Introduction
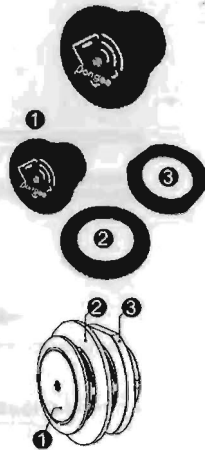
PC-30/N is very compact size, self contained access control module including the necessary antenna, relay and VR which could be served as a standalone, contactless access controller with the abilities of Add by learning maximum 1,000 EM cards as legal cards for access with variable door releasing time adjusted by rotational volume resistor. It can set some specific card as master card to Add, Delete single card as well as delete all cards by master card programming.

Features

1. Small size of 40mm diameter with 30 2mm length for easy installation.
2. With 1,000 big card capacity to be Added, Deleted and Cleared All by master card programming.
3. With inherent form A relay to offer dry contact output.
4. Adjustable releasing timer by VR (rotation variable resistor) from 0.5~100 seconds.
5. No PC or other terminal is needed for parameters programming.
6. With 3 colours LED and buzzer for programming & access indications.
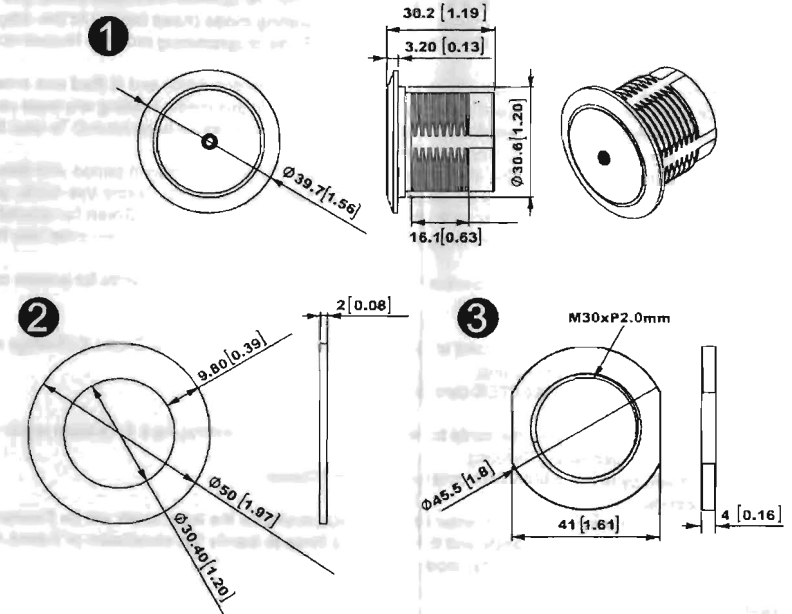7. Water proof for flush mounting.

Application field

- Low cost and simple access controller for door, lift, cabinets, drawers, coffer, handle locks, intercom.
- For small area installation.
- Any access control application by EM cards.

Notice: If controller is installed on the metal wall/plate, please put some non-metal plate between them to enhance the reading distance.
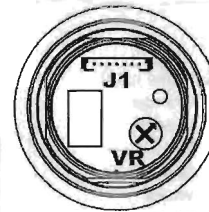
Specification

RFID frequency		125KHz ASK
Applicable cards		EM 4001,EM 4102 or compatible /TEMIC 5557
Reading range	Card 1.8mm	3~4 cm
	0.8mm	2~3 cm
Power input		12V DC±10%
Standby / Working current		40mA / 50mA±10% @ 12 V DC
Material		Polycarbonate
Relay contact rating		0.5A at 125VAC, resistive
		0.3A at 60VDC, resistive
		1A at 30VDC, resistive
Max. carrying current		1A / For inductance load only 1/2 or 1/3 is allowed
Weatherproof/dustproof		IP 54
Dimensions(mm/inch)		Diameter: 39.7/ 1.56 Length: 30.2/1.19
Installation diameter		31mm / 1.22inch
Operating temperature		-10℃~70℃
Storage temperature		-20℃~85℃

Dimension: Unit: mm[inch]

Wire configuration

J1			
Pin	Color	Signal direction	Function
1	Red	←	+12V power in
2	Black	—	System Ground
3	White	→	COM.
4	Green	→	N.C.
5	Yellow	→	N.O.
6	Brown	→	Program
7	Orange	—	GND

Operational mode programming

1. Connect the PROGRAM signal wire (pin 6 in J1) to system Ground and then read any card to be the MASTER card.
   The reader will lit Green with 5 beeps and an extra long beep when MASTER card is reading.
   Note: Please disconnect the Program wire from the system Ground. Otherwise, when reading any other card, it will replace the previous MASTER cards defined and serve as new MASTER card.
2. Disconnect the PROGRAM wire from system Ground and resume the reader to the normal access mode.
3. Every time when reading the MASTER card, the internal MASTER Reading Counts will be increased. According to the counts, it defined the following Programming Modes:
   You may practice it firstly to acquaintance it and void damage to your data base.
     a. When reading MASTER card once, it beeps and lit Green and entering into ADD card mode with

Green & Orange LEDs flashing. At this mode, reading any user card, it will be served as legal user card if it is within the card capacity.(If success 3 beep sound) To Quit the ADD Card mode, you may read the **MASTER** card for further twice to enter STOP waiting mode.(Keep beeps) At this stage, reading another card, except the **MASTER** card to STOP the programming mode to Normal access mode.

b. When reading **MASTER** card twice from the normal mode, it beeps again and lit **Red** and entering into **DELETE** card mode with **Red & Orange** LEDs flashing. At this mode, reading any legal user card, it will be deleted from the database with **Red** LED flashing. (If success 4 beep sound) To stop the mode by reading **MASTER** card for the other **4 times**.

c. When reading **MASTER** card the 4th times, it beeps periodically with medium period with **Green & Red** lit interchangeably to signify the **CLEAR ALL CARDS** waiting mode. During this mode, you may read any card(except the master card) to into this mode. The reader will lit **Green** for around **6 seconds** and then with long beep to signify all the database are cleared and then enter into Normal Access mode.

4. Once complete the programming modes practice, you may Add some cards as legal cards for access or delete the cards to illegal or clear all cards as illegal.

ADD cards:
During ADD card mode, reading any card to be legal card, it beeps and flashing **Green & Orange** again to waiting for another succeeding Adding.
To stop the mode by reading **MASTER** card for the other **4 times**.

DELETE cards:
During DEL card mode, reading the cards to be illegal, it beeps and flashing **Red & Orange** again to waiting for another succeeding Deleting.
To stop the mode by reading **MASTER** card for the other **3 times**.

CLEAR ALL cards:
During this mode, reading any card to enter into Clear ALL mode. All the legal cards will be Deleted as illegal cards within around **6 seconds** and then with long beep to signify the completion of Delete All and then enter into Normal Access (Ready) mode again.

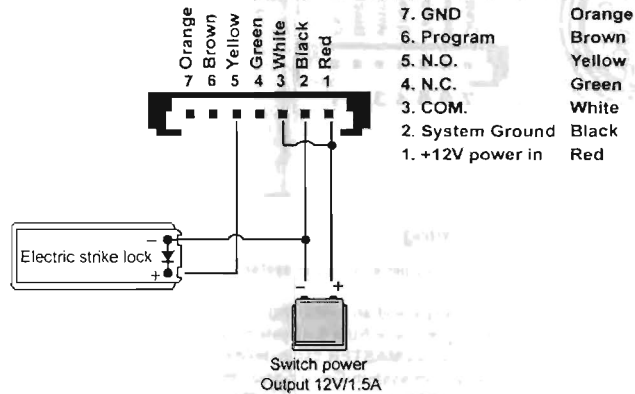5. To practice the ACCESS function:

Legal card:
If legal card is read, the reader will beep with **Green** LED lit and flashing the **Green** LED. It will release the relay for some periods from 0.5 to 100 seconds depending on the VR adjusting thru rotation.
Please refer to the VR table for rough relay release time period adjusting.
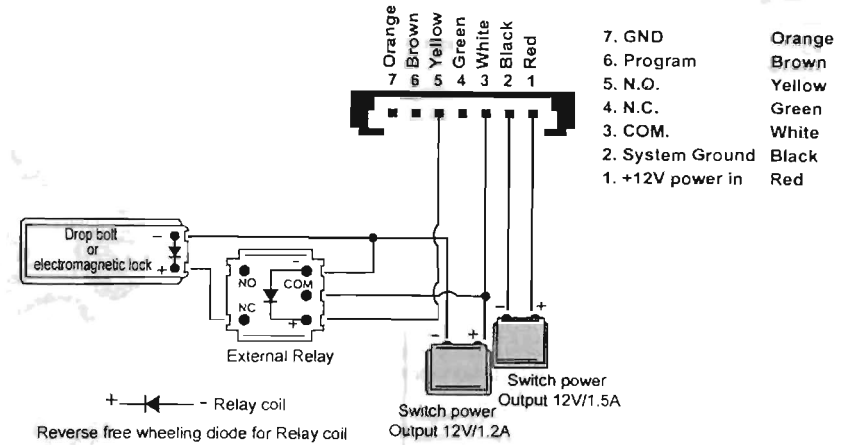
Illegal card reading:
If illegal card is read, the reader will lit RED with 3 short beeps.
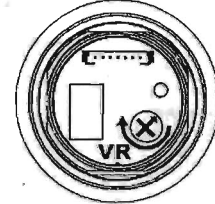
● Wiring Example

● Wiring connection with external relay and power supply (such as electric strike lock)

7. GND	Orange
6. Program	Brown
5. N.O.	Yellow
4. N.C.	Green
3. COM.	White
2. System Ground	Black
1. +12V power in	Red

Electric strike lock

Switch power
Output 12V/1.5A

● Wiring connection with external relay and power supply for heavy load locks (such as magnetic lock or drop bolt type lock)

7. GND	Orange
6. Program	Brown
5. N.O.	Yellow
4. N.C.	Green
3. COM.	White
2. System Ground	Black
1. +12V power in	Red

Drop bolt or electromagnetic lock

External Relay

+ —|◀— - Relay coil
Reverse free wheeling diode for Relay coil

Switch power Output 12V/1.2A

Switch power Output 12V/1.5A

● Setting relay releasing time

Adjust the Relay release time thru rotational VR
(0.5 second~100 seconds)

CCW Max.100 sec.   CW Min.0.5 sec.
U10   U0

Door Release time by table:	
VR	Door Release time
U0	0.5 s
U1	1.5 s
U2	10 s
U3	25 s
U4	35 s
U5	45 s
U6	60 s
U7	75 s
U8	85 s
U9	95 s
U10	100 s

Note 1. Due to VR resistance tolerance, the calibration could not be very accurate. The time period values on table are offered for the adjusting reference.

Note 2. For special requirement regarding the time period range for MOQ 200 pieces above, we may re-fix as acceptable range.

● Ordering information

PC-30/N	: Round type LF 125KHz access control by reading EM cards.
PC-30/H	: Round type LF 125KHz access control by reading HID compatible cards.
PC-30/NH	: Round type LF 125KHz access control by reading EM & HID compatible cards.

Other customer request specifications are welcomed.

HID is a registered trademark of HID Global Corp.

Specifications subject to change without notice for further modification.   W-04-PC-30N/E