |
| | | Electro-static Discharge | | 100% drop,250 cycles | Criteria B |
| | | Radiated Susceptibility | | 30% drop,25 cycles | Criteria B |
| | | Electrical Fast Transient | | 100% interrupt,250 cycles | Criteria C |

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

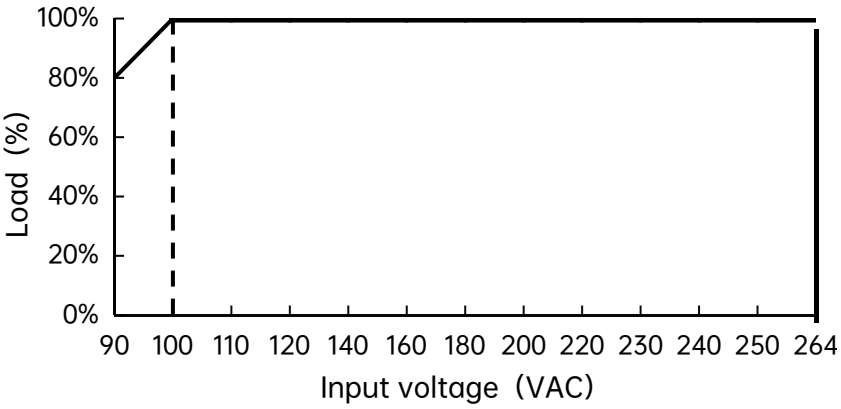
## ◎General Specification:

| 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：500$V_{dc}$ |
| | Input-PE | 10MΩ | | | |
| | Output-PE | 10MΩ | | | |
| Working Temp. | | -30℃ | | +70℃ | Refer to "Derating Curve" |
| Working Humidity | | 20%RH | | 95%RH | Non-condensing |
| Storage Temp. | | -40℃ | | +85℃ | |
| Storage Humidity | | 10%RH | | 95%RH | Non-condensing |
| Temp. Coefficient | | -0.02%/℃ | | 0.02%/℃ | 0~50℃ |
| Mean Time Between Failure (MTBF) | | 200000 hours | | | 25℃, MIL-HDBK-217F |
| Dimension | | 138*126*68mm | | | L*W*H |
| Net weight | | | 750g | | |
| Package | | 18PCS/14.5Kg/ctn，carton size：390(L)*298(W)*228(H)mm | | | |

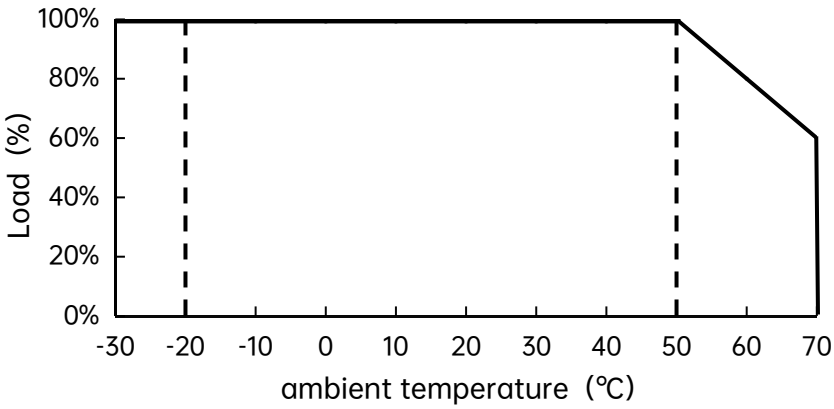
**Note:** [4] The minimum isolation withstand voltage of this product is 3000Vac. If higher testing standards are used, please contact our sales representative or FAE.

## ◎Typical Curve:

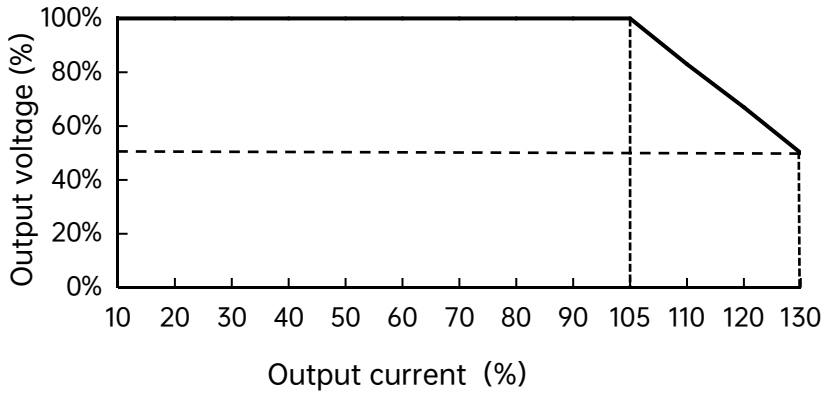
### Input voltage VS Output load




### Working ambient temperature VS Output load

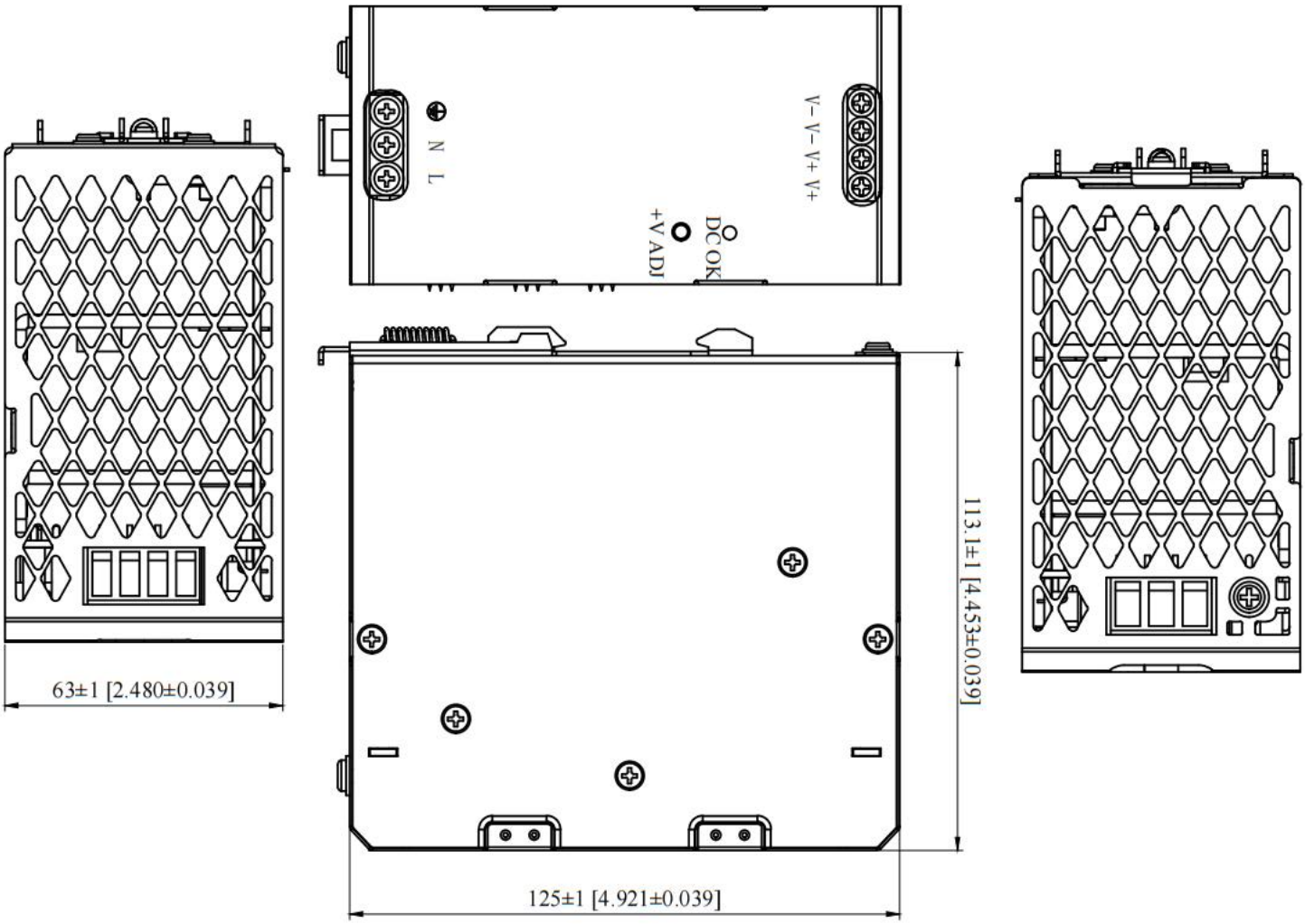



### Output voltage VS Output current




**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 + | |

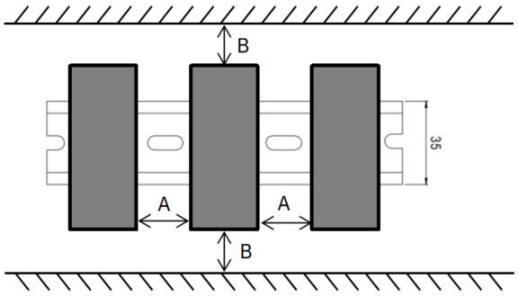
Note:
Unit: mm[inch]; The unmarked tolerance is±0.5[±0.020]

# ◎Installation requirements:

## Applicable orbit and space requirements:

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

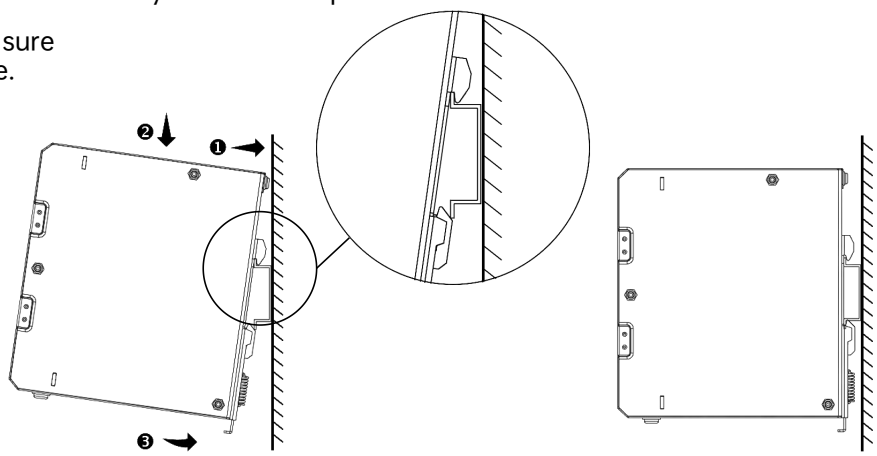
| Space | mm | inch |
|---|---|---|
| A | 20 | 0.8 |
| B | 100 | 3.9 |




## Installation:

①Align the product buckle with the track
②Push the product body downwards into the guide rail
③Push 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.