

## Relay Card Manual

### 1. Introduction

Relay card provide dry contacts for UPS external monitoring, and tell the UPS operation status. This manual works for

Three phase In & three phase Out UPS, 《Triphase communication protocol》

Single phase In & single phase Out UPS, 《Single phase communication protocol》

Relay card have tow type logic by different software.

### 2. External connectors define

Dry contact card provide 10 connectors for users, 7 outputs for indicating UPS status, 1 for common ground, 2 input for remote UPS shut down.

Connector Parameter:

parameter		max	Type
Diode	Reverse Voltage $V_R$	5V	
	Forward Current	25mA	16mA
	Pulse Forward Current $I_{FP}$	1A (100μ pusle,100pps)	
	Forward input voltage	30V	DC: 5~12V
Relay contact	Max Switched Voltage	AC: 277V	DC: 5~12V
		DC: 30V	
	Max Switched Current	NO: 10A	
		NC: 3A	
	Max Switched Power	NO: 1400VA 150w	
		NC: 850VA 90W	

Connector's pins define:

Normally open:

Pin NO.	Description	Status		In&output
1	Utility Failure	Relay1 on	Pin1 & Pin8 ON	Output
2	Battery low	Relay2 on	Pin2 & Pin8 OFF	Output
3			Pin3 & Pin8 ON	Output
4	bypass output	Relay3 on	Pin4 & Pin8 ON	Output
5	UPS fault	Relay4 on	Pin5 & Pin8 ON	Output
6	INV. output	Relay5 on	Pin6 & Pin8 ON	Output
7	Alarm	Relay6 on	Pin7 & Pin8 ON	Output
8	COM			
9	Remote off +			5~12V voltage input
10	Remote off -			

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7	Alarm	Relay6 on	Pin7 & Pin8 OFF	Output
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9	Remote off +			5~12V voltage input
10	Remote off -			

NOTE: Pin NO.s pls refer to Pic.2

On real relay card, the mark is K1,K2.....

#### Connector's pins instruction:

##### Normally open:

phenomenon	Descriptions	Fault reason
Pin 1 & 8 ON	Mains abnormal	Mains frequency or voltage abnormal
Pin 2&8 OFF, Pin 3&8 ON	battery low	battery low
Pin 4&8 ON	bypass output	UPS output through bypass
Pin 5&8 ON	UPS fault	Rectifier fault; INV fault; Over-temperature; short circuit
Pin 6&8 ON	INV output	UPS inverter output
Pin 7&8 ON	UPS alarm	Rectifier faultl INV fault; Over-temperature; short circuit
Pin 9 connect 5-12V power Pin 10 connect to ground	Remote OFF	Remote OFF

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Pin 1 & 8 OFF	Mains abnormal	Mains frequency or voltage abnormal

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Pin 9 connect 5-12V power Pin 10 connect to ground	Remote OFF	Remote OFF

### 3. Internal connector define

Totally 26 internal connectors, 4 are valid connectors, they are Pin 1,2,3,4 are shown in Pic.2

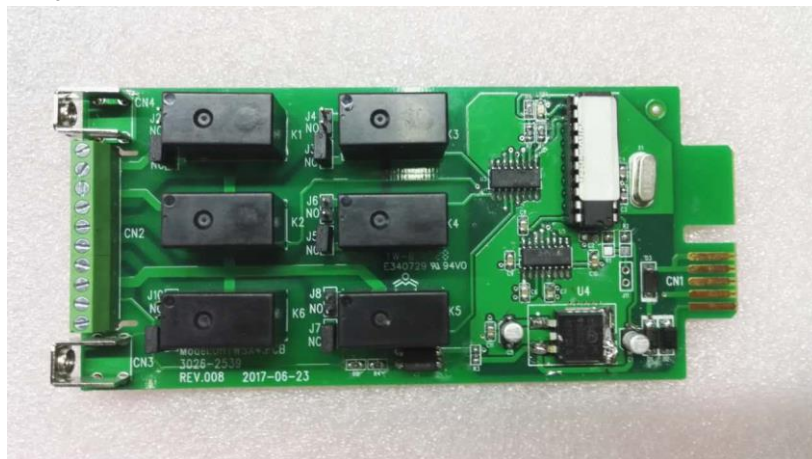
Pin1(at the back of Pin2): Ground

Pin2: 12V power

Pin3: (at the back of Pin4): Send

Pin4: Receive

### 4. Picture of relay card



Pic. 2:the Overview of the relay card