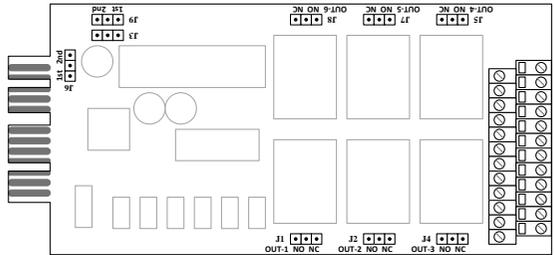
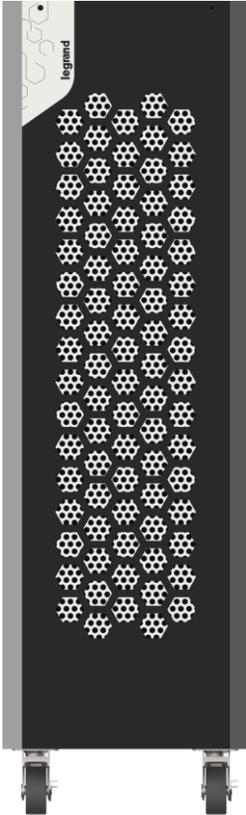


# KEOR COMPACT 3 111 06 DRY CONTACT CARD

## Installation Manual



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## 1. Introduction

The main purpose of this dry contact card is to send the information about the abnormal events happen in UPS to the other apparatus so that this equipment can understand the current situation and act accordingly. This card provides six output relays and six input contacts. The UPS can install up to 2 dry contact cards. All output and input contacts are programmable, and user can define the definition for each contact using setting tool.

The prevalent requirements of output information include: Mains input fault alarm, Bypass fault alarm, Battery weak alarm, Output overload alarm so on and so forth.

The prevalent requirement of input information includes: Single shutdown, System shutdown, Single start, System start, Transfer to bypass in single operation, Transfer to bypass in parallel operation, EPO (Emergency shutdown).

The purpose of this manual is to provide indications for installing and using safely the LEGRAND dry contact card 3 109 69.

It is essential that this manual is read through, but it is not a substitute for the expertise of the technical personnel who must have had adequate preliminary training.

The dry contact card has been built for the applications specified in this manual. For no reason whatsoever it is allowed a use for purposes other than those for which it has been designed, nor in ways different to those explained in the manual.

This manual must be kept in a safe, dry place and always be available for consultation. We suggest making a copy and filing it.

The manual is to be considered an integral part of the dry contact card and therefore must be kept for the card's useful life cycle.

The original text of this publication is in English and is the only reference for solving any interpretation disputes related to the translation into other languages.

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### 1.1 Guarantee terms

The guarantee conditions may vary depending on the country where the dry contact card is sold. Check with your local LEGRAND sale representative for validity and duration.

In order to use the guarantee supplied by the Manufacturer the user must scrupulously comply with the precautions indicated in the manual .

The Manufacturer declines all liabilities, direct and indirect, resulting from:

- disregard for the instructions by the specialized technician and a use of the card different from the one stated in the manual;
- use by personnel who have not read and understood properly the contents of the manual;
- a use failing to conform to the specific laws existing in the country of installation;
- changes made to the equipment, operating logic or tampering;
- repairs unauthorized by the Technical Service Assistance of LEGRAND;
- damages caused by willful misconduct, gross negligence, exceptional events, fire or infiltration of liquids.

## 2. Safety provisions



### ATTENTION

It is necessary to read these safety provisions before doing any operation.



### DANGER

This product should be installed in compliance with installation rules, preferably by a qualified electrician. Incorrect installation and use can lead to risk of electric shock or fire.

Before carrying out the installation, read the instructions and take account of the product's specific mounting location.

Do not open up, dismantle, alter or modify the device except where specifically required to do so by the instructions. All Legrand products must be opened and repaired exclusively by personnel trained and approved by Legrand. Any unauthorized opening or repair completely cancels all liabilities and the rights to replacement and guarantees.

Use only Legrand brand accessories.



### DANGER

The dry contact card must be installed only with the UPS UNPLUGGED FROM THE MAINS.



### ATTENTION

The dry contact card 3 110 99 can only be used in the expansion slot of the UPS KEOR COMPACT manufactured by LEGRAND.



### ATTENTION

It is required to connect the dry contacts of the card by strictly following the instructions provided in this manual. The UPS and the card may be damaged if the installation and operating procedures are not followed.



### ATTENTION

Inspect the dry contact card immediately after opening the packaging. If it appears damaged, do not install it inside the UPS but immediately contact the Technical Service Assistance of LEGRAND.

In case of problems with the card, you should read this manual before contacting the Technical Service Assistance of LEGRAND.

If the problem persists, contact the Technical Service Assistance of LEGRAND that will provide all the instructions on how to proceed.

## 3. Installation Procedure

### 3.1 Component List

The dry contact card package includes below items:

- Dry-contact card x 1
- M3 Screw x 2

### 3.2 Electrical Specification

- Output Relay: 250VAC / 2A, 30VDC / 2A
- Input Contact: When the contact is closed, a current of 10mA max circulates.

### 3.3 Dry Contact Card Hardware Setting

Before installing this card to UPS, please check below jumpers setting as Figure 1 and Table 1 show.

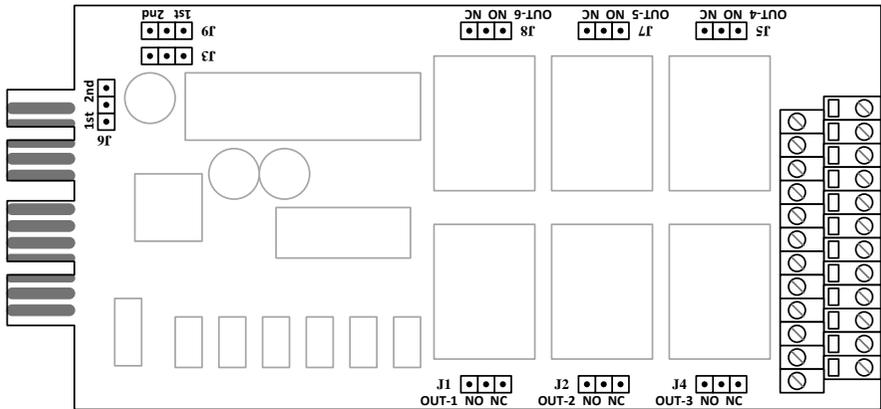


Figure 1. Layout of dry-contact card

Table 1

Jumper	Function Descriptions	Setting
J3	These three jumpers to select the communication slot of UPS which one this dry-contact card will be installed.	Slot 1:  <b>1st 2nd</b>
J6		Slot 2:  <b>1st 2nd</b> ※
J9		
J1	Out Relay#1 NO/NC setting	NO (Normal Open)  <b>NO NC</b>  NC (Normal Closed)  <b>NO NC</b>
J2	Out Relay#2 NO/NC setting	
J4	Out Relay#3 NO/NC setting	
J5	Out Relay#4 NO/NC setting	
J7	Out Relay#5 NO/NC setting	
J8	Out Relay#6 NO/NC setting	

※ Check the TAC14xx PCB board SW2 is on the Slot sides Figure 2 shows

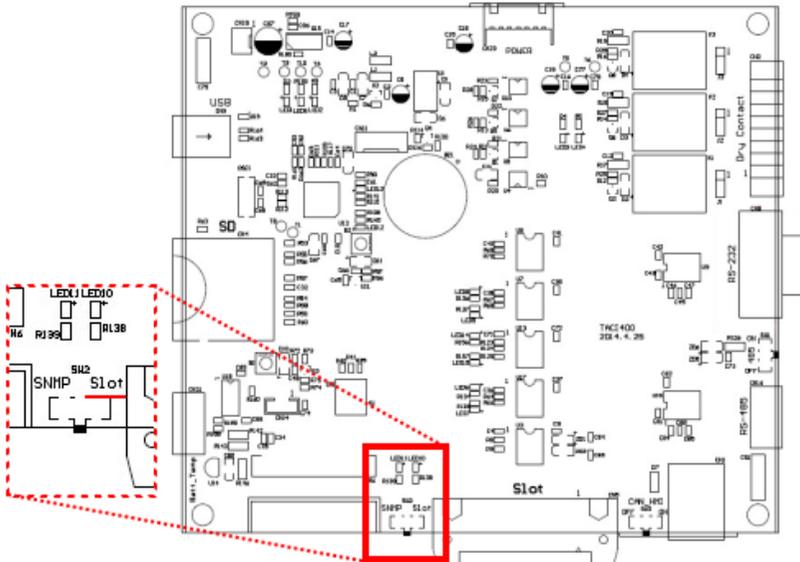
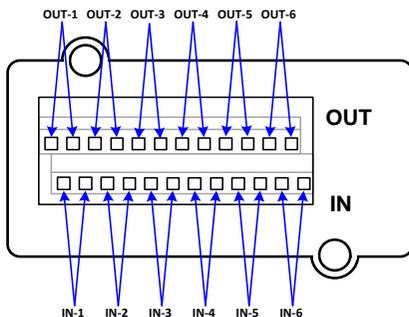


Figure 2. TAC14XX PCB board SW2

If you insert Dry Contact Card into the Slot2 · you must select Slot side on the SW2.

### 3.4 Pin Assignment of Output/Input Contacts

This card provides six output relays and six input contacts. The pin assignment as Figure 3 shows.



OUT-1	Output Relay 1
OUT-2	Output Relay 2
OUT-3	Output Relay 3
OUT-4	Output Relay 4
OUT-5	Output Relay 5
OUT-6	Output Relay 6
IN-1	Input Contact 1
IN-2	Input Contact 2
IN-3	Input Contact 3
IN-4	Input Contact 4
IN-5	Input Contact 5
IN-6	Input Contact 6

Figure 3

## 3.5 Hardware Installation Procedure

Please refer to section 1.3 to set all jumpers of the dry contact card before install to UPS.

Plug in the dry contact card to the «Slot1» or «Slot2» and then screw in the screws after the card is firmly locked in to complete the installation procedure, as Figure 4 shows.

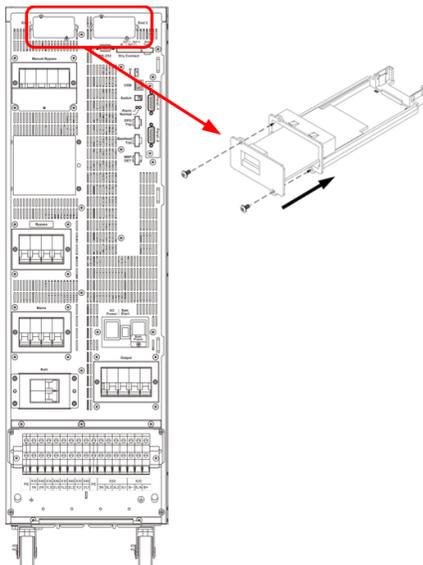


Figure 4

## 3.6 Communication Setting Procedure

- Please configure the setting of this card via the LCD control panel and the setup procedure as shows in Figure 5.
- The programmable parameters as shows in table below.

Item	Setting
ID	1
Stop Bit	1
Parity Check	None
Baud Rate	57600

- In parallel system, please click  to select the machine ID which installs the dry contact card before you change the setting.

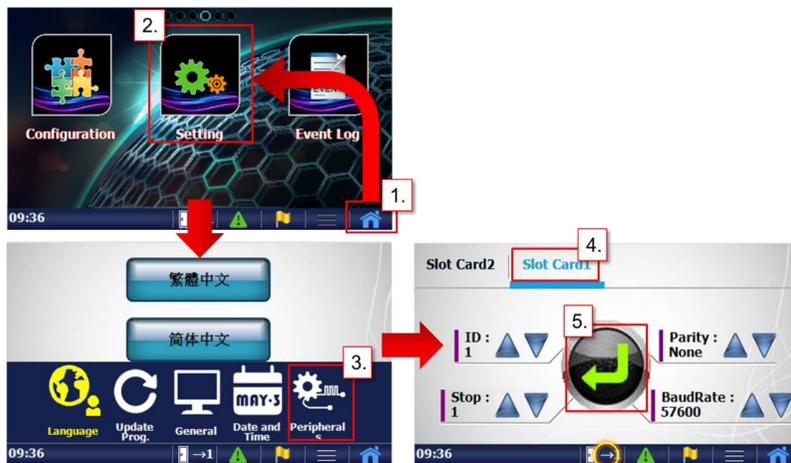
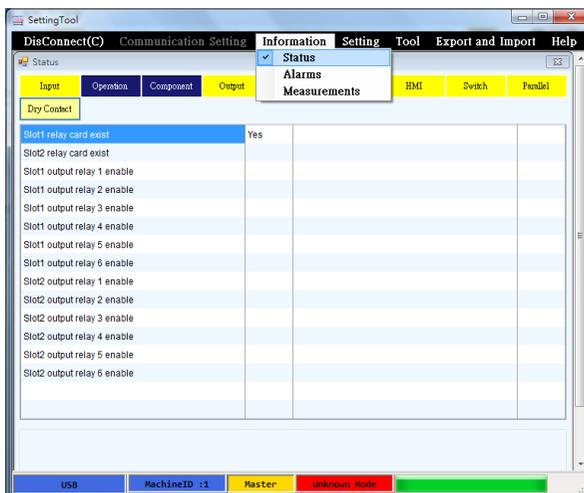


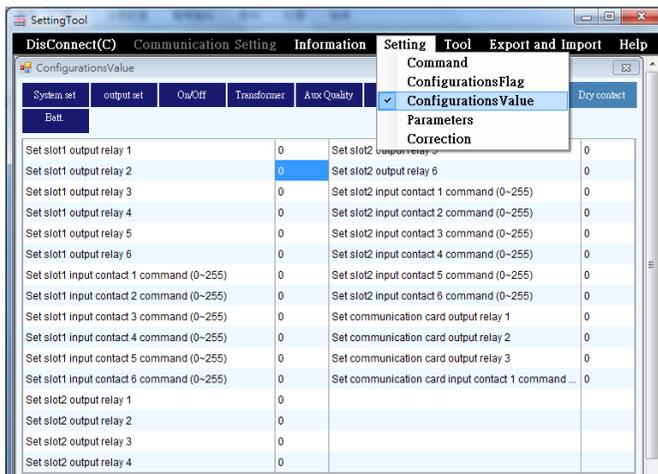
Figure 5

- Please use the setting tool software to confirm the configuration of the dry contact card.
- Go to 『Information』 -> 『Status』 -> 『Dry Contact』 page to identify whether the dry contact card is properly set. If the card is installed correctly, “Yes” will be appeared.

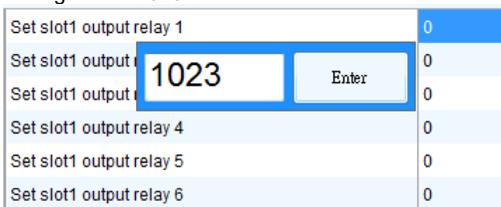


## 3.7 Configure Output/Input Contacts

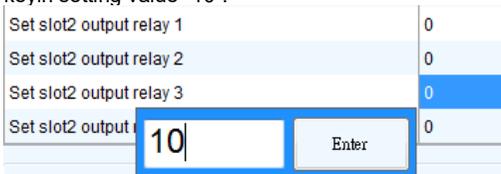
- Please use the setting tool software to configure the output/Input contacts.
- Go to 『Setting』 -> 『Configurations Value』 -> 『Dry Contact』 page to change the definition for each contact.



- Configure Output Relay
  - The status and alarm events can be set.
  - The status code list show as Table 2.
  - The alarm code list show as Table 3.
  - Example 1: Set Status S23 “Load on Bypass” to slot1 output relay1. Please keyin setting value “1023”.



- Example 2: Set alarm A10 “Over Temperature” to slot2 output relay3. Please keyin setting value “10”.



- Configure Input Contact
  - The available command code list show as Table 4.

- Example: Set command C05 "Shutdown" to slot1 input contact 2. Please keyin setting value "5".

Set slot1 input contact 1 command (0~255)	0
Set slot1 input contact 2 command (0~255)	0
Set slot1 input c	0
Set slot1 input c	0
Set slot1 input contact 5 command (0~255)	0
Set slot1 input contact 6 command (0~255)	0

5	Enter
---	-------

**Table 2. Status Code List**

<b>Code</b>	<b>Description</b>	<b>Setting Value</b>
S00	Rectifier Input Present OK	1000
S01	Bypass Input Present OK	1001
S05	UPS in Normal Mode	1005
S07	UPS in ECO Mode	1007
S08	UPS in Converter Mode	1008
S14	Rectifier on	1014
S15	Inverter on	1015
S16	Battery Discharger on	1016
S17	Battery Charger on	1017
S21	Load off	1021
S22	Load on Inverter	1022
S23	Load on Bypass	1023
S24	Load on Manual bypass	1024
S33	Unitary Operation	1033
S34	Parallel Operation	1034
S35	Redundancy Operation	1035
S40	Vbatt. Ok	1040
S41	Vbatt. Low	1041
S42	Vbatt. Min	1042
S48	Battery Charging Compensation	1048
S50	Battery Precharge Kit Available	1050
S51	Permission for Close Battery Switch	1051
S52	Cold Start Ready	1052
S61	Buzzer Enable	1061
S63	Automatic Restart Enable	1063
S67	Manual Bypass Switch Closed	1067
S69	Output Switch Closed	1069
S71	Bypass SCR Activated	1071
S72	Battery Switch Closed	1072
S77	Output Contactor Closed	1077
S84	Unit is Master	1084
S85	Unit is Slave	1085
S106	System Load off	1106
S107	System Load on Inverter	1107
S108	System Load on Bypass	1108

**Table 3. Alarm Code List**

<b>Code</b>	<b>Description</b>	<b>Setting Value</b>
A01	General Alarm	01
A02	Inverter General Alarm	02
A03	Mains General Alarm	03
A04	Discharger General Alarm	04
A05	Charger General Alarm	05
A06	Bypass General Alarm	06
A10	Over Temp.	10
A14	Interior over Temp.	14
A15	Battery Room over Temp.	15
A16	Converter Stop Due To UPS Overheat	16
A25	Inverter Fault	25
A26	Rectifier Fault	26
A27	Discharger Fault	27
A28	Charger Fault	28
A29	Bypass SCR Fault	29
A30	Fan out of Order	30
A31	Temp. Sensor Disconnected	31
A46	Mains Input out of Tolerance	46
A47	Mains Input Disconnected or Fuse Open	47
A48	Mains Input Phase Rotation Error	48
A49	Mains Input 3 Phase Current Unbalance	49
A50	Mains Input Voltage Low	50
A58	Inverter Output Voltage out of Tolerance	58
A59	Output contactor broken or output fuse open	59
A60	Inverter Output DC Offset too High	60
A61	Output Short Circuit	61
A69	Bypass Short Circuit	69
A70	Bypass Preventive Alarm	70
A71	Bypass Critical Alarm	71
A72	Bypass Phase Rotation Error	72
A73	Bypass Phase Error	73
A74	Backfeed Protection Active	74
A76	Lock on Bypass	76
A78	Bypass out of THD Tolerance	78
A82	Battery Disconnected or Fuse Open	82
A83	Vbatt. Min	83
A84	Vbatt. Low	84
A85	Battery over Voltage	85
A86	Charger over Current	86
A90	Inverter Overload	90
A91	Bypass Overload	91
A92	UPS Overload Shutdown	92
A94	System Occurred Unpredictable Interrupt Output	94
A95	Rectifier Rating down to 50%	95
A96	Transfer Impossible	96
A97	Output Switch Open	97
A100	Manual Bypass Alarm	100
A101	Battery Near End of Life	101

A102	UPS Maintenance Alarm	102
A129	Sync. of Start or Load Transfer Error	129
A132	EPO(emergency power off) active	132
A133	External Alarm 1 Active	133
A134	External Alarm 2 Active	134
A135	External Alarm 3 Active	135
A136	External Alarm 4 Active	136
A137	External Alarm 5 Active	137
A138	External Alarm 6 Active	138
A139	External Alarm 7 Active	139
A140	External Alarm 8 Active	140
A141	External Alarm 9 Active	141
A142	External Alarm 10 Active	142
A143	External Alarm 11 Active	143
A144	External Alarm 12 Active	144

**Table 4. Command Code List**

<b>Code</b>	<b>Description</b>	<b>Setting Value</b>
C00	Normal Mode	0
C02	ECO Mode	2
C03	Converter Mode	3
C05	Shutdown	5
C06	Load on Bypass	6
C11	Buzzer Disable	11
C12	Buzzer Enable	12
C14	Clear Latch Alarm and Buzzer	14
C200	System Normal Mode on	200
C202	System ECO Mode on	202
C203	System CVCF Mode on	203
C205	System Shutdown	205
C206	System Shut down Converter Except Bypass	206
C256	External Alarm 1 Active	256
C257	External Alarm 2 Active	257
C258	External Alarm 3 Active	258
C259	External Alarm 4 Active	259
C260	External Alarm 5 Active	260
C261	External Alarm 6 Active	261
C262	External Alarm 7 Active	262
C263	External Alarm 8 Active	263
C264	External Alarm 9 Active	264
C265	External Alarm 10 Active	265
C266	External Alarm 11 Active	266
C267	External Alarm 12 Active	267



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