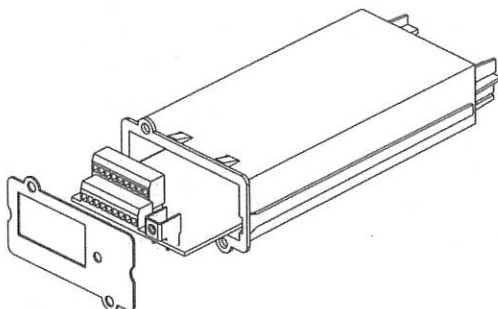


# Dry contact card (DCE-C) Installation Guide



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

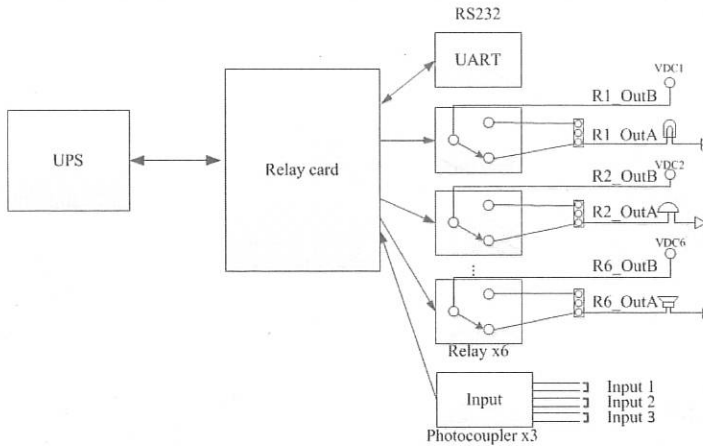
Size	130 x 60mm
Weight	200g
Operating Temperature	0~40°C
Power Input	9~20V
Power Consumption	2.7 Watts

## OUTPUT CONTACT RATING

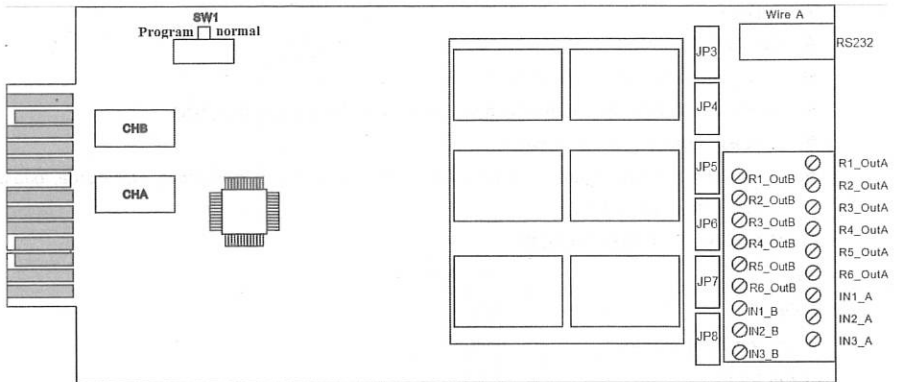
	Maximum	
	DC Voltage	DC Current
Relay R1~R6	40 V	800 mA

## 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.



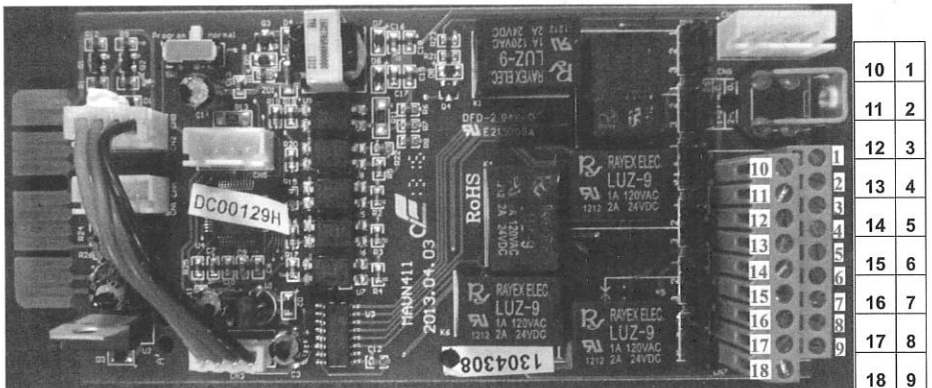
## OUTLINE



## 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:



### 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	UPS is not on Bypass mode	JP3
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**.

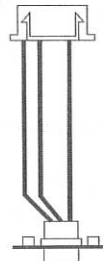
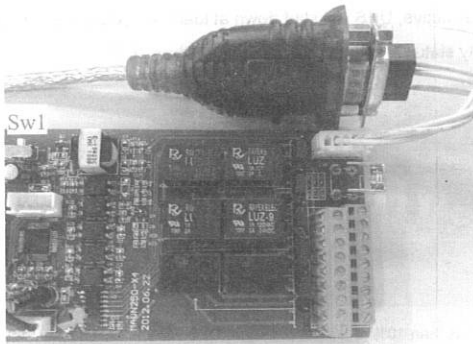
2: R6\_OutA, OutB no function for **Line-interactive UPS only**.

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

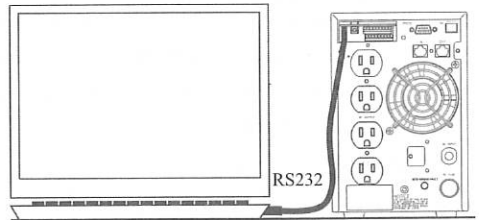
## COMMUNICATION SETUP

1. Connect wire A to CN6.



Wire A

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.

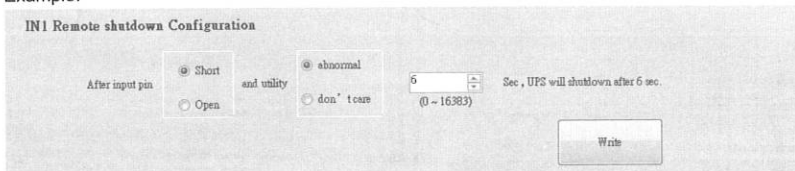
### Utility fail didn't select:

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:



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 a form with the following elements: 'After input pin' with radio buttons for 'Short' (selected) and 'Open'; 'utility' with radio buttons for 'abnormal' (selected) and 'don't care'; 'and Load percentage less than' with a numeric input field set to '10' and a range '(0 ~ 100)'; and a 'Write' button at the bottom right.

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 a form with the following elements: 'After input pin' with radio buttons for 'Short' (selected) and 'Open'; 'and utility abnormal' with radio buttons for 'abnormal' (selected) and 'don't care'; 'and utility abnormal' with a numeric input field set to '60' and a range '(0 ~ 16383)'; and a 'Write' button at the bottom right.

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.