

# NX-Series Power Supply Unit

## NX-PA/PD

CSM\_NX-PA\_PD\_DS\_E\_2\_3

## Powerful power supply unit to supply stable power to the NX-series controller.

Stable power supply is available from the NX-series CPU Unit to each I/O Unit via the dedicated bus. Lineups are provided for AC input types with 90 W output and DC input types with 70 W output.



NX-PD7001

## Features

- AC input types with 90 W output or DC input types with 70 W output allows power supply to large-scale configurations.
- Operating output contact indicates the CPU operation status (available in all models).

## Ordering Information

### International Standards

- The standards are abbreviated as follows: U: UL, U1: UL(Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, CE: EC Directives, C-Tick: C-Tick mark, and KC: KC Registration.
- Contact your OMRON representative for further details and applicable conditions for these standards.

## Power Supply Units

Product Name	Power supply voltage	Output capacity	Options			Model	Standards
		Total power consumption	24-VDC service power supply	RUN output	Maintenance forecast monitor		
AC Power Supply Unit	100 to 240 VAC	90 W	No	Yes	No	NX-PA9001	UC1, N, L, CE, RCM, KC
DC Power Supply Unit	24 VDC	70 W				NX-PD7001	

## Accessories

There is no accessory for the NX-series Power Supply Unit.

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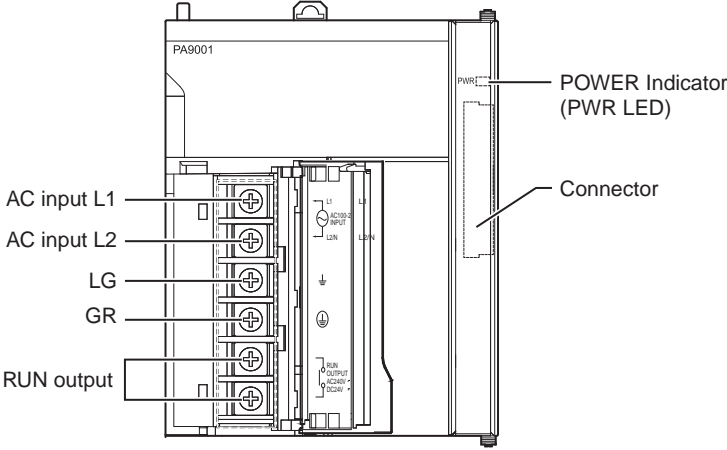
## General Specification

Item	Specifications	
<b>Model</b>	NX-PA9001	NX-PD7001
<b>Dimensions</b>	80 × 100 × 100 mm (W × H × D)	51 × 100 × 100 mm (W × H × D)
<b>Weight</b>	570 g	290 g
<b>Power supply voltage</b>	100 to 240 VAC (wide-range), 50/60 Hz (85 to 264 VAC, 47 to 63 Hz)	24 VDC (20.4 to 28.8 VDC)
<b>Power consumption</b>	150 VA max.	85 W max.
<b>Inrush current *1</b>	At 100 VAC: 20 A *2/8 ms max. for cold start at room temperature At 200 VAC: 40 A *2/8 ms max. for cold start at room temperature	At 24 VDC: 30 A/2 ms max. for cold start at room temperature 7 A *3/3 s max. for cold start at room temperature
<b>Output capacity *4</b>	Total: 90 W max.	Total: 70 W max.
<b>Output terminal (service supply)</b>	Not provided.	
<b>RUN Output</b>	Contact configuration: SPST-NO Switch capacity: 250 VAC, 2 A (resistive load) 120 VAC, 0.5 A (inductive load), 24 VDC, 2A (resistive load)	
<b>Replacement notification function</b>	Not provided.	
<b>Insulation resistance</b>	20 MΩ min. (at 500 VDC) between AC external and GR terminals *5	--- *6
<b>Dielectric strength</b>	2,300 VAC 50/60 Hz for 1 min between AC external and GR terminals *5 *7 Leakage current: 5 mA max.	--- *6

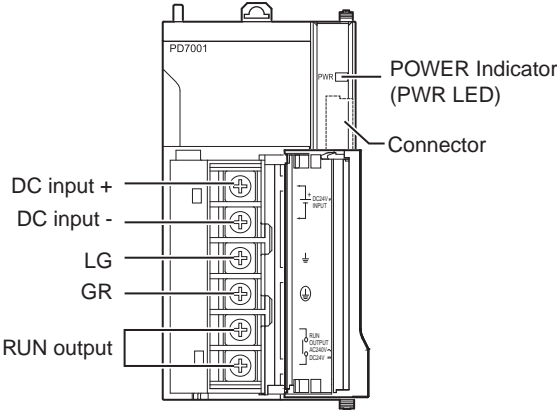
- \*1. The inrush current may vary depending on the operating condition and other conditions. Therefore, select fuses, breakers, and external power supply devices that have enough margin in characteristic and capacity, considering the condition under which the devices are used.
- \*2. If the ambient temperature is higher or the Controller is hot-started, the inrush current given in the table may be exceeded by up to twice the given value because the thermistor element with a low-temperature current control characteristic is not sufficiently cool.
- \*3. Of the inrush current values, the latter value varies depending on the input voltage and may rise to approx. 8.3 A at 20.4 VDC.
- \*4. Internal components in the Power Supply Unit will deteriorate or be damaged if the Power Supply Unit is used for an extended period of time exceeding the power supply output capacity or if the outputs are shorted.
- \*5. Apply the voltage between the Power Supply Unit's L1 or L2 terminal and the GR terminal when testing insulation and dielectric strength. The tests can also be performed with the LG terminal and GR terminal connected to each other. In this case, the leakage current will be 10 mA or less.
- \*6. The primary DC power supply and the secondary DC power supply are not isolated.
- \*7. Change the applied voltage gradually using the adjuster on the Tester. If the full dielectric strength voltage is applied or turned OFF using the switch on the Tester, the generated impulse voltage may damage the Power Supply Unit.

# External Interface

## NX-PA9001



## NX-PD7001



### AC Input

Supply 100 to 240 VAC (allowable: 85 to 264 VAC).  
 The NX-PA9001 has a wide input range, so it does not have voltage switching terminals.

### DC Input

Supply 24 VDC (allowable: 20.4 to 28.8 VDC.)

### LG

Ground to a resistance of 100 Ω or less to increase noise resistance and avoid electric shock.

### GR

Ground to a resistance of 100 Ω or less to avoid electric shock.

### RUN Output

The internal contacts for the RUN output turn ON when the CPU Unit is in RUN status.

## Wiring

### ●About Power Supply

For AC/DC power supply

Recommended wire diameter	AWG 14 to 20 (Cross section 0.517 to 2.08 mm <sup>2</sup> )
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For grounding wire

Recommended wire diameter	2 mm <sup>2</sup> or thicker
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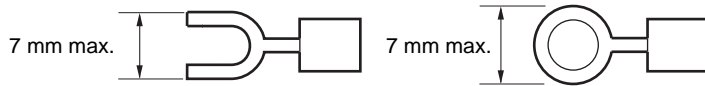
### ●Crimp Terminals

The terminals on the Power Supply Unit are M4, self-raising terminals with screws.

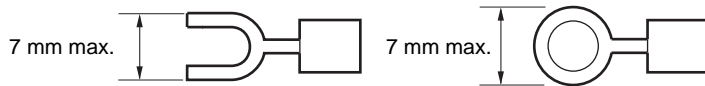
Crimp Terminals for AC Power Supplies



Crimp Terminals for DC Power Supplies



Crimp terminal for the grounding wire



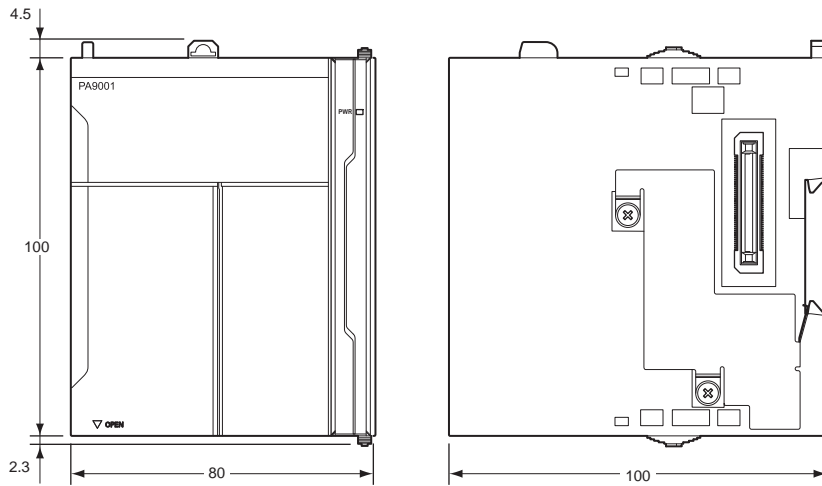
## Precautions for Use

### Compatible CPU Models

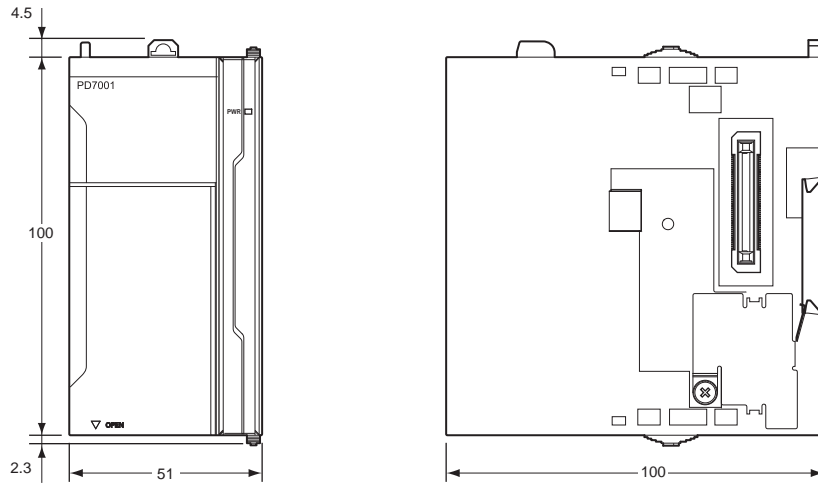
NX-PA9001/NX-PD7001 are dedicated for NX-series.

# Dimensions

## NX-PA9001



## NX-PD7001



# Related Manuals

Manual name	Cat. No.	Model numbers	Application	Description
NX-series CPU Unit Hardware User's Manual	W535	NX701-□□□□	Learning the basic specifications of the NX-series CPU Units, including introductory information, designing, installation, and maintenance. Mainly hardware information is provided.	An introduction to the entire NX-series system is provided along with the following information on a Controller built with a CPU Unit. <ul style="list-style-type: none"> <li>• Features and system configuration</li> <li>• Introduction</li> <li>• Part names and functions</li> <li>• General specifications</li> <li>• Installation and wiring</li> <li>• Maintenance and inspection</li> </ul> Use this manual together with the <i>NJ/NX-series CPU Unit Software User's Manual</i> (Cat. No. W501).

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