User Manual

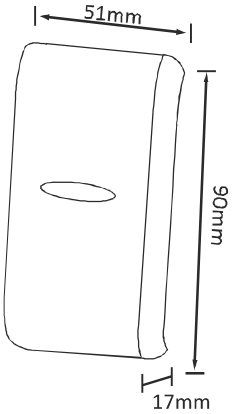
These low profile standalone proximity readers are able to read EM4002 type card / fobs and have capacity up to 4000 users.

All electronics are self contained within the reader, therefore no external controller required. The MINI-SA2 has an adjustable timed relay output, push to exit input and visual / audible indication for ease of programming.

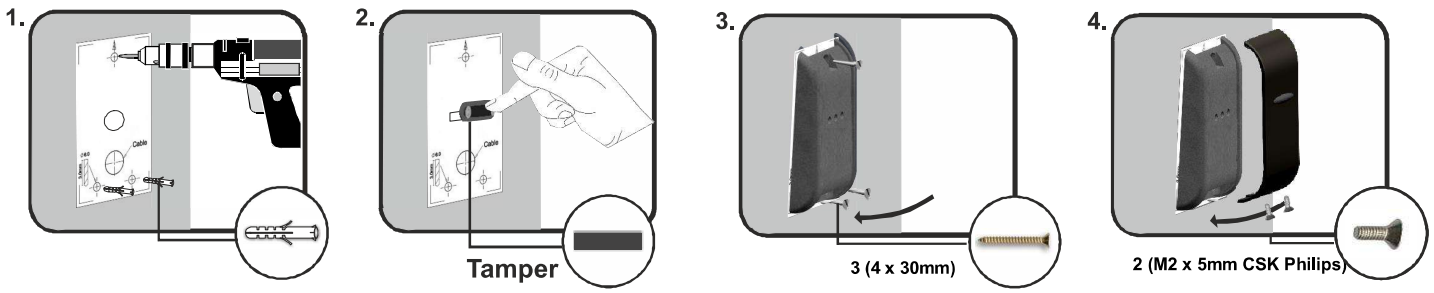
Programming is carried out through use of a Master and delete card. User cards may be deleted by use of a shadow card if lost or stolen.

Technical Characteristics

Operating Voltage:	12-24V DC; 15-24V AC
Current consumption:	60mA at 12Vdc, 40mA at 24Vdc
Operating frequency:	125Khz
Read Range:	10cm
Relay:	1A at 30V ac/dc
Relay time:	1 - 250 Seconds or latching
Capacity:	4000 Users (cards or fobs - EM4002)
IP rating:	IP66
Housing:	ABS
Cable:	3 Meters

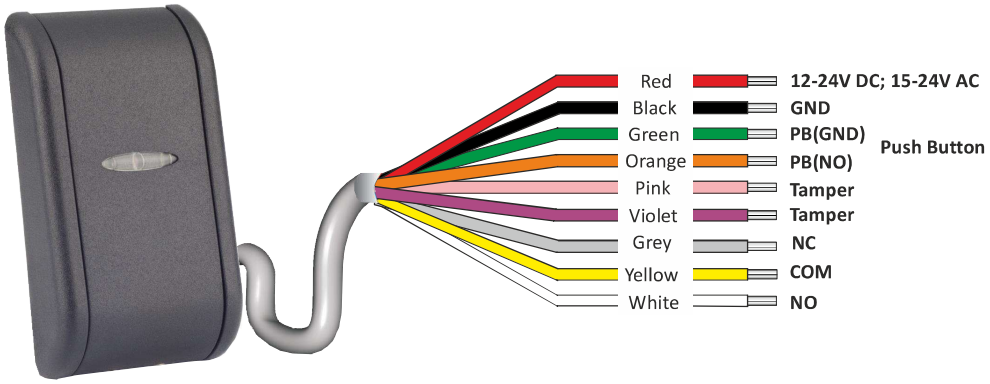


Mounting



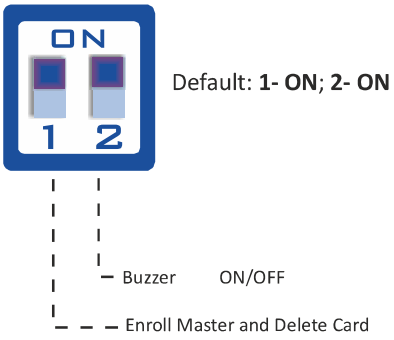
The reader should not be mounted on a metal surface. If there is an installation where the metal surface cannot be avoided, isolate the base between the reader and the metal. The thickness of the isolation base should be determined by testing.

Terminals



12/24V AC/DC	12-24V DC; 15-24V AC
GND	ground
Push Button	ground(PB)
Push Button	Exit button
Tamper	Tamper Switch
Tamper	Tamper Switch
NC	Normally closed
COM	Common
NO	Normally open

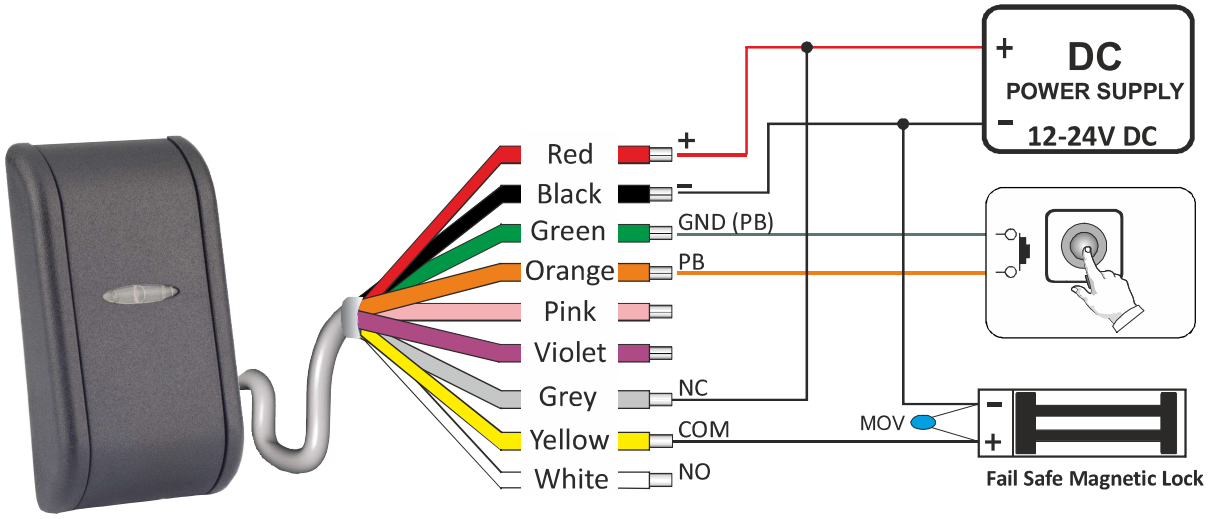
Dip Switches



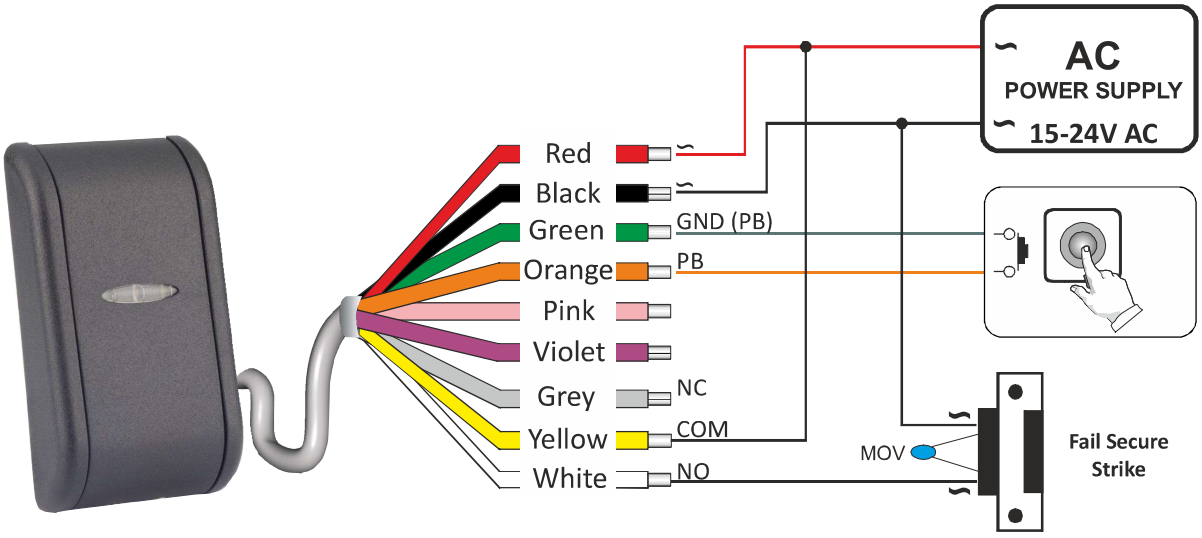
Default: **1- ON**; **2- ON**

Wiring

DC:


Red
Black
Green
Orange
Pink
Violet
Grey
Yellow
White
+
−
GND (PB)
PB
NC
COM
NO
MOV
+
DC
POWER SUPPLY
−
12-24V DC
Fail Safe Magnetic Lock

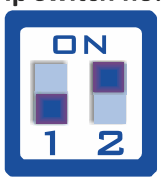
AC:


Red
Black
Green
Orange
Pink
Violet
Grey
Yellow
White
~
~
GND (PB)
PB
NC
COM
NO
MOV
~
AC
POWER SUPPLY
~
15-24V AC
Fail Secure
Strike

Enroll Master and Delete Card

1. Turn OFF the power supply
2. Push dip switch no.1 in to the OFF position.
3. Turn ON the power supply. All three LEDs will blink continuously.
4. Present Master Card. Red and Yellow LED will blink.
5. Present Delete Card. Red LED will blink.
6. Turn OFF the power supply.
7. Push dip switch no.1 in to the ON position.

Dip switch no.1



NOTE: Changing Master and Delete Card is carried out with the same procedure. Old Master and Delete Card are deleted automatically.

Enroll a User

- Cards can be programmed individually or as a block of sequential cards.
- For each User, 2 cards are programmed: 1 User Card and 1 Shadow Card.
- The User Card is issued to the User and the Shadow Card is kept in a safe place.
- If the User Card is lost or stolen, the Shadow Card will be used to delete the corresponding User Card.

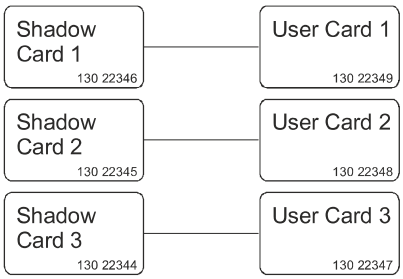
INPUT	INDICATION
1. Present Master Card	short + long beep
2. Present Shadow Card	short + 3 short beeps
3. Present User Card (or multiple User cards)	OK beep
4. Present Master Card	short + 5 short beeps

Example: **Enroll 2 Users**

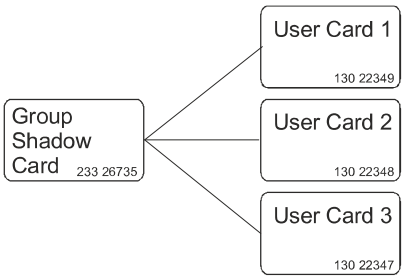
Present Master Card
Present Shadow Card
Present User Card
Present Master Card

Present Master Card
Present Shadow Card
Present User Card
Present Master Card

NOTE: Shadow card can be issued for 1 user or for a group of users. In both cases, write the name of the user on the shadow card and keep all of the shadow cards in a safe place.
NOTE: If more than one user is associated to same shadow card, deleting with that shadow card will result in the deletion of all the Users associated to that shadow card.
NOTE: If a shadow card needs to be changed, just enroll the same User with a different Shadow card.



OR



Enroll block of user cards

INPUT	INDICATION
1. Present Master Card	short + long beep
2. Present Shadow Card	short + 3 short beeps
3. Present the beginning card of the block 3 times	OK beep
4. Present the ending card of the block 3 times	OK beep
5. Present Master Card	short + 5 short beeps

Example: **Enroll 100 cards**

Present Master Card
Present Shadow Card
Present the beginning card of the block 3 times (ex. **180 20001**)
Present the ending card of the block 3 times (ex. **180 20100**)
Present Master Card

NOTE: The block of User cards can be maximum **100 Cards.**

Delete a User (with the user card)

INPUT	INDICATION
1. Present Delete Card	short + long beep
2. Present User Card (or multiple User cards)	OK beep
3. Present Delete Card	short + 5 short beeps

Example: **Delete 2 Users**

Present Delete Card
Present First User Card
Present Second User Card
Present Delete Card

Delete a User (with the shadow user card)

INPUT	INDICATION
1. Present Delete Card	short + long beep
2. Present Shadow Card (or multiple Shadow cards)	OK beep
3. Present Delete Card	short + 5 short beeps

Example: **Delete Two Users**

Present Delete Card
Present First User Shadow Card
Present Second User Shadow Card
Present Delete Card

Delete ALL Users

INPUT	INDICATION
1. Present Delete Card	short + long beep
2. Present Master Card 3 times	OK beep
3. Present Delete Card	Multiple beeps+OK beep

NOTE: 7 seconds maximum time for deleting all 4000 users

Set Door Relay Time

INPUT	INDICATION
1. Present Master Card 3 times	short + long beep
2. Present Delete Card X times for X seconds (Door Open Time)	OK beep
3. Present Master Card	short + 5 short beeps

Example: **Set 7 seconds relay time**

Present Master Card 3 times
Present Delete Card 7 times
Present Master Card

NOTE: Door relay time can be set from 1 to 250 seconds.

Set Door Relay to Toggle (ON/OFF) Mode

INPUT	INDICATION
1. Present Master Card 3 times	short + long beep
2. Present Master Card	short + 5 short beeps

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