

**Power Distribution Box**






**PW715**

**User manual**

**IM23H23-E**














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Symbol Definition	
	<b>WARNING:</b> Indicates information that a potentially hazardous situation which, if not avoided, could result in serious injury or death.
	<b>RISK OF ELECTRICAL SHOCK:</b> Indicates information that Potential shock hazard where HAZARDOUS LIVE voltages greater than 30V RMS, 42.4V peak, or 60V DC may be accessible.
	<b>ESD HAZARD:</b> Indicates information that Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices
	<b>ATTENTION:</b> Identifies information that requires special consideration.
	<b>TIP:</b> Identifies advice or hints for the user.

## Security& Caution Symbols

The following table lists Security& Caution symbols used on equipments.

No.	Symbol	Description
1		Direct current (DC)
2		Alternating current (AC)
3		Ground (Earth) terminal
4		Protective earth (ground) terminal
5		Reference ground (Earth) terminal
6		Frame or chassis
7		Equipotentiality
8		On (power)
9		Off (power)
10		Caution, risk of electric shock
11		Caution, hot surface
12		Caution, risk of danger
13		Electrostatic sensitive devices (ESD)

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# Power Distribution Box PW715

## Section 1 Overview

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PW715 is a power distribution box of 24VDC in the system, including 2-channel 24V input and 9-channel 24V output. The distribution box can be 1 controller or 1 I/O link module base, 4 racks and 4-channel switches power distribution individually. The power distribution interface of 4-channel switches has the function of 1A over current protection.

The power distribution box also can check the rack power and output alarm signal when the power has fault.

## Section 2 Specifications

**Table 2-1 Specifications**

Parameter		Instruction
Type		24V DC Power Distribution Box
Maximum Over Current for 1-Channel Input		30A
Maximum Over Current for 1-Channel Output	MCU/COM、 RACK00~03 Ports	8A
	SW01~04	1A (Limited by Fuse)
Alarm Contact Specifications		Voltage : 60V(Max); Current :50mA(Max)
Temperature	Work	(-20~70)°C
	Storage	(-40~85)°C
Humidity	Work	10%~90%, No Condensation
	Storage	5%~95%, No Condensation
Dimension (L×W×H)		470mm×109.5mm×92.4mm

## Section 3 Usage

### 3.1 Dimension

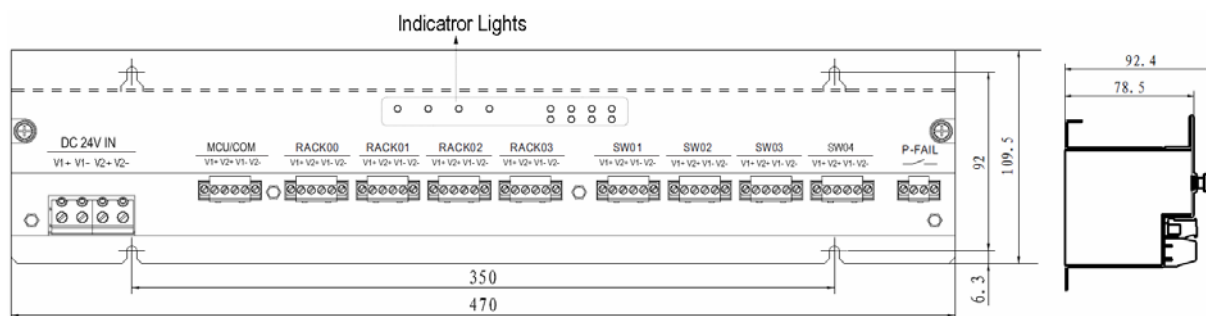


Figure 3-1 Dimension

### 3.2 Connectors

As shown in Figure 3-1, 2-channel 24V input, 9-channel 24V output and 1-channel alarm output. The instruction is shown in Table 3-1.

Table 3-1 Connectors

Sign	Instruction
IN	24V Power Input Interface
MCU/COM	24V Power Output Interface, Supply 1 Controller Base or 1 I/O Link Module Base
RACK00~RACK03	24V Power Output Interface, Supply 4 Racks
SW01~SW04	24V Power Output Interface, Supply 4 Switches
P-FAIL	Alarm Output Interface of Rack Power Fault

### 3.3 Interface Features

The interface circuit of power distributing box is shown as the figure below. RACK00 and SW01 respectively represents the interface circuit of racks and switches.

The processing mechanism of 4-channel alarm processing circuit: if the input (In) of any one channel has fault and outputs (Out) OFF, it means the power supply of racks malfunctions.

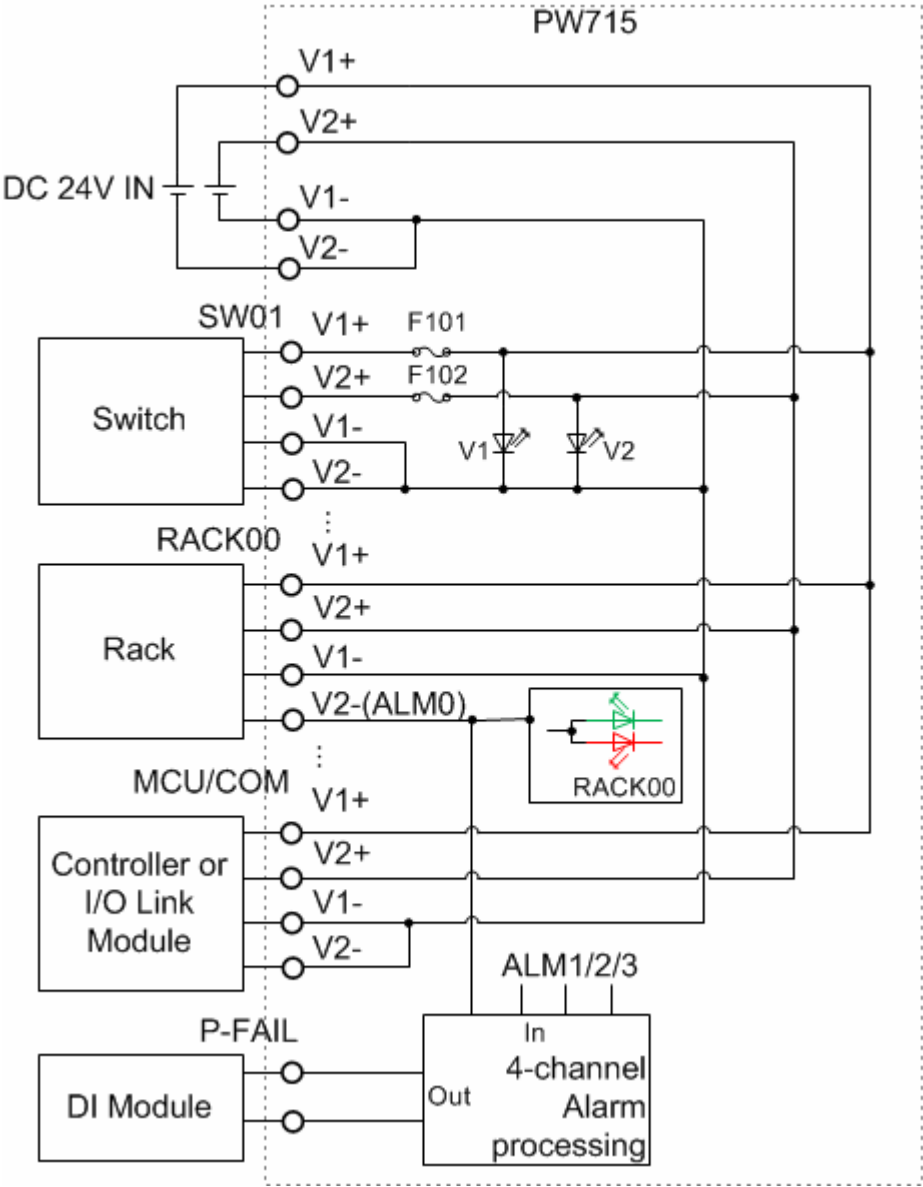


Figure 3-2 Interface features

3.4 Indicator Light

Targets of indicator lights are shown in Figure 3-3, which indicate the power circuit in the same sign individually. For example, the upper indicator light V1 of SW01 indicates the status of V1 power circuit in SW01.

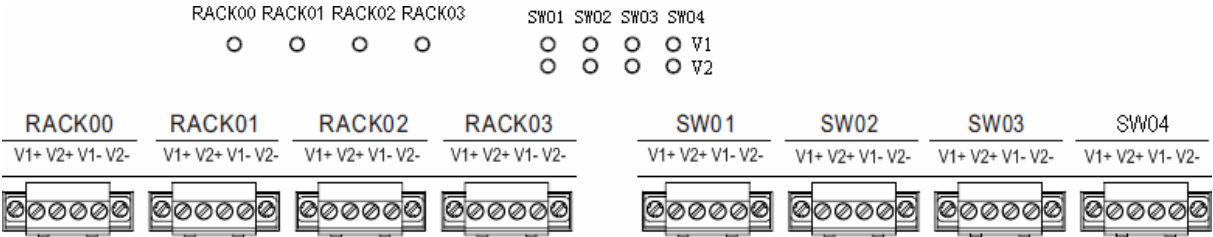


Figure 3-3 Targets of indicator lights

The instruction of indication light is shown in Table 3-2.



**Table 3-2 Instruction of indicator light**

Indicator Light	Performance	Instruction
Rack Power Indicator Light (RACK00/01/02/03)	Green Light	Rack Power Normal
	Red Light	Rack Power Fault
Switch Power Indicator Light (SW01/02/03/04)	Light On (Green)	Fuse Normal
	Light Off	Fuse Fault

### 3.5 Alarm

P-FAIL outputs the alarm signal of dry contact. The instruction is shown in Table 3-3.

**Table 3-3 Instruction of alarm signal**

Output of Dry Contact	Instruction	Troubleshooting
OFF	Rack Power Fault (Connection Fault or Power Fault)	Check whether or not the wiring of the 24V input power supply and that of the input terminals on the power distributing box are normal; Check whether or not the wiring of the output power supply of rack and that of the output terminals on the power distributing box are normal; Check whether or not the wiring of the input terminals of power supply on racks are normal
ON	Rack Power Normal	-

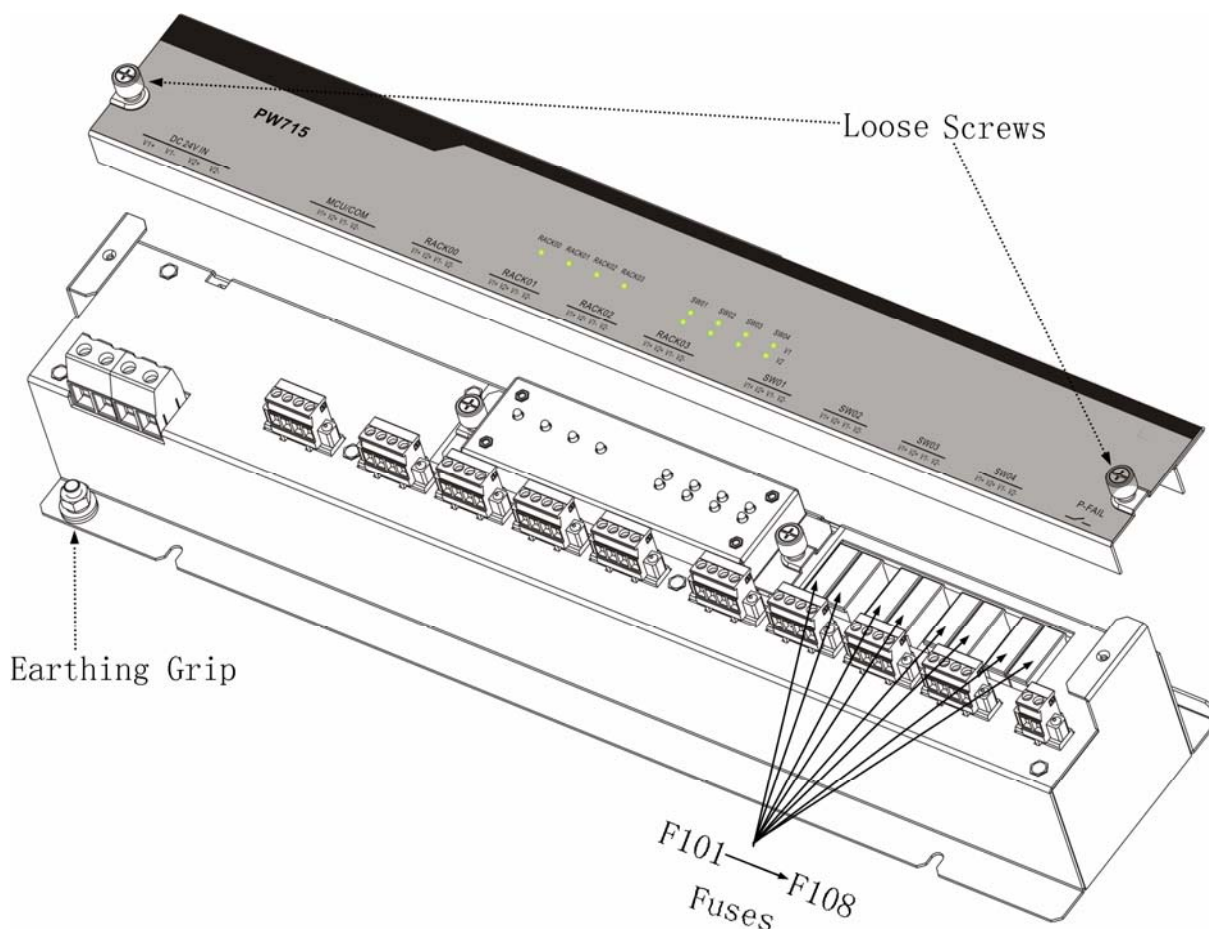
### 3.6 Installation and Maintenance

The power distribution box is installed in the system cabinet. The correspondence of 8 fuses of F101~F108 installed in the junction box and the circuit of switch is shown in Table 3-4. When the indicator light of circuit is always off, the corresponding fuse should be changed. The fuse is changeable fast fuse of 0235001.MXP (1A-250V).

**Table 3-4 Instruction of fuse**

Fuse	Switch Power Circuit
F101	SW01 V1
F102	SW01 V2
F103	SW02 V1
F104	SW02 V2
F105	SW03 V1
F106	SW03 V2
F107	SW04 V1
F108	SW04 V2

Loose the screws in the two sides of power distribution box and remove its cover. The position of fuse is shown in Figure 3-4.



**Figure 3-4 Fuses**

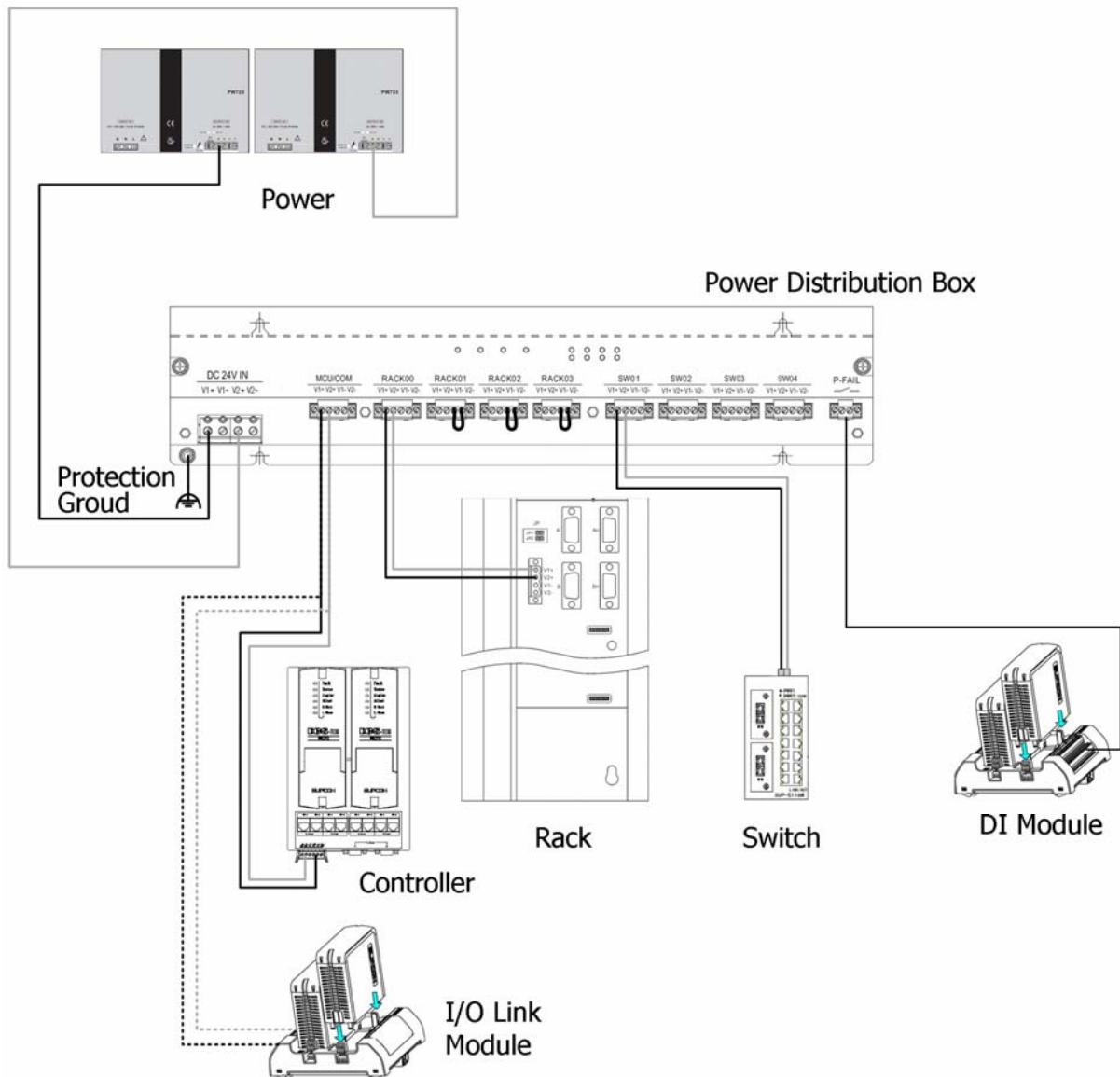
### 3.7 Wiring

The shell of power distribution should connect the protection ground, the grounding terminal is shown in Figure 3-4. Connect the power input and output by the positive and negative ends of the component. As the alarm output signal of rack power is dry contact signal, user can connect according to the dry contact signal input wiring of DI module. Please refer to the specific module user manual for details. The wiring is shown in Figure 3-5.



#### Attention:

If there is interface in RACK00~RACK03 unconnected with rack, short connect its 2 negative terminals to prevent from alarm. As shown in Figure 3-5, RACK01/RACK02/RACK03 are all unconnected with rack, please short connect the 2 negative terminals of each interface.



**Figure 3-5 Wiring**

## Section 4 Revision

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*Table 4-1 Retrofit list of the version*

Document Version	Applicable Product Version	Remarks
V1.0(20131012)	PW715 V10.00.00 and later version.	The first version.
V1.1(20140410)	PW715 V10.00.00 and later version.	Modify Wiring
V1.2(20141218)	PW715 V10.00.00 and later version.	Modify Wiring
V1.3(20150618)	PW715 V10.00.00 and later version.	Modify Wiring
V1.4(20160713)	PW715 V20.00.00 and later version.	Add 1 channel interface of switch, reduce 1 power terminal, modify structure and instruction, change specifications.
V1.5(20170803)	PW715 V20.00.00 and later version.	Add code Add contact specifications
V1.6(20190321)	PW715 V20.00.00 and later version.	Add Interface features