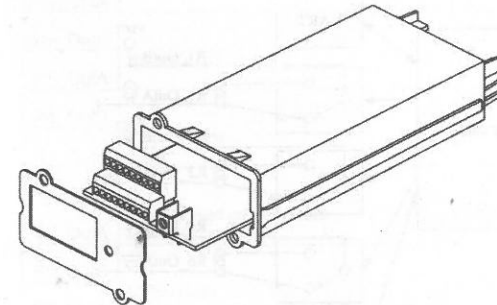


# Dry contact card (DCE-C) Installation Guide



Before start the installation, the UPS must be completely shut down and disconnect with AC mains.



## FEATURES

DCE-C is an UPS management product with 6 relay output contacts for monitoring the status and 3 input contacts as a shutdown UPS command.

### Features:

- ◆ Monitor UPS events.
- ◆ All output contacts are independent.
- ◆ Hardware configurable normal open or normal close for each relay contact.
- ◆ Three programmable input contact.
- ◆ Input contact can configure conditions of UPS shutdown ( Short/Open active, Active time, load percentage effect, utility status effect).

## TECHNICAL SPECIFICATION

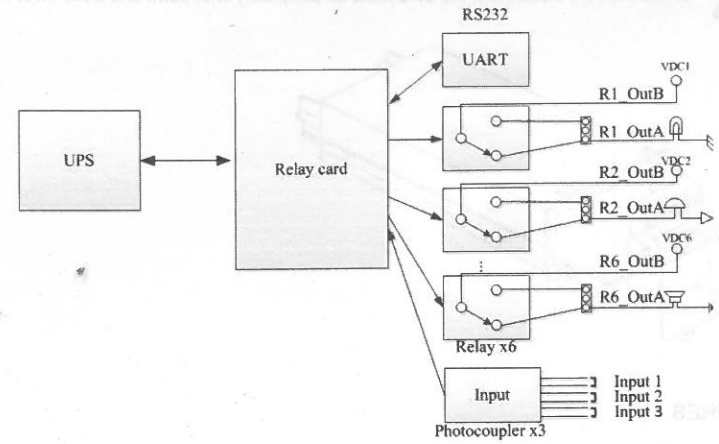
<b>Size</b>	130 x 60mm
<b>Weight</b>	200g
<b>Operating Temperature</b>	0~40°C
<b>Power Input</b>	9~20V
<b>Power Consumption</b>	2.7 Watts

## OUTPUT CONTACT RATING

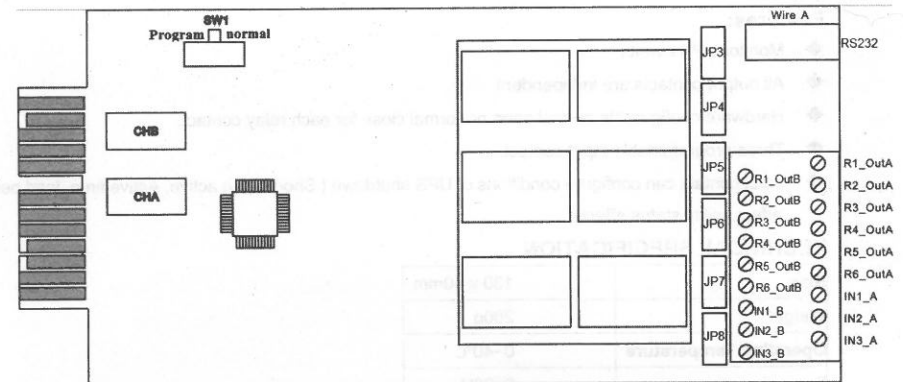
	Maximum	
	DC Voltage	DC Current
Relay R1~R6	40 V	800 mA

## APPLICATION EXAMPLE

In this case we'll use the default settings, please set jump JP3-JP8 to short pin 2-3. Apply different VDC to **Common** contact and connect the lamps to **R1~R6** terminals. Short to the input terminal, at least 3 second to shutdown the UPS remotely.



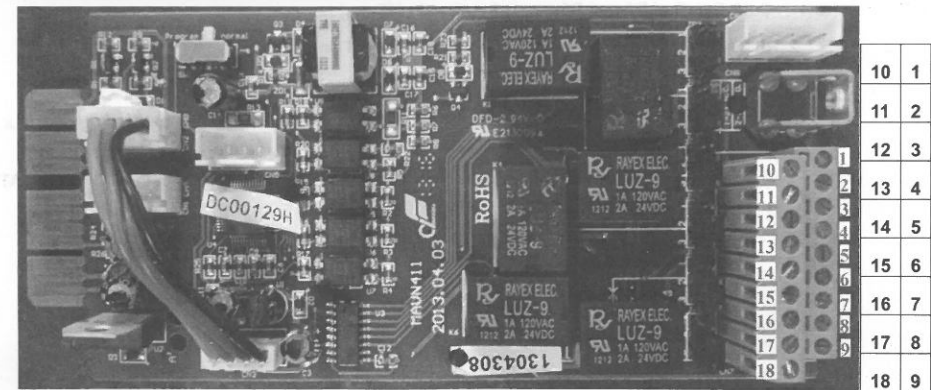
## OUTLINE



### I/O PINOUT

R1_OutB	UPS on Bypass mode	
R1_OutA		
R2_OutB	Utility Abnormal / Utility Normal	
R2_OutA		
R3_OutB	Inverter On	
R3_OutA		
R4_OutB	Battery Low	
R4_OutA		
R5_OutB	Battery Bad or Abnormal	
R5_OutA		
R6_OutB	UPS Alarm	
R6_OutA		
IN1_A	Remote shutdown by Utility status	
IN1_B		
IN2_A	Energy saving shutdown by Utility status and load percentage.	
IN2_B		
IN3_A	Energy saving shutdown by Utility failure time.	
IN3_B		
RS232	Communicate to PC for setting or firmware upgrade	
SW1	Right side(Default)	Left side
	Default for setting shutdown function	Firmware Update

### The pin assignments of 18-Pin Terminal:



10	1
11	2
12	3
13	4
14	5
15	6
16	7
17	8
18	9

### Default behavior of Output Pin

N.C/N.O select Dry contact Output pin	Jumper Pin 1,2 short	Jumper Pin 2,3 short	Output Setting
	R1_OutA,R1_OutB Open	UPS on Bypass mode	
R1_OutA,R1_OutB Short	UPS is not on Bypass mode	UPS on Bypass mode	
R2_OutA,R2_OutB Open	Utility Abnormal	Utility Normal	JP4
R2_OutA,R2_OutB Short	Utility Normal	Utility Abnormal	
R3_OutA,R3_OutB Open	Inverter On	Inverter Off	JP5
R3_OutA,R3_OutB Short	Inverter Off	Inverter On	
R4_OutA,R4_OutB Open	Battery Low	Battery voltage enough	JP6
R4_OutA,R4_OutB Short	Battery voltage enough	Battery Low	
R5_OutA,R5_OutB Open	Battery bad or abnormal	Battery normal	JP7
R5_OutA,R5_OutB Short	Battery normal	Battery bad or abnormal	
R6_OutA,R6_OutB Open	UPS occur alarm	UPS is not occur alarm	JP8
R6_OutA,R6_OutB Short	UPS is not occur alarm	UPS occur alarm	

### Default behavior of Input Pin

Dry contact input pin	Pin Number	Default function
IN1	IN1_A, IN1_B short	UPS shutdown after 6sec
IN2	IN2_A, IN2_B short	UPS shutdown by load lower than 10 %
IN3	IN1_A, IN1_B short	UPS shutdown by Utility abnormal

Note 1: OutA,Out\_B of R5 and R6 are no function on MS series.

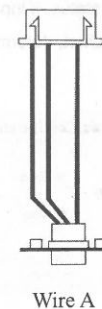
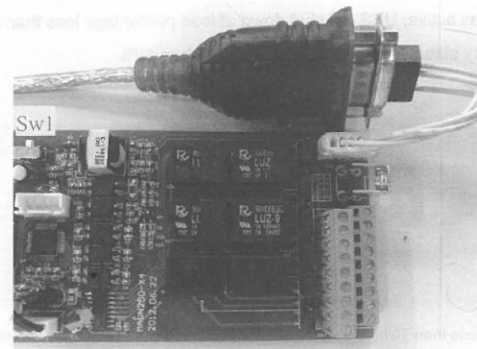
2: R6\_OutA, OutB no function for Line-interactive UPS only.

1. Flexible communication from channel A (CN1) or channel B (CN2).
2. Flexible signal output for N.C. (Normal close) or N.O.(Normal open) contact by shorting pin1-2 or pin2-3 from JP3-8.
3. The Shutdown function can be programmable by the software. Please refer to the CONFIGURATION.

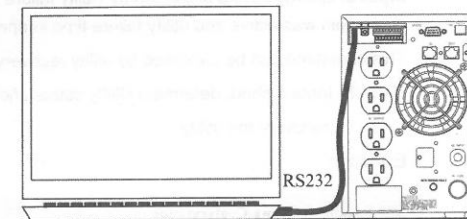
## PROGRAMMABLE CONTACTS

### COMMUNICATION SETUP

1. Connect wire A to CN6.



2. Connect RS232 to computer.
3. SW1 switch to "normal".
4. Run the setting tool.
5. Select COM port and Baud Rate(9600bps).
6. Select "Dry contact" option.



### CONFIGURATION

User can program shutdown function that include delay time before shutdown by normal open and normal close active, utility normal/abnormal and load percentage.

**Input 1:** Remote shutdown by Utility status.

#### Utility fail select:

If input pin was active and utility failure, UPS will shut down after X second.

This command can't be cancelled.

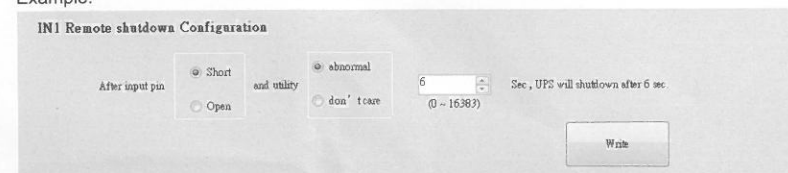
#### Utility fail didn't select:

Don't care Utility status. If input pin was active, UPS will shut down after X second.

This command can't be cancelled.

**Default:** Input 1 short, determine Utility status and UPS shut down after 6 seconds.

Example:

A screenshot of the 'IN1 Remote shutdown Configuration' window. It shows a configuration interface with radio buttons for 'Short' and 'Open' under 'After input pin', and radio buttons for 'abnormal' and 'don't care' under 'and utility'. A numeric input field is set to '6' with a range of '(0 ~ 16383)'. A text label says 'Sec, UPS will shutdown after 6 sec.' and there is a 'Write' button at the bottom right.

If utility abnormal and input pin short, UPS will shut down after 6 seconds.

**Input 2:** Energy saving shutdown by Utility status and load percentage.

**Utility fail select:**

If input pin was active and utility failure, UPS will shut down at load percentage less than X %.

**Utility fail didn't select:**

Don't care Utility status. If input pin was active, UPS will shut down at load percentage less than X %.

**Default:** Input 2 short, determine Utility status and load percentage less than 10%.

Example:

The screenshot shows the 'IN2 Remote shutdown Configuration' window. It features two columns of radio buttons. The first column, labeled 'After input pin', has 'Short' selected and 'Open' unselected. The second column, labeled ', utility', has 'abnormal' selected and 'don't care' unselected. To the right, there is a text input field for 'and Load percentage less than' with the value '10' and a range '(0 ~ 100)' below it. Further right, it says '%, UPS will shutdown after 6 sec'. A 'Write' button is located at the bottom right of the configuration area.

If utility abnormal, Load percentage less than 10% and input pin short, UPS will shut down immediately.

**Input 3:** Energy saving shutdown by Utility failure time.

If input pin was active and utility failure time keeping X second, UPS will shut down immediately.

This command can be cancelled by utility recovery to normal.

**Default:** Input 3 short, determine Utility status and UPS shut down after 60 seconds. Before shut down UPS and recovery the utility.

Example:

The screenshot shows the 'IN3 Remote shutdown Configuration' window. It features two columns of radio buttons. The first column, labeled 'After input pin', has 'Short' selected and 'Open' unselected. The second column, labeled 'and utility abnormal', has a text input field with the value '60' and a range '(0 ~ 16383)' below it. To the right, it says 'Sec, UPS will shutdown after 6 sec'. A 'Write' button is located at the bottom right of the configuration area.

Note 1: The Input3 function will be activated after short pin8-17 and Utility abnormal (default).

Once utility become normal from abnormal, the action will be cancelled.

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Handwritten notes in the lower section of the page, including a large bracket on the right side.