

# **RAC-510/511PE**

## **Standalone Access Controller Hardware Manual**

Version 1.0



**HUNDURE**

# Table of Contents

Chapter 1 Product Overview.....	4
1.1 Package Contents .....	4
1.2 Features .....	5
1.3 Specifications .....	6
Chapter 2 Physical Dimension.....	7
2.1 Dimension.....	7
2.2 Appearance Introduction.....	8
Chapter 3 System Configuration & Wire Connections .....	10
3.1 System Configuration .....	10
3.2 Wire Connections .....	12
3.2.1 Communication Interface Connection.....	12
3.2.2 ACU-30 Wire Diagram.....	13
3.2.3 Alarm Connection .....	14
3.2.4 Electronic Lock Setup.....	15
3.2.5 Exit Button/Door Sensor Connection .....	16
3.2.6 Slave Reader Connection.....	18
3.2.7 Power Supply Connection .....	19
Chapter 4 Installations .....	20
4.1 Hardware Setup.....	20
Chapter 5 Setting.....	21
5.1 ID Setting.....	21
5.2 Function Settings .....	22
5.2.1 Add a Card Number.....	23
5.2.2 Delete a Card Number.....	24
5.2.3 Delete All Card Numbers.....	25
5.2.4 Successive Addition of Card Numbers .....	26
5.2.5 Successive Deletion of Card Numbers .....	27
5.2.6 Set Door Relay Mode .....	28
5.2.7 Set Unlock Door Time.....	29
5.2.8 Door Sensor Detection Time .....	30
5.2.9 Enable/Disable Conditional Unlock Door Settings.....	31
5.2.10 Compare valid Address .....	32
5.2.11 Advanced Settings 1.....	33
5.2.12 Advanced Settings 2.....	34




5.2.13 Re-swipe Card Check Time.....	35
5.2.14 Sensor NO/NC Settings.....	36
5.2.15 Access Granted for Master Code .....	37
5.2.16 Set Date.....	38
5.2.17 Set Time .....	39
5.2.18 Enable/Disable Keypad .....	40
5.2.19 Save Invalid Card No.....	41
5.2.20 Set Master Code.....	42
5.2.21 Set Disarm Card/Code.....	43
5.2.22 Set Duress Card(Code) .....	44
5.2.23 Set Memory Mode .....	45
5.2.24 Door Open Mode .....	46
5.2.25 Slave Reader Setting.....	47
5.2.26 System Initialization .....	48
Chapter 6 Testing .....	49
Chapter 7 Troubleshoot .....	50
Appendix.....	51
Appendix A : RAC-510/511 Function List.....	51
Appendix B : Wiring Material Requirements.....	54

#### Revision History

Version	Description
V1.0	First Edition

# Chapter 1 Product Overview

## 1.1 Package Contents

		
Controller x 1 Base x 1	Quick Start Guide x 1	Screw x 3 Cable x 1

## 1.2 Features

- Supports standalone operation
- Memory capacity 1,024 cardholders / 800 events.
- Provides RS-485 communication interface for management through PC.(RAC-510PE)
- Provides unlock door modes by card or card + PIN; programmable unlock door duration.
- Casing tamper proof detection and door ajar alarm. Programmable door sensor detection time
- Duress card/code setting. When door opened in the emergency, controller will send a signal to control center at the same time for tracing and rescue.
- Watchdog function secures system free from halting.
- Working with slave reader to have Anti-Pass back function

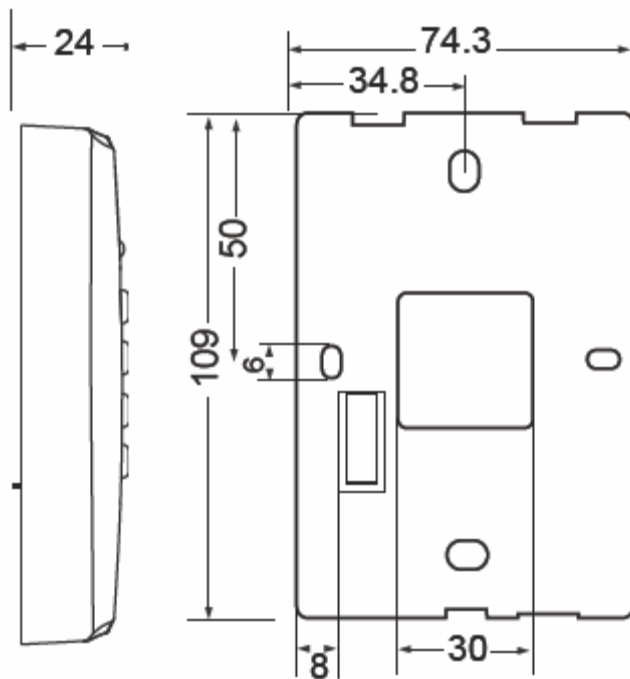
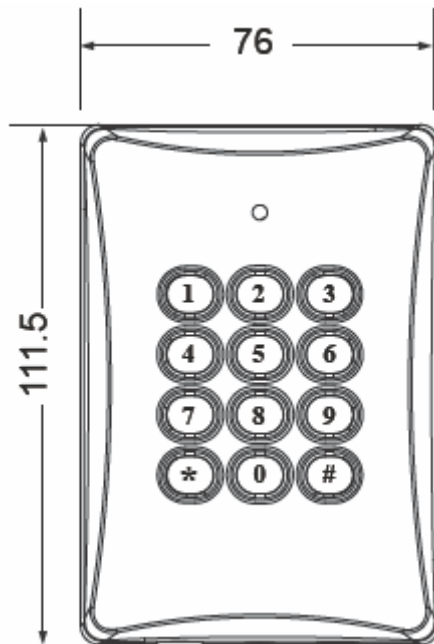
### 1.3 Specifications

Model No.	RAC-510PE	RAC-511PE
Read Format	EM (125 KHz )	
Read Range	6~8cm	
Slave Reader	T2/Wiegand	
Input Ports	3 Sensors(Door SensorX1, Exit ButtonX1, Case SensorX1)	
Output Ports(Built-in )	Relay X 1(Door Lock)	
Output Ports(External)	O.C Output X2 (Door Lock/Alarm, external ACU-30)	
Cardholders/Events	1024/800	
LED Indicator	Comm.	
Keypad	12 Keys ( 0-9, *,# )	
Real Time Clock	YES	None
Beep Tone	Buzzer	
Communication Interface	RS-485	None
Communication Baud Rate	19200 bps-N-8-1	None
ID Setting	DIP switch setting	None
Operating Voltage	DC 12V /1A	
Power Consumption	250mA (Max)	
Operating Temperature	-40°C ~ 70°C /-40°F ~158°F	
Relative Humidity	20% ~ 80% (Non-condensing)	
Dimensions	120mm(L)X77mm(W)X21mm(H)	
Weight	120g	

\* Product design and specifications are subject to change without prior notice.

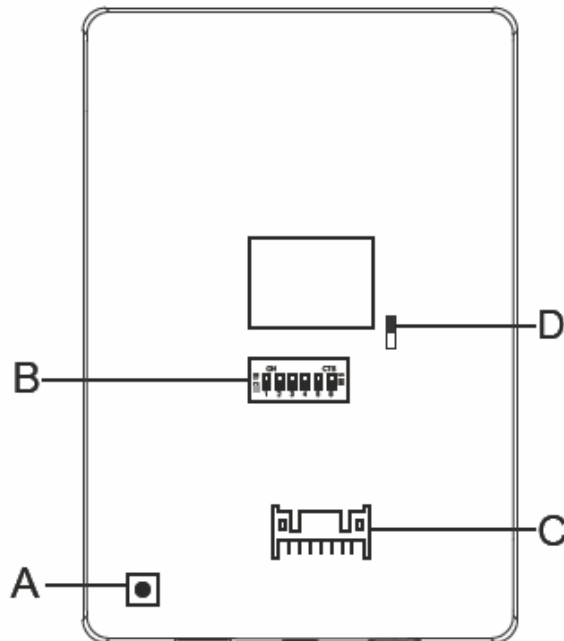
# Chapter 2 Physical Dimension



## 2.1 Dimension



Scale: mm

## 2.2 Appearance Introduction



A	Case Sensor																																																																				
B	<p><b>ID Settings</b> ON=1, OFF=0</p>  <table border="1" data-bbox="507 1216 767 1771"> <thead> <tr> <th>ID</th> <th></th> </tr> </thead> <tbody> <tr><td>0</td><td>000000</td></tr> <tr><td>1</td><td>100000</td></tr> <tr><td>2</td><td>010000</td></tr> <tr><td>3</td><td>110000</td></tr> <tr><td>4</td><td>001000</td></tr> <tr><td>5</td><td>101000</td></tr> <tr><td>6</td><td>011000</td></tr> <tr><td>7</td><td>111000</td></tr> <tr><td>8</td><td>000100</td></tr> <tr><td>9</td><td>100100</td></tr> <tr><td>10</td><td>010100</td></tr> <tr><td>11</td><td>110100</td></tr> <tr><td>12</td><td>001100</td></tr> <tr><td>13</td><td>101100</td></tr> <tr><td>14</td><td>011100</td></tr> <tr><td>15</td><td>111100</td></tr> </tbody> </table> <table border="1" data-bbox="842 1216 1102 1771"> <thead> <tr> <th>ID</th> <th></th> </tr> </thead> <tbody> <tr><td>16</td><td>000010</td></tr> <tr><td>17</td><td>100010</td></tr> <tr><td>18</td><td>010010</td></tr> <tr><td>19</td><td>110010</td></tr> <tr><td>20</td><td>001010</td></tr> <tr><td>21</td><td>101010</td></tr> <tr><td>22</td><td>011010</td></tr> <tr><td>23</td><td>111010</td></tr> <tr><td>24</td><td>000110</td></tr> <tr><td>25</td><td>100110</td></tr> <tr><td>26</td><td>010110</td></tr> <tr><td>27</td><td>110110</td></tr> <tr><td>28</td><td>001110</td></tr> <tr><td>29</td><td>101110</td></tr> <tr><td>30</td><td>011110</td></tr> <tr><td>31</td><td>111110</td></tr> </tbody> </table>	ID		0	000000	1	100000	2	010000	3	110000	4	001000	5	101000	6	011000	7	111000	8	000100	9	100100	10	010100	11	110100	12	001100	13	101100	14	011100	15	111100	ID		16	000010	17	100010	18	010010	19	110010	20	001010	21	101010	22	011010	23	111010	24	000110	25	100110	26	010110	27	110110	28	001110	29	101110	30	011110	31	111110
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C	Kindly refer to the pin assignments below 3.2.2																																																																				
D	<p><b>Built-in Relay</b></p>  <p>When Electric Bolt Lock is used, kindly connect the wire to COM</p>																																																																				



and NC contacts.

When Electric Strikes Lock is used, kindly connect the wire to COM and NO contacts.

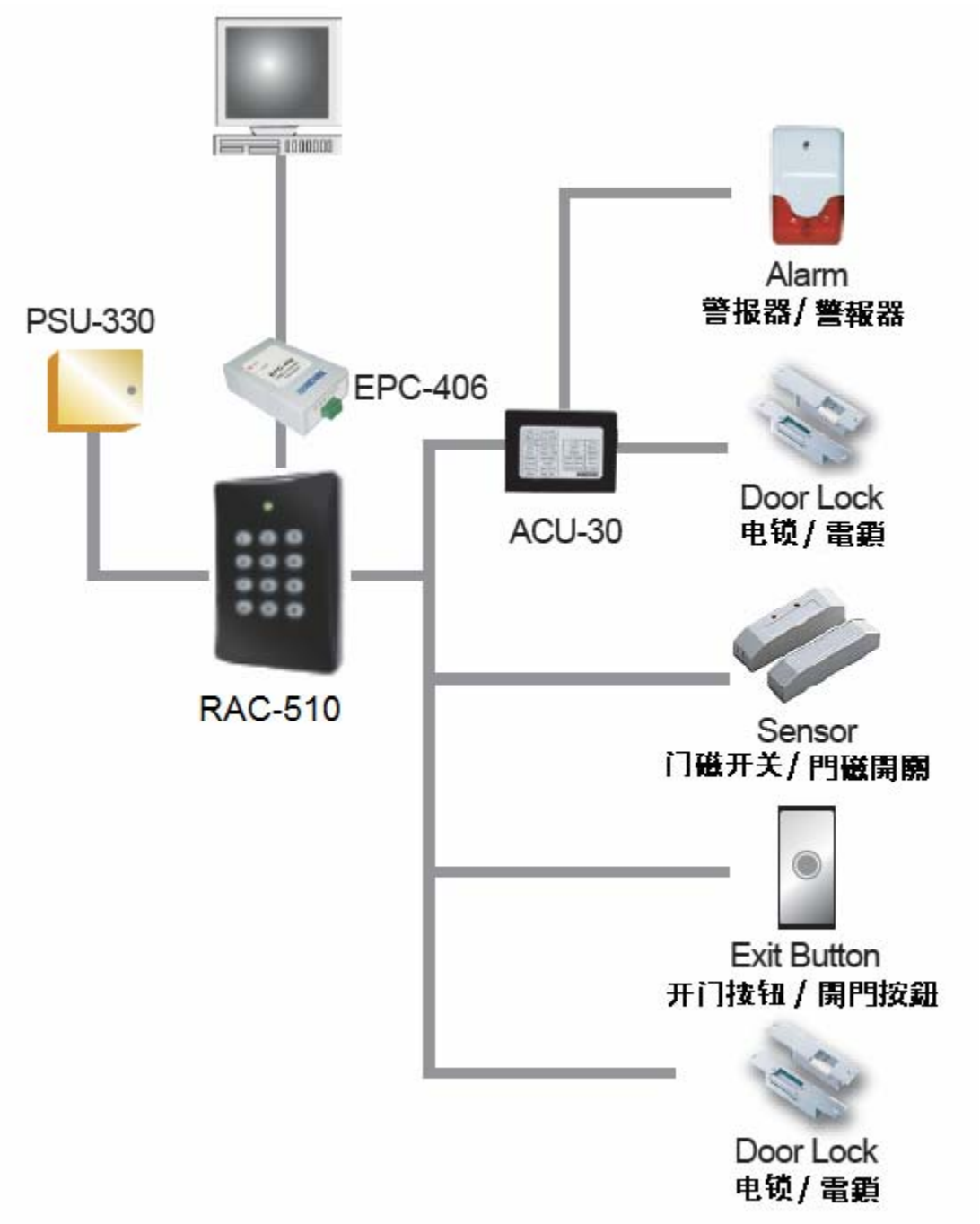
CN2

	DC+12V IN	<b>Red/红/紅</b>	<b>Orange/橙/橙</b>	Exit Button
	GND	<b>Black/黑/黑</b>	<b>Brown/棕/棕</b>	Door Sensor
	RS-485+	<b>Yellow/黄/黃</b>	<b>Purple/紫/紫</b>	Door Relay Out
	RS-485-	<b>Blue/蓝/藍</b>	<b>White/白/白</b>	Alarm Relay Out
	Buzzer	<b>Gray/灰/灰</b>	<b>Green/绿/綠</b>	GND
	Data/W0	<b>Pink 粉红/粉紅</b>	<b>Red&amp;White 红白/紅白</b>	Com
	CLK/W1	<b>Orange&amp;White 橙白/橙白</b>	<b>Gray &amp; White 灰白/灰白</b>	Relay Out

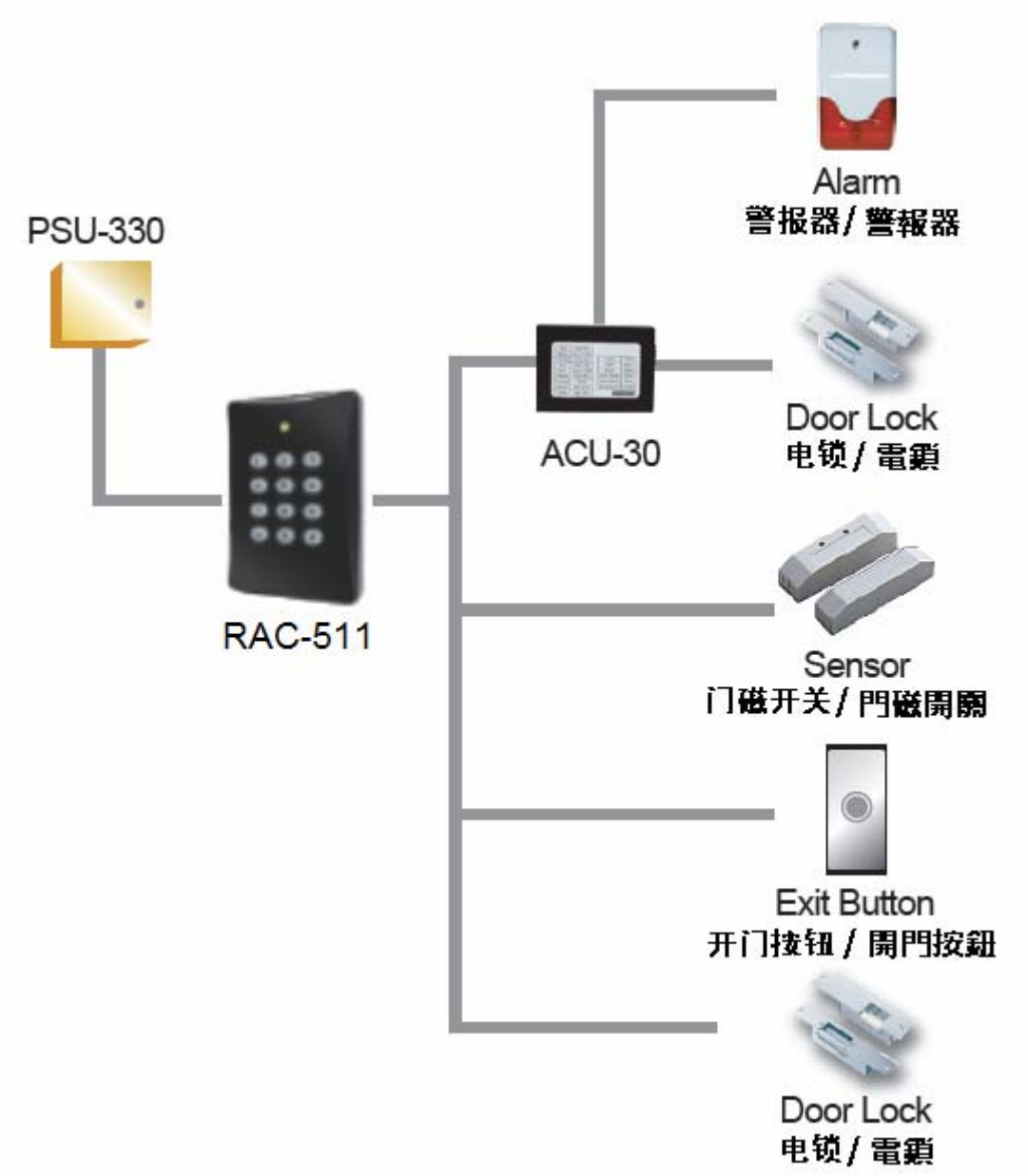
# Chapter 3 System Configuration & Wire Connections

## 3.1 System Configuration

RAC-510



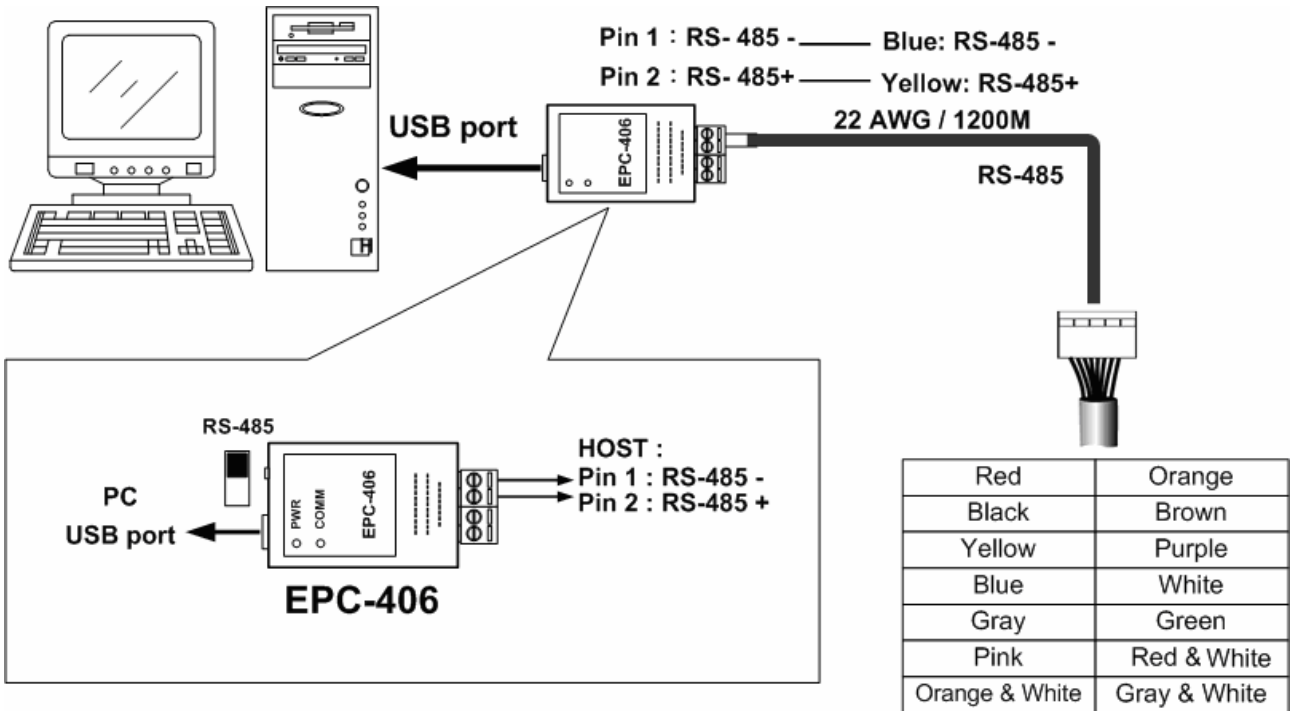
RAC-511



### 3.2 Wire Connections

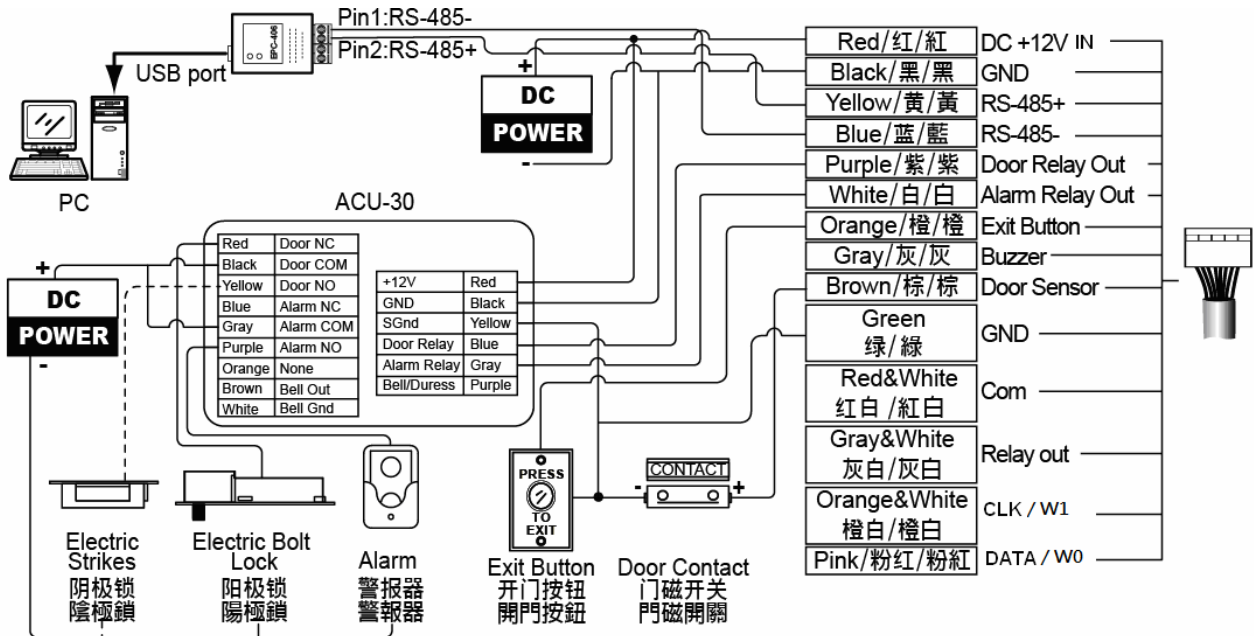
#### 3.2.1 Communication Interface Connection

The device RAC-511 does not provide RS-485 functionality (the wires' colors are Yellow, Blue)



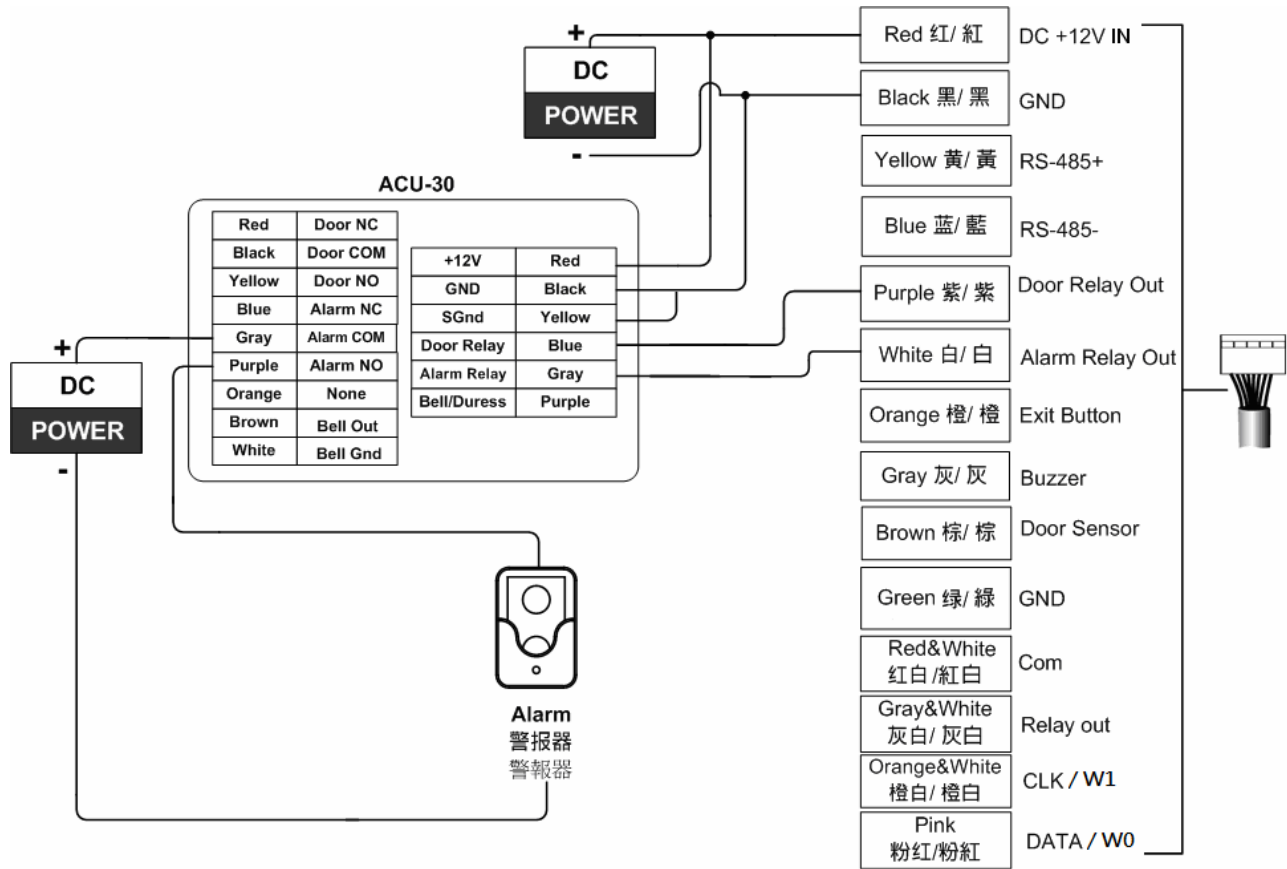
### 3.2.2 ACU-30 Wire Diagram

The device RAC-511 does not provide RS-485 functionality (the wires' colors are Yellow, Blue)



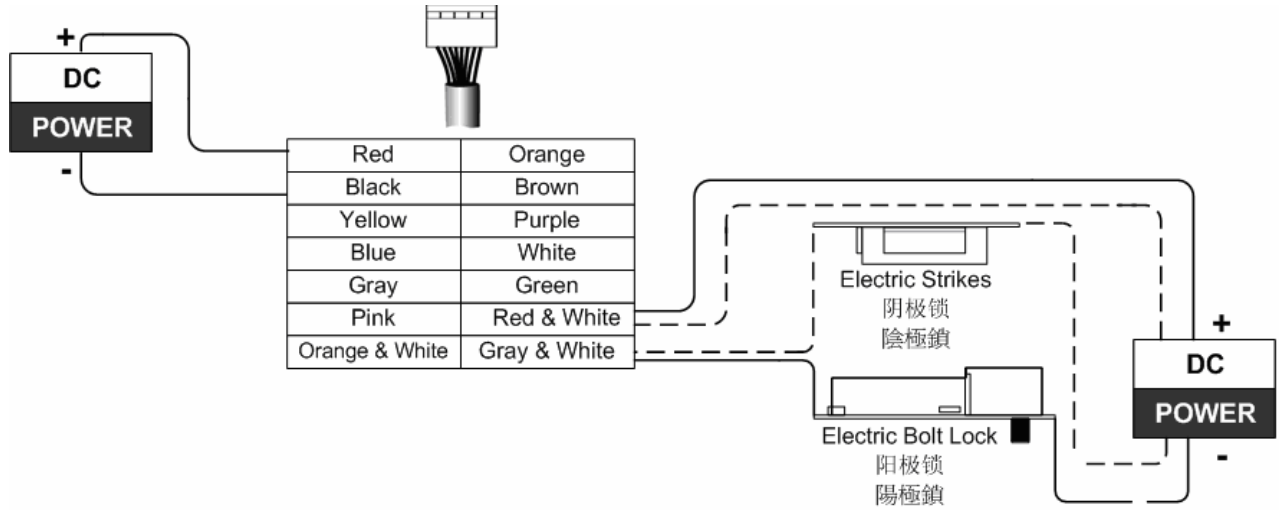
### 3.2.3 Alarm Connection

With ACU-30 for digital output

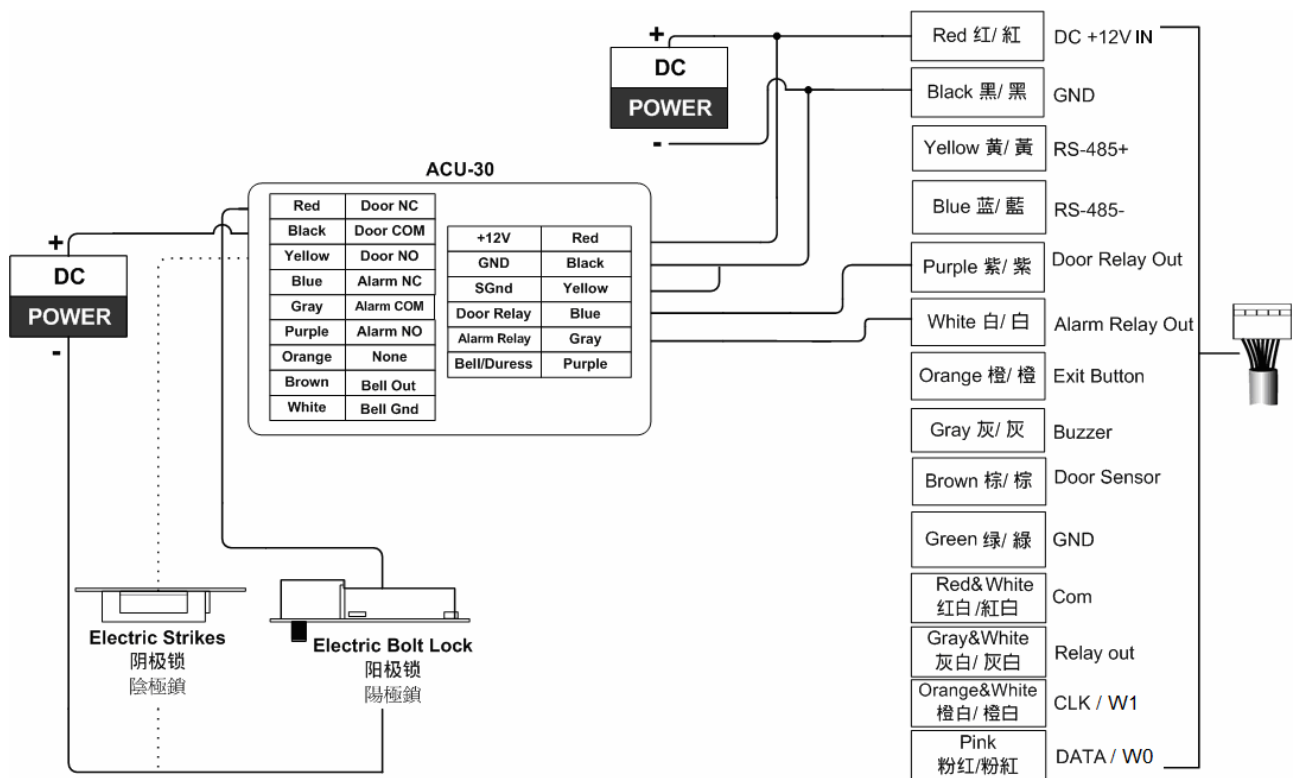


### 3.2.4 Electronic Lock Setup

Without ACU-30 for digital output

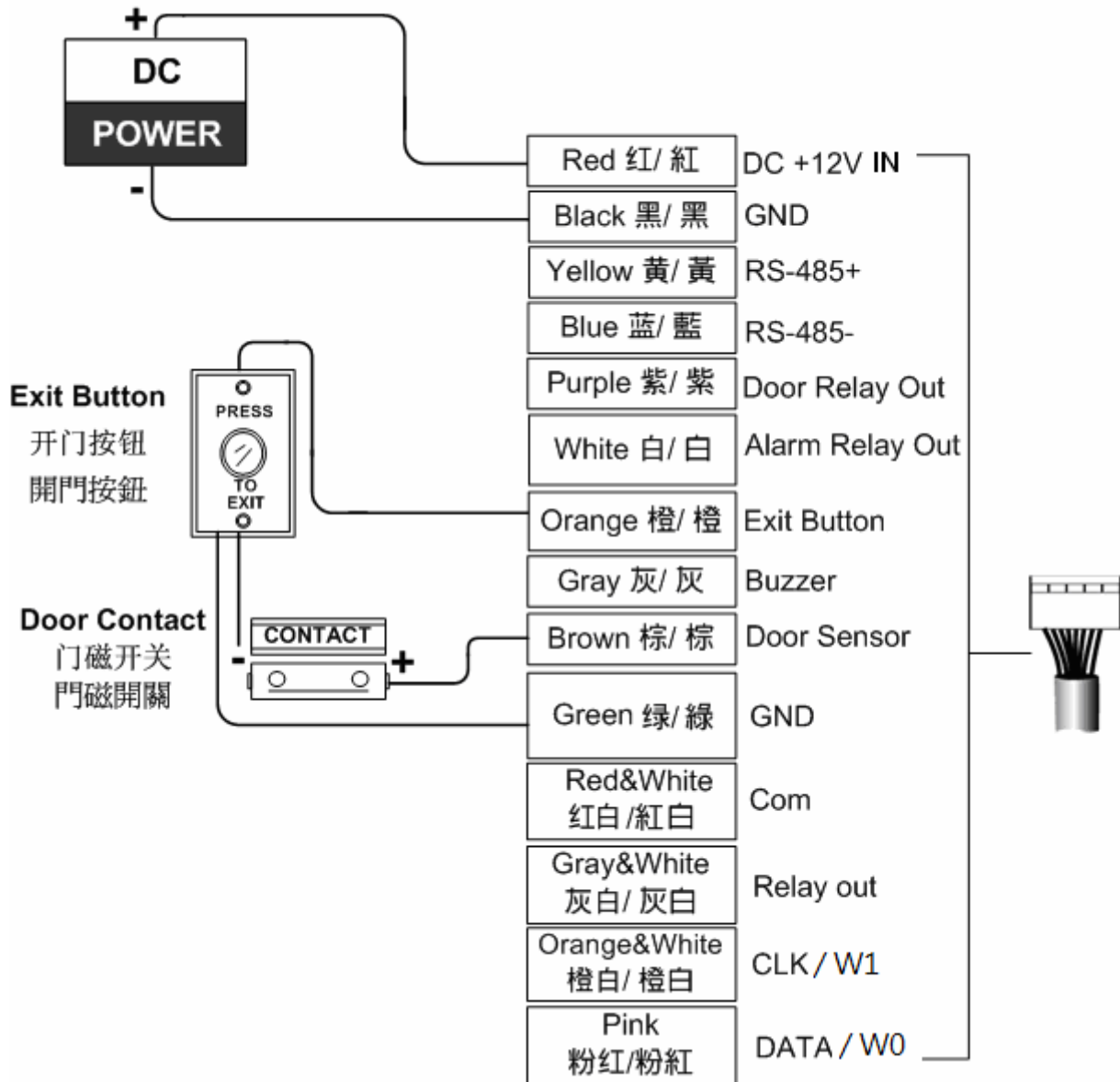


With ACU-30 for digital output



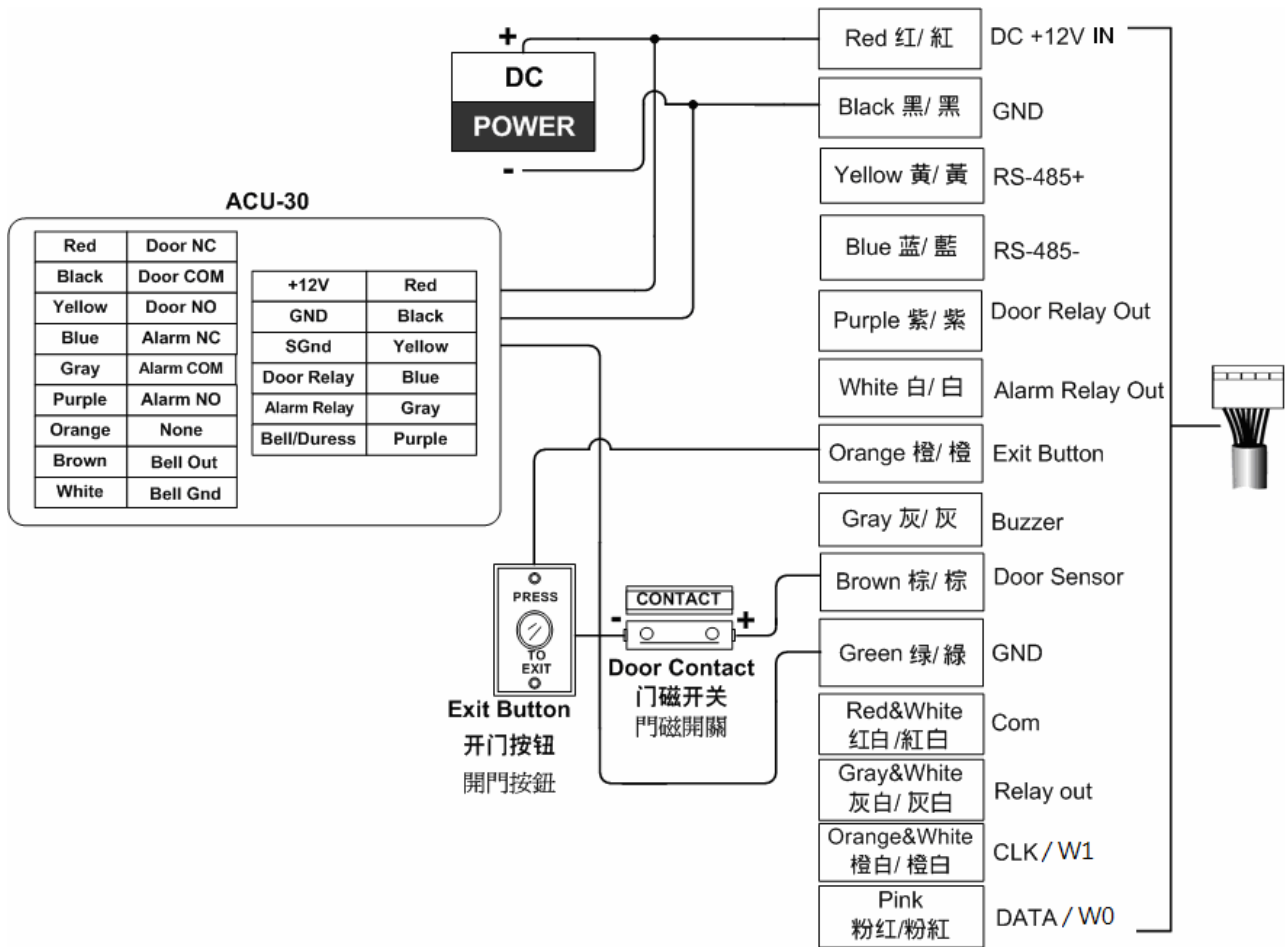
### 3.2.5 Exit Button/Door Sensor Connection

Without ACU-30 for digital output

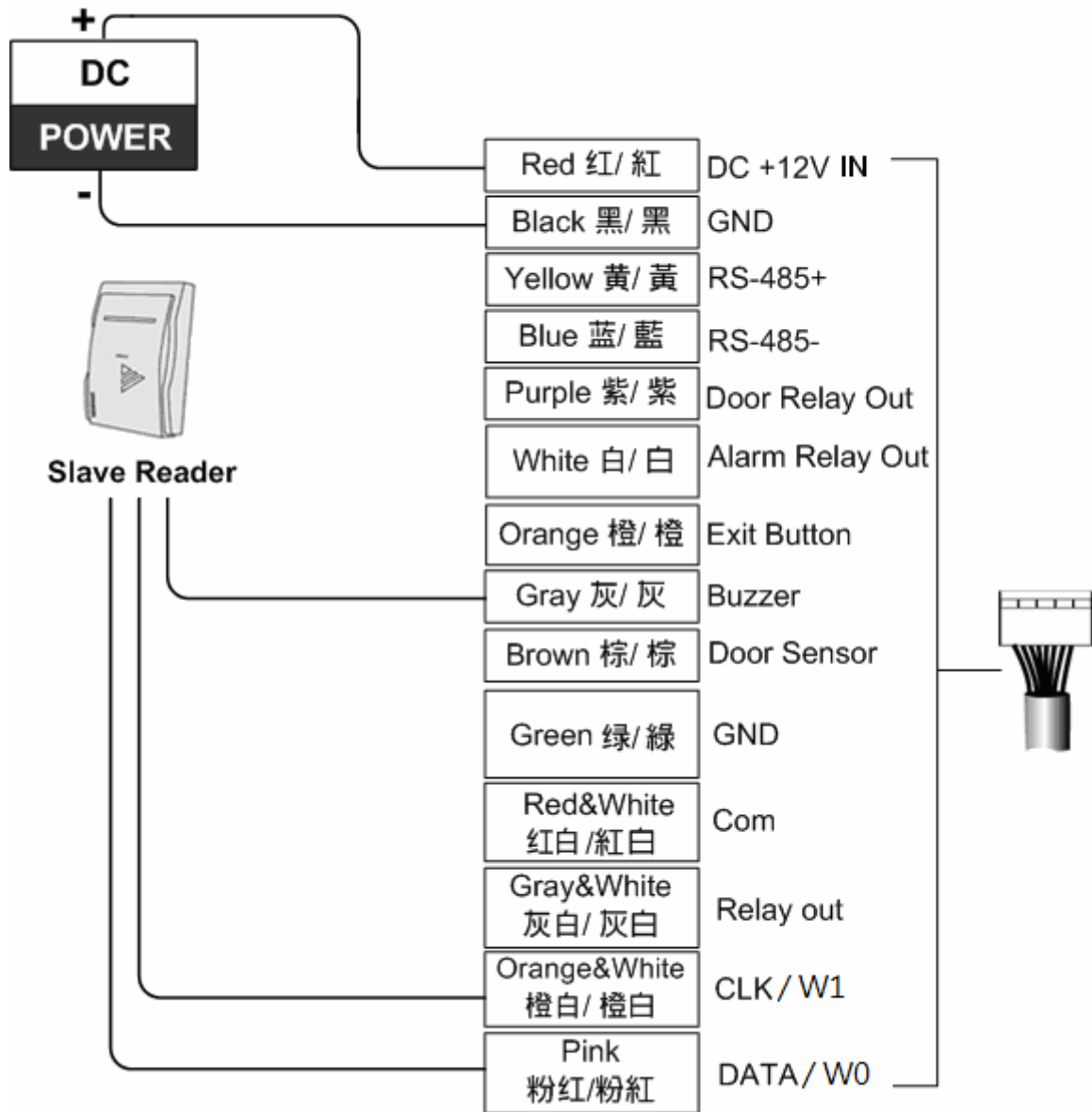




With ACU-30 for digital output

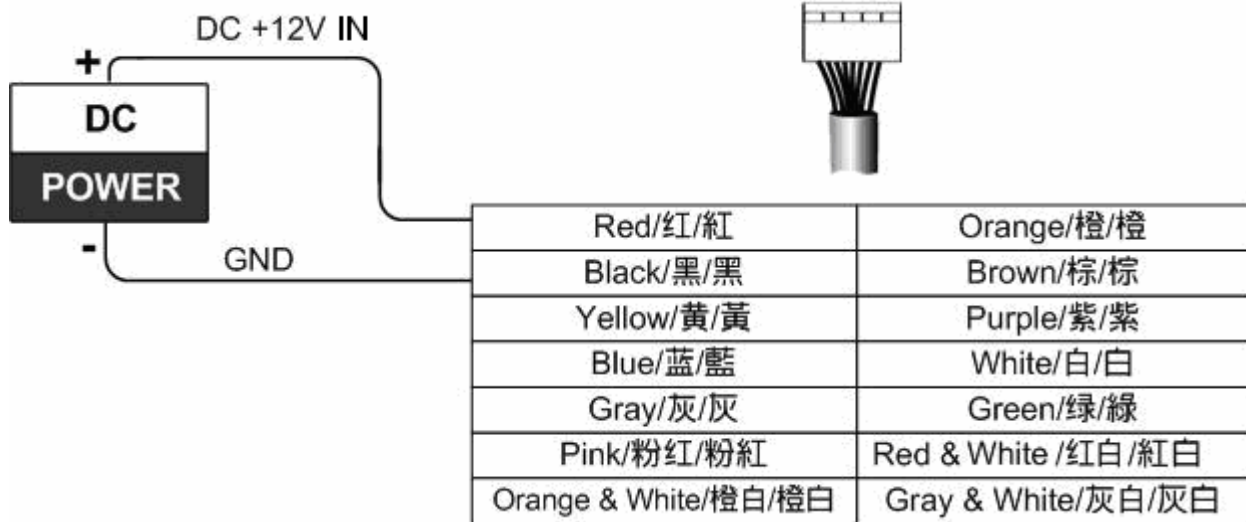


### 3.2.6 Slave Reader Connection



### 3.2.7 Power Supply Connection

Note : To avoid interference self- detection of sensitive keypad , please do not touch keypad when input power.

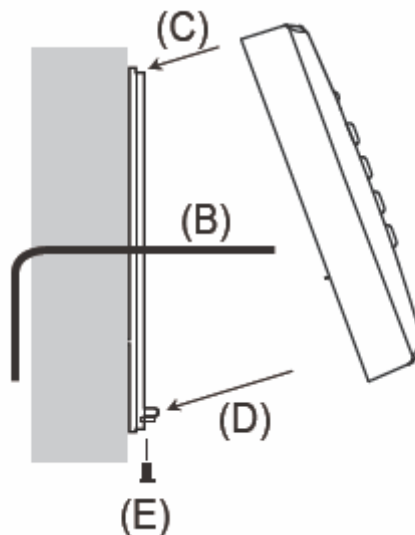
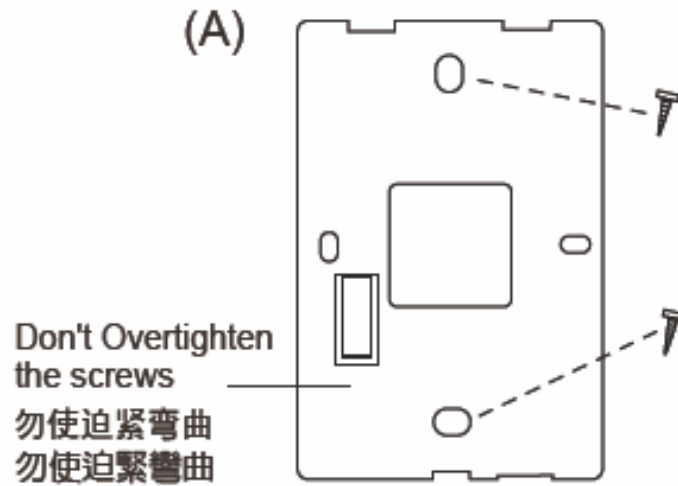


# Chapter 4 Installations

## 4.1 Hardware Setup

Do not over-tighten the back base screws during installation to prevent distortion.

- (A) Mount the back base onto the wall or other desired location.
- (B) Connect the wires in accordance with the wiring instruction below.
- (C) Make sure the back base and the controller upper cover guides are aligned.
- (D) Install the controller upper cover to the back base.
- (E) Fasten the screw onto the bottom of the controller.

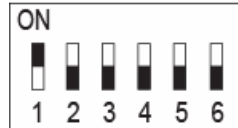


# Chapter 5 Setting

## 5.1 ID Setting

For RAC-510 only

ON=1, OFF=0



ID	
0	000000
1	100000
2	010000
3	110000
4	001000
5	101000
6	011000
7	111000
8	000100
9	100100
10	010100
11	110100
12	001100
13	101100
14	011100
15	111100

ID	
16	000010
17	100010
18	010010
19	110010
20	001010
21	101010
22	011010
23	111010
24	000110
25	100110
26	010110
27	110110
28	001110
29	101110
30	011110
31	111110

## 5.2 Function Settings


To enter command mode, master code input is required. Kindly ensure the safe keep of the code to prevent unauthorized modification on the settings.

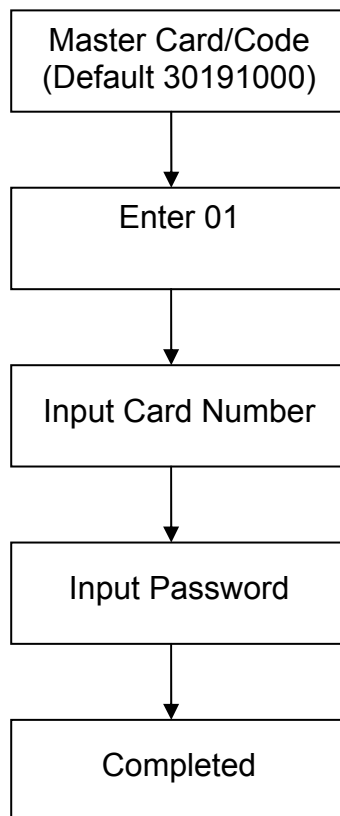
Upon entering command mode:

- Controller beeps five times and waits for the command input.
- PWR LED flashes red light
- After entering command, controller beeps once. Input the parameter settings for the command.

NOTE: Command Code 93 clears the entire memory and deletes all card nos. Kindly take precaution before doing this operation.

### 5.2.1 Add a Card Number

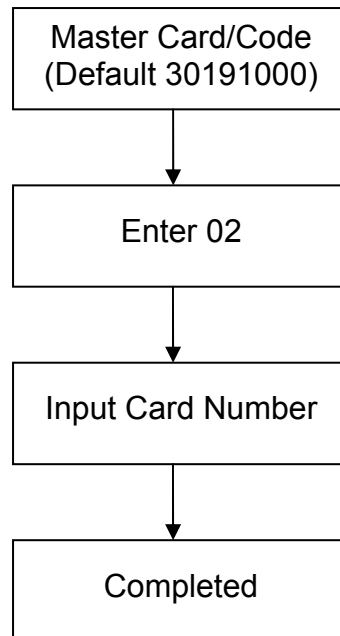
**Command Code 01.** The system can add up to 1024 valid card number. Maximum of 10 digits is allowed for each card number and a 4 digit password can be additionally set. (For standard memory, card number can be 10 digits or less, while in compressed or shared memory, card number should be exactly 10 digits). (If you don't want to add password, simply press )



- Passwords are not allowed under shared mode,.
- Card number has not been given a password. Kindly be aware of the access mode. If card swipe with password is selected, password should be set while adding the new card number.

## 5.2.2 Delete a Card Number

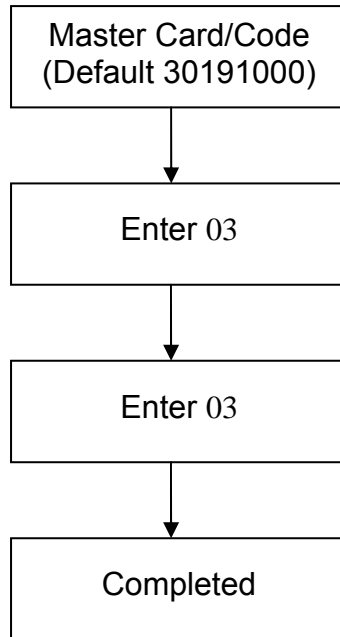
**Command Code 02.** Deletes a single card number and also removes its access authorization.





### 5.2.3 Delete All Card Numbers

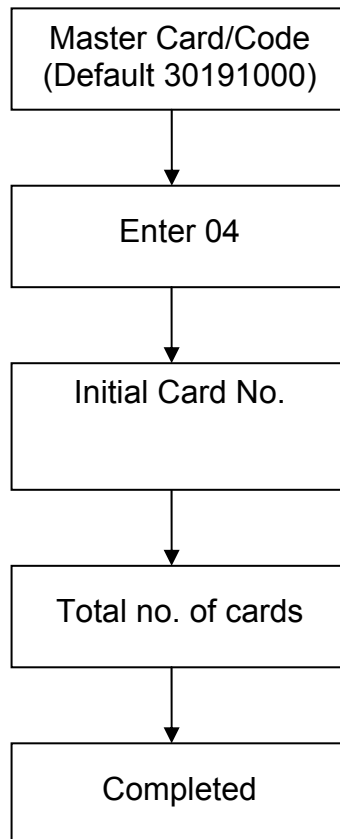
**Command Code 03.** Deletes all valid card numbers. Deleting all card numbers will remove all access authorizations and requires user to input new card numbers. Kindly take caution in performing this operation.



### 5.2.4 Successive Addition of Card Numbers

This command is only allowed to be performed under shared memory.

**Command Code 04** Successive Addition of Card Numbers. RAC-510/511 allows user to add card numbers in an efficient manner by simply entering the index card number and the total number of cards to add.

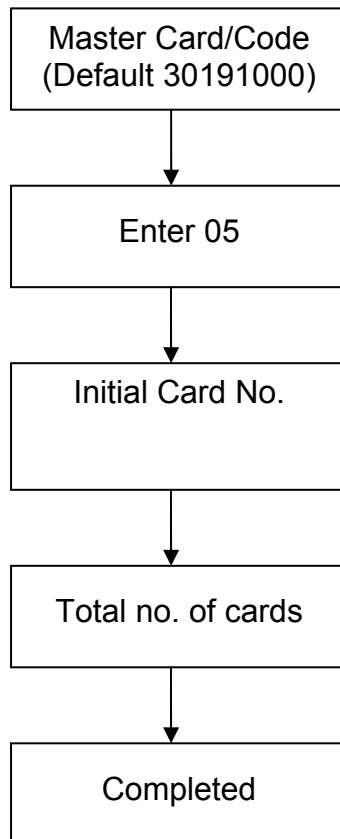


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### 5.2.5 Successive Deletion of Card Numbers

This command is only allowed to be performed under shared memory.

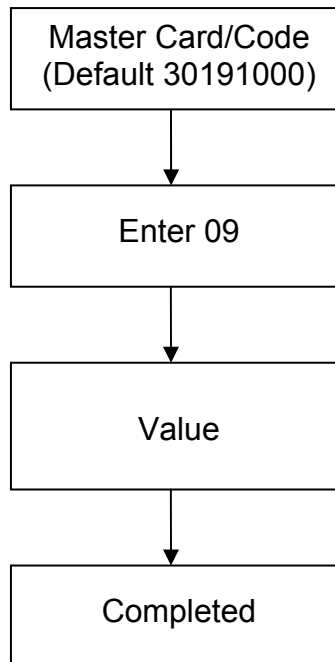
**Command Code 05** Successive deletion of card numbers. All access authorizations will be deleted as well.



## 5.2.6 Set Door Relay Mode

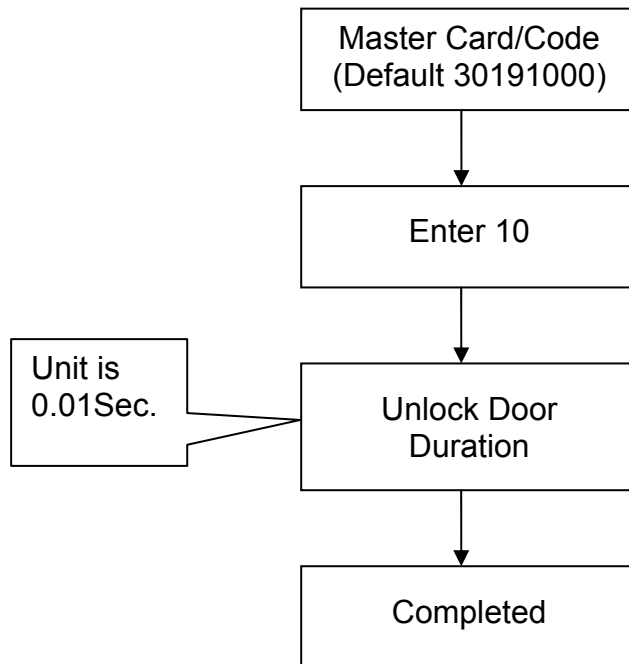
**Command Code 09.** Set the door relay status. 0 is Pulse.1 is Toggle.

- Pulse : Door relay will return to original position within the time user set.
- Toggle: Door relay will not return to original position until alarm relay has been activated again.



### 5.2.7 Set Unlock Door Time

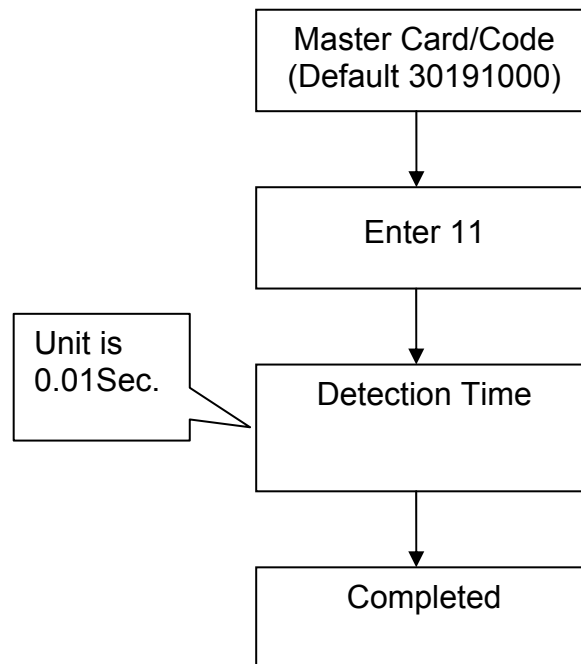
**Command Code 10.** Sets the duration of door opening time upon valid card swipe or exit button request. Default time is 4 sec. Time duration can be set from 1 to 600 sec. (System ignores parameters set to 0 or greater than 600 sec.; default time is applied.)



## 5.2.8 Door Sensor Detection Time

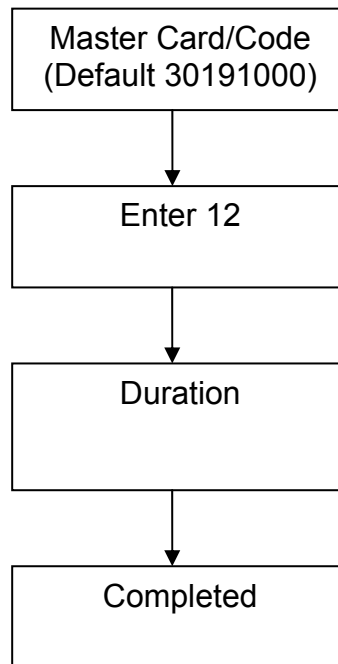
**Command Code 11.** Applicable only if door sensor is installed. Default value is 0 which means this function is deactivated. Sensor detection time may be set from 1~600.00 sec. (System ignores value greater than 600 sec.)

When door sensor detection time has been set, system will monitor door's status. If the allotted door open time has expired, controller beeps every 0.5 sec. The door has to be closed for the controller to terminate its alarm. However, if door was forced open, controller will activate the Alarm Relay to alert the administrator or security personnel. To deactivate the Alarm Relay, input the disarm code(Default is 0000).



### 5.2.9 Enable/Disable Conditional Unlock Door Settings

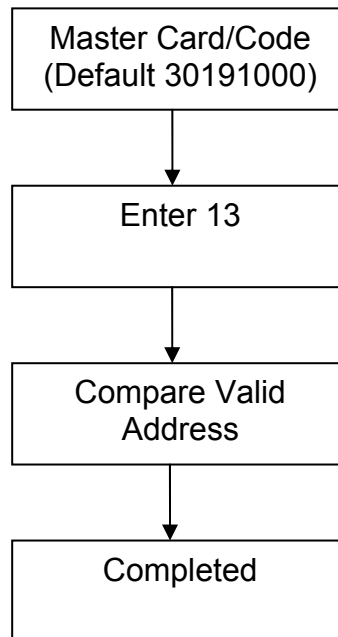
**Command Code 12** Enter 1-9999 sec. to set conditional unlock door settings. The door can remain open until the allotted time. If parameter value is set to 0, then conditional unlock door function is deactivated.



## 5.2.10 Compare valid Address

**Command Code 13** Allows user to set the compare valid address.

- Compare Valid address=(Compare valid code Index-1)X16+Compare valid code length.
- 0=Select All
- Only support standard card mode





### 5.2.11 Advanced Settings 1

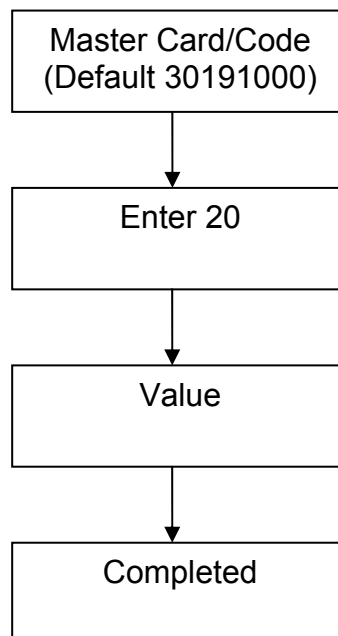
**Command Code 20** Sets different types of advanced settings .Kindly refer to the table below for the list of advanced settings.

#### Function Table

Function	Code	Action	Value
Door Prop Alarm	0	Activates alarm on door prop	0
	1	Controller beeps on door prop.	+1
Controller Beeps and Door Prop Alarm	0	Activates alarm on door prop	0
	2	Controller Beeps and Door Prop Alarm	+2
Door Forced Detection	0	Enable Forced Door Open Detection	0
	64	Disable Forced Door Open Detection	+64
Door Prop	0	Enable Door Prop Detection	0
	128	Disable Door Prop Detection	+128

Example :

Door prop. detection enable controller beeps on door prop and forced door open detection is disabled.  $1+64+0=65$  to perform the mentioned functions.



## 5.2.12 Advanced Settings 2

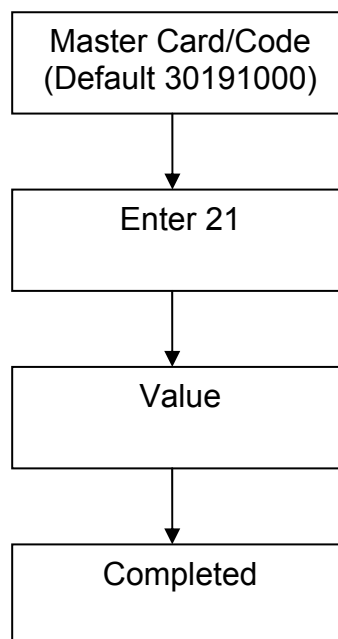
**Command Code 21** Sets different types of advanced settings .Kindly refer to the table below for the list of advanced settings.

### Function Table

Function	Code	Action	Value
Card Swipe Identification	0	Disable Card Swipe	0
	16	Enable Card Swipe	+16
Keypad Tones	0	Keypad Tones "OFF"	0
	32	Keypad Tones "ON"	+32
Enable Case Sensor	0	Disable Case Sensor	0
	128	Enable Case Sensor	+128

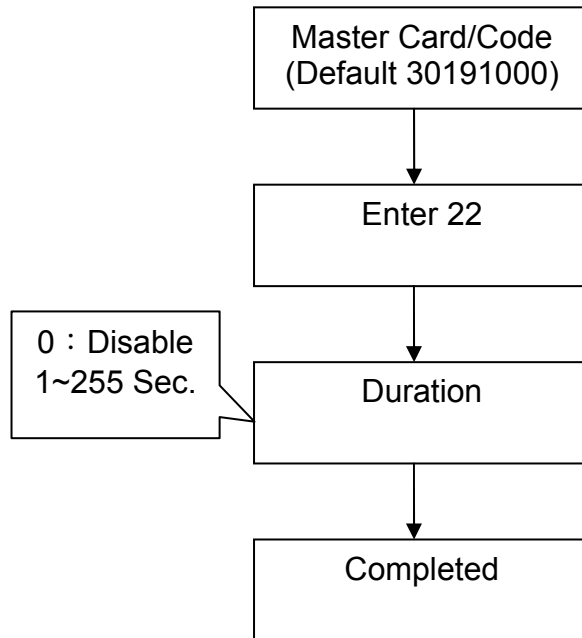
Example :

Enable card seipe and keypad tones.  $16+32+0=48$ , Enter 48 to perform the mentioned functions.



### 5.2.13 Re-swipe Card Check Time

**Command Code 22** Enables re-swipe card check time. This function restricts a card to be swiped twice under a specified time.



### 5.2.14 Sensor NO/NC Settings

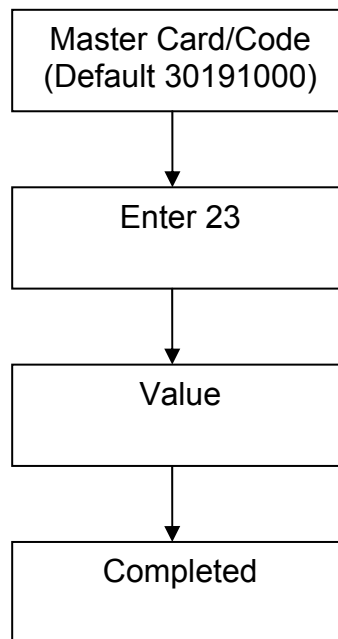
**Command Code 23** Sets NO/NC settings for exit button and door sensor. Kindly refer to the table below for the list of settings.

**Function Table**

Function	Code	Action	Value
Exit Button NO/NC	0	Exit Button "NC"	0
	+1	Exit Button "NO"	1
Door Sensor NO/NC	0	Door Sensor "NO"	0
	+4	Door Sensor "NC"	4

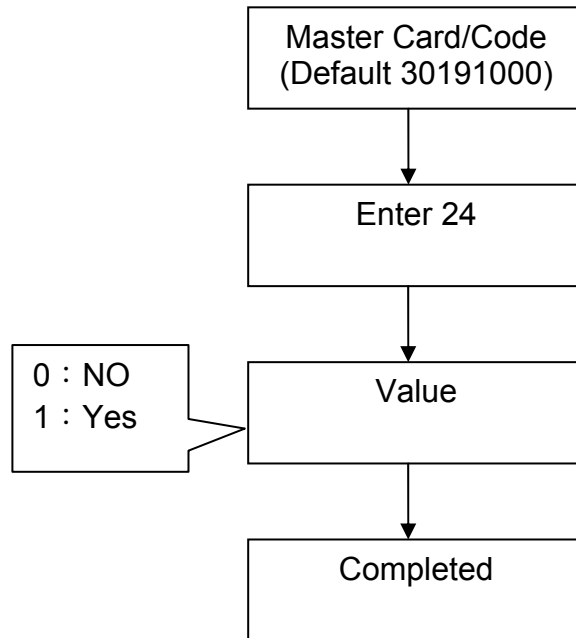
Example :

Exit Button as NO , Door Sensor as NO  $1+0=1$ . Enter 1 to perform the mentioned functions.



### 5.2.15 Access Granted for Master Code

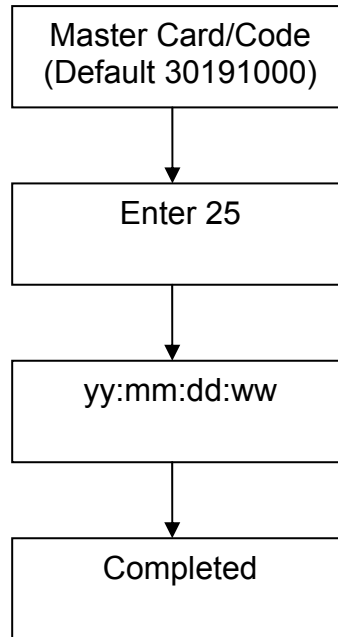
**Command Code 24** Sets valid access authorization to Master Code. Door opens when Master Code is entered.



## 5.2.16 Set Date

**Command Code 25** Sets date displayed on the LCD display. Date format is yy:mm:dd:ww where yy stands for year (00~63), mm stands for month (01~12), dd stands for date (01~31), and ww stands for week (01~07)

For RAC-510 only

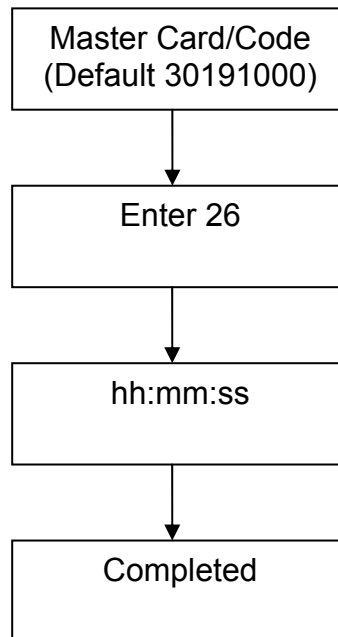


- 01 for Monday , 07 represents Sunday and so on...

### 5.2.17 Set Time

**Command Code 26** Sets displayed time on the LCD display. Time format is hh:mm:ss where hh represents hour (00~23), mm for minutes (00~59) and ss for seconds (00~59).

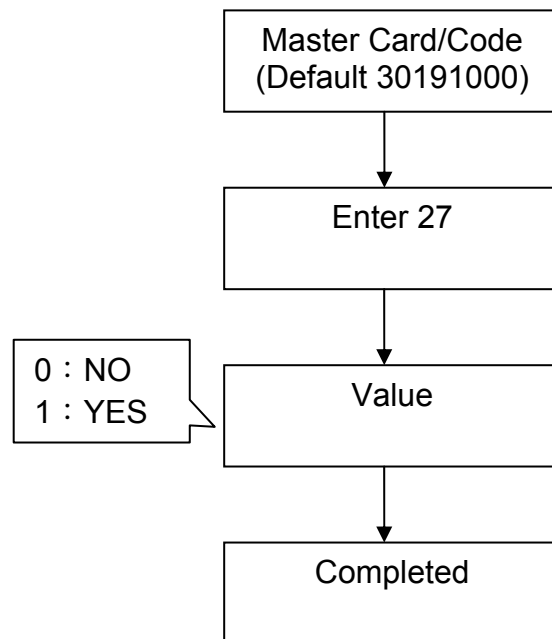
For RAC-510 only



### 5.2.18 Enable/Disable Keypad

**Command Code 27** Enable/disables keypad. When parameter is set 0, keypads are disabled; when parameter is set to 1, keypads are enabled.

**Note:** Do not disable keypad when you don't have the Master Card. Master Code is required to enter command mode, hence disabling the keypads will lock you out of the command prompt.

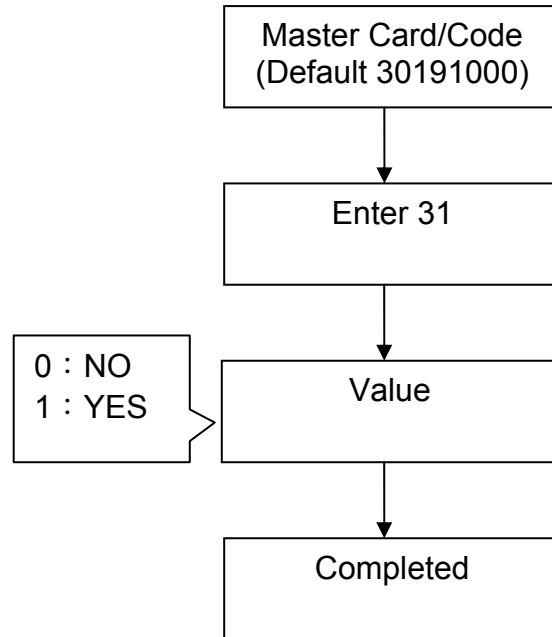




### 5.2.19 Save Invalid Card No.

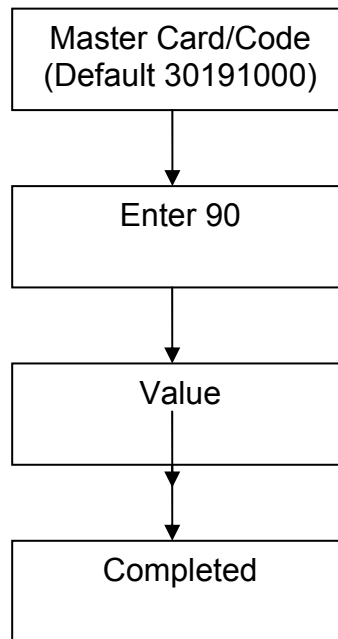
**Command Cod 31** Allows user to save invalid card number. To record invalid card numbers, set parameter to 1, to ignore, set to 0.

For RAC-510 only



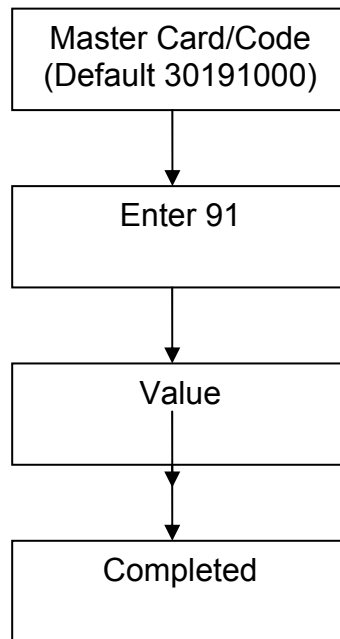
### 5.2.20 Set Master Code

**Command Code 90** Allows user to change master code. Default Master Code is “30191000”. To change, kindly follow the instructions below and input the new 10 digit master code. Whenever a device initialization has been performed, master code will be restored back to it default “30191000”.



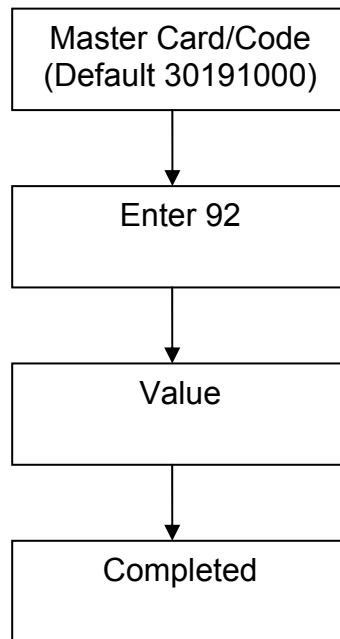
### 5.2.21 Set Disarm Card/Code

**Command Code 91** Allows user to change disarm card/code. Default disarm card/code is "0000". To change, kindly follow the instructions below and input the new 10 digit or less disarm code/card. Whenever a device initialization has been performed, disarm code will be restored back to it default "0000".



### 5.2.22 Set Duress Card(Code)

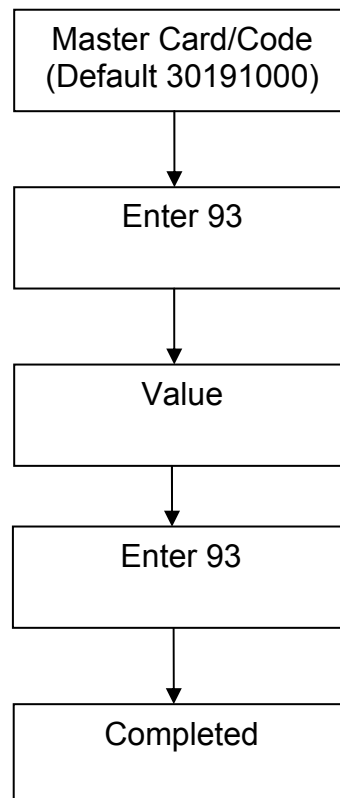
**Command Code 92** Allows user to change duress card (code). Default value is “1190”. To change, kindly follow the instructions below and input the new 10 digit or less duress code/card. Whenever a device initialization has been performed, duress code will be restored back to default “1190”.



### 5.2.23 Set Memory Mode

**Command Code 93** Allows user to change the memory mode. There are three different types of memory which are standard, compressed and shared.

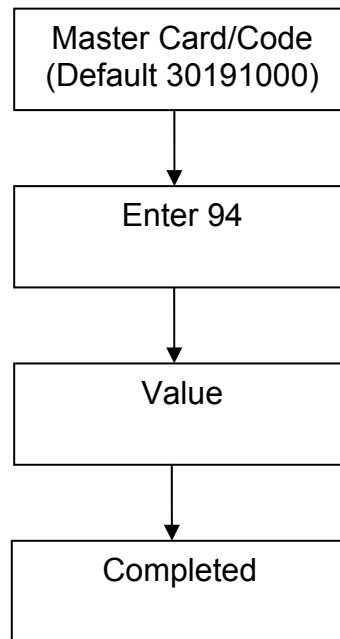
- i. Standard memory : supports 1024 card nos. with password and 800 event records.
- ii. Compressed memory : supports 1400 compressed card nos. with password and 1800 event records.
- iii. Shared memory : supports 65536 card nos. without password and 1800 event records.



1. Under compressed and shared memory mode, card number should be exactly 10 digits.
2. Successive addition and deletion of card number can only be performed under shared memory mode. This function is not applicable for compressed and standard mode.

## 5.2.24 Door Open Mode

**Command Code 94** Allows user to change the access mode--- swipe card only, swipe card or key in card No., swipe card or key in card No.+ password. This function is only applicable when RAC-510/511 is used as an access controller.



### 5.2.25 Slave Reader Setting

**Command Code 96** Allows user to change the valid card mode. For key value, please refer to the table below:

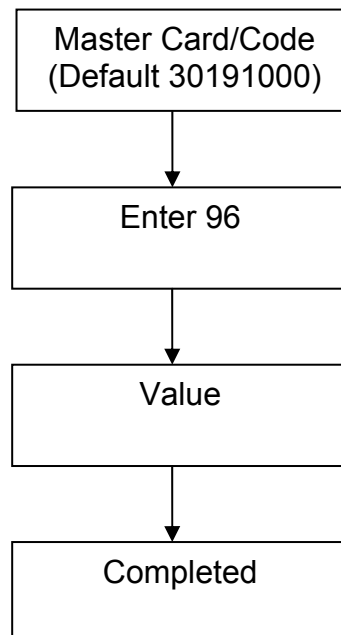
**Function Table**

Input Value	Key Value	Input Value	Key Value
Check Password	0	Do not need check password	0
	+1	Check Password	1
Disable Anti	0	Enable Anti	0
	+4	Disable Anti	4
Interface	0	T1/T2 Interface	0
	+16	Wiegand 26 Interface(8 Digits)	16
	+32	Wiegand 26 Interface(10 Digits)	32
	+48	Wiegand 34Interface(10 Digits)	48

Example :

Slave reader with T2 interface, request check password and enable Anti-password function.

0+1+4=5, Input 5 and then setting completed.



- The function must to setup the slave reader.

## 5.2.26 System Initialization

This function is recommended to be performed by the system administrator only.

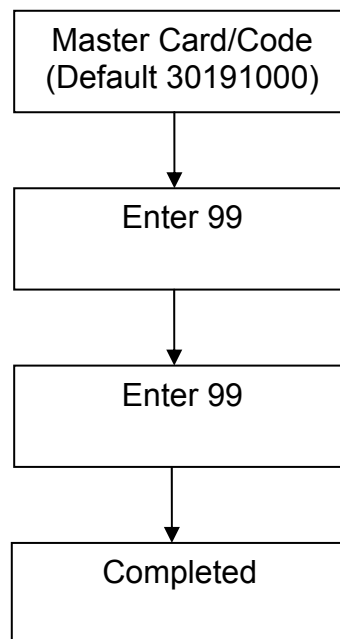
**Command Code 99** System Initialization clears all records within the memory including the card numbers, system settings, master code and restores all parameters to default settings. After performing this function, card number and parameter should be reset.

Initialization should be performed only when the ff. occurs:

On the initial installation, set the device's parameter to its default settings before deployment.

If the following problem arises:

- Abnormal operation
- User wants to clear all card numbers and passwords





## Chapter 6 Testing

Kindly perform the following test operations after installing the device.

- Step 1 Kindly install the device in accordance with the installation diagram and wiring diagram. When device is turned on, the controller beeps after 3-5 sec. After which the Status LED will start to flash green.
- Step 2 Add a card number(Kindly refer to “Function Setting” for more information)
- Step 3 Press exit button to activate door relay and electronic lock will activate for 4 sec.
- Step 4 Controller produces three short beeps upon valid card swipe and status LED lits green. If invalid card was swiped, the controller will sound three long beeps and status LED will lit red.
- Step 5 Swipe a valid card to activate Door Relay. Door opens and OK/ERR LED simultaneously turns green. For valid cards, controller will sound 3 short beeps; for invalid cards, controller will sound 3 long beeps..
- Step 6 After 4 sec, (default unlock door time), door relay deactivates and OK/ERR LED extinguishes. For other functions, kindly refer to the instructions on the succeeding chapters, or inquire your engineers.
- Step 7 For other functions, kindly refer to the instructions on the succeeding chapters, or inquire your engineers.

## Chapter 7 Troubleshoot

### **Q1: PWR LED does not lit.**

A: Kindly check if the controller receives DC12V power input or inspect if the power connection is correct.

### **Q2: The controller does not beep and OK/ERR LED does not lit upon a valid card swipe.**

A: Card swipe can only be done when controller is under ready status.(PWR LED lits green). Make sure the card is an EM format card.

### **Q3:Unable to enter command mode using Master Code.**

A: Master code is required to enter the command code, hence, initialization has to be performed. Kindly contact your dealer or customer representative for more information on the initialization procedure.

### **Q4: Unable to access door using a valid card swipe.**

A: 1. Check if RAC-510/511 beeps upon a valid card swipe.  
2. Make sure that the card swiped has access authorization and is a valid card.  
3. Check whether the electronic lock is properly installed.  
4. Login to command mode and check the unlock door time settings via command code 10.

# Appendix

## Appendix A : RAC-510/511 Function List

\* MASTER refers to Master Code 30191000

\* For more information about the command, kindly click on the command code.

Command Code	Function	Steps
01	Add a card number	[MASTER] [01] [Card umber] [Password] Completed
02	Delete a card number	[MASTER] [02] [Card Number] Completed
03	Delete all card number	[MASTER] [03] [03] Completed
04	Successive addition of card no. (For shared mode only)	[MASTER] [04] [Initial Card No.] [Total no. of cards] Completed
05	Successive deletion of card no. (For shared mode only)	[MASTER] [05] [Initial Card No.] → [Total no. of cards] Completed
09	Door Relay Mode (Default=400)	[MASTER] → [09] → [Summation of the value listed below] → Completed ▲ 0 : Pulse : Door relay will return to original position within the time user set. ▲ 1 : Toggle : Door relay will not return to original position until door relay has been activated again.
10	Unlock Door Time (Default=400, means 4 sec.)	[MASTER] [10] [Unlock Door Duration] Completed ▲ Range: 1~60000(Unit is 0.01sec.)
11	Door Sensor Detection Time (Default=0)	[MASTER] [11] [Detection Time] Completed ▲ 0 : Cancel or 1~60000(Unit is 0.01 sec.)
12	Enable/Disable Conditional Unlock Door Settings	[MASTER] [12] [Unlock Door Duration] Completed ▲ 0 : Disable , 1~9999 sec

13	Compare Valid Address (Support V2.01above)	[MASTER] [13] [Compare Valid Address] Completed ▲ Compare Valid address=(Compare Valid code Index-1)X16+Compare valid code length ▲ 0=Select All ▲ Only support standard card mode
20	Advanced Settings 1 (For more information about this command, click on the command code)	[MASTER] [20] [Summation of the value listed below] Completed ▲ [+1] Controller beeps on door prop , 0 to activate alarm ▲ [+2] Controller beeps on door prop and activate alarm ▲ [+64] Forced Door Open Detection Disable, 0 to Enable ▲ [+128] Door Prop Detection Disable, 0 to Enable
21	Advanced Settings 2 (For more information about this command, click on the command code)	[MASTER] [21] [Summation of the value listed below] Completed ▲ [+16] Card Swipe Enable, 0 to Disable ▲ [+32] Keypad Tones ON, 0 for OFF ▲ [+128] Case Sensor Enable, 0 to Disable
22	Re-swipe Card Check Time (Default 0)	[MASTER] [22] [Duration] Completed ▲ 0 : Disable, 1~255 sec
23	Sensor NO/NC Settings	[MASTER] [23] [Summation of value below] Completed ▲ [+1] Exit Button set to NO, 0 to NC ▲ [+4] Door Sensor set to NC, 0 to NO
24	Access Granted for Master Code (Default is 0; means Access Denied )	[MASTER] [24] [Value] Completed ▲ 0 : No 1 : Yes
25	Set Date (For RAC-510 only)	[MASTER] [25] [yymmddww] Completed ▲ yy : Year 00~63 ▲ mm : Month 01~12 ▲ dd : Date 01~31 ▲ ww : Weekday 01~07

26	Set Time (For RAC-510 only)	[MASTER] [26] [hhmmss] Completed ▲ hh : Hour 00~23 ▲ mm : Minute 00~59 ▲ ss : Second 00~59
27	Enable/Disable Keypad	[MASTER] [27] [Value] Completed ▲ [0] Disable ▲ [1] Enable
31	Save Invalid Card No. record (Default is 0 which does not save) (For RAC-510 only)	[MASTER] [31] [Value] Completed ▲ [0] Don't Save ▲ [1] Save
90	Set Master Code (Default=30191000)	[MASTER] [90] [Code] Completed
91	Set Disarm Card (Code) (Default=0000)	[MASTER] [91] [Card No./Code] Completed ▲ Max. 10 digit
92	Set Duress Card (Code) (Default=1190)	[MASTER] [92] [Card No./Code] Completed ▲ Max. 10 digit
93	Set Memory Mode	[MASTER] [93] [Value] [93] Completed ▲ [0] Standard Mode ▲ [1] Compressed Mode ▲ [2] Shared Mode
94	Door Open Mode (For Access Control only)	[MASTER] [94] [Value] Completed ▲ [0] Swipe Card only ▲ [1] Swipe Card or Input Code ▲ [2] Swipe Card or Input Code + Password
96	Slave Reader Setting	[MASTER] [96] [Value] Completed ▲ [+1] Check password,0:Do not need check password. ▲ [+4] Enable anti,0:Disable Anti Select value only ▲ [+0] T1/T2 interface ▲ [+16] Wiegand 26 interface (8 Digits) ▲ [+32] Wiegand 26 interface (10 Digits) ▲ [+48] Wiegand 34 interface (10 Digits)
99	Initialize	[MASTER] [99] [99] Completed

## Appendix B : Wiring Material Requirements

Cable Type	Cable Specification	Max. Connection Length
RAC-510/511 Power Cable	18-22 AWG	30M
Alarm Relay Connection Cable	18-22 AWG	50M
Exit Button Connection Cable	18-22 AWG	50M
RS-232 Cable	4-core shielded twisted pair wire 20~22 AWG	25M
RS-485 Cable	4-core shielded twisted pair wire 20~22 AWG	800 M

- Upgrade the cable specification according to transmission distance.
- Upgrade the cable specification as per environmental interference factors.
- It is recommended to use larger cable wires for future use.
- It is highly recommended to use shielded twisted pair wire for readers and communication cable to increase transmission distance and interference resistance ability.

## **ONE YEAR LIMITED WARRANTY**

We warrants this product against defect in material or workmanship for 1 year from the date of purchase. If such a defect is discovered within this warranty limitation, contact your dealer for repair or replacement of your unit.

When returning the product, you must ship the product in its original packaging or packaging that gives an equal degree of protection. This warranty becomes invalid if the factory-supplied serial number has been removed or altered on the product.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence or modification of any part of the product. This warranty does not cover damage due to improper operation or maintenance, connection to improper equipment, or attempted repair by anyone other than.

In no event shall manufacturer's liability exceed the price paid for the product from direct, indirect, special, incidental, or consequential, damages resulting from the use of the product, its accompanying software, or it's documentation. Hundure makes no warranty or representation expressed, implied, or statutory, with respect to its products, contents of use of this documentation and all accompanying software, and specially disclaims its quality, performance, merchantability or fitness for any particular purpose. Hundure reserves the right to revise or update its product, software or documentation without obligation to notify any individual or entity.

## **TECHNICAL SUPPORT**

For technical questions regarding your product, please email our service and support team

EMAIL: [INFO@VKEN.VN](mailto:INFO@VKEN.VN)

TEL: +84 4 3991 2929

SKYPE: LETRUNG0908