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   - Enter and Exit the program mode
   - Reset to factory setting
   - Change master password
   - Change door global password
   - Set host reader to normal / security mode
   - Set operation mode
   - Set current time
   - Set E-Lock release time
   - Set door ajar time
   - Set password disable time zone
   - Set electric lock release time period
   - Set alarm disable time zone
   - Enable password disable time zone function (optional)
   - Enable alarm disable time zone function (optional)
   - Enable electric lock release time zone function (optional)
   - Enable door ajar function
   - Enable Alarm function

5. Add card and door access password
   - Add master card
   - Add user card
   - Add door access password
   - Add User card in continuous card no. (Only for sector reader)

6. Delete card and door password
   - Delete master card
   - Delete user card
   - Delete door access password
   - Empty Location ID
   - Delete all master cards
   - Delete all user cards
   - Delete all door access password

7. Keep Users' Record

8. Live operation

9. How To Order Guide

1. General Features

a) 9936ST is a Standalone Card Serial Number door access keypad controller.

b) It can connect an additional wiegand output proximity reader for IN/OUT reader.

c) Two operation modes : User Card with Global password. User Card with Global password or Door Access Password.

d) 9936ST can add / delete User Card or Door Access Password by present card or by keypad.

e) 5 x Master Cards for system operation, 32 bits card no (10 digits in 2^32 format))

f) 2,000 cardholders, 32 bits card no. (10 digits card in 2^32 format))

g) 200 Door Access Passwords. Password from 0 to 999999. (1-6 digits)

h) One Global Door Access Password, for card + pin purpose. Password from 0 to 999999 (1-6 digits).

i) One Master password for entering program mode. Password from 0 to 99999999 (1-8 digits).

j) Buzzer beeps during key in keypad.

k) Real time clock inside, automatic time zone switching.

l) Three kinds of time zone provided: Non key-in Password time zone. E-Lock released time zone. Alarm output disable time zone.

m) Passwords retry protection. After continuous 3 times incorrect password, device will not allow password input for 60 sec.

n) Card + Password retry protection. After continuous 3 times incorrect password, the card will not allow password input for 60 sec.

Remark :

32 bits card number format :
- Mifare 32 bits CSN
- EM LSB 32 bits CSN (40 bits CSN originally)
- i-Code II LSB 32 Bits CSN (56 bits CSN originally)

2. Technical Specification

Power input	12 to 16V DC, 2A DC
Operating current	less than 80mA DC for control, 1.5A DC for E-lock
Operating temperature	-10°C to +65°C
Operating humidity	0 to 95%
RFID technology	Philips Mifare RF technology for MF-9936ST EM RF technology for EM-9936ST i-Code II RF technology for IC-9936ST
Card read range	40mm+ for Philips Mifare One Card 40mm+ for i-Code II Card / Tag 90mm+ for EM4100 ISO card
Response time	less than 0.2s
Reader frequency	13.56MHz for Philips Mifare 125kHz for EM
Alarm output	5VDC with 25mA DC
Relay specification	12VDC, 2A DC
ISO Standard	ISO14443A for Mifare, ISO15693 for i-Code II
Product Dimension	86mm x 86mm x 21mm
Color	Beige and Black

Keypad operation

1. System will monitor keypad input, it will not accept invalid input
2. Each key-in waiting time is 10 sec. If key in timeout, program will exit with 5 beep sounds

LED Indication

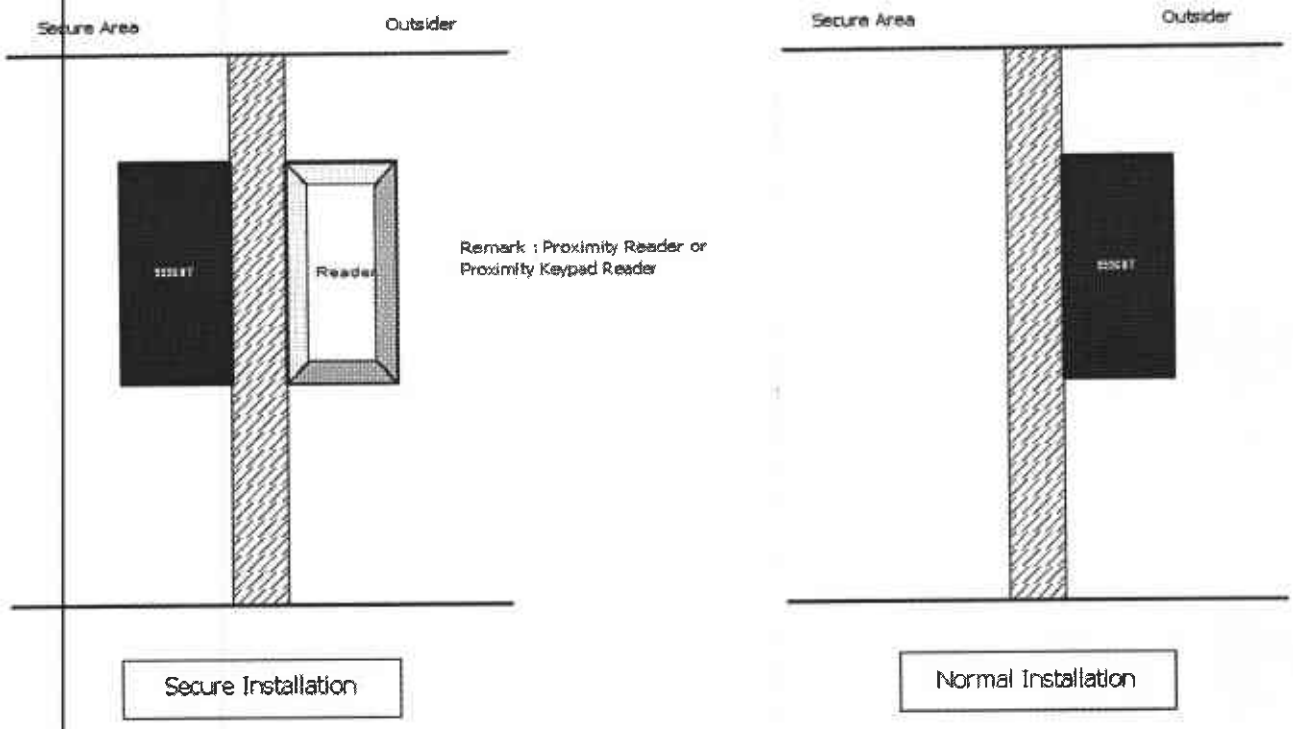
1. Upper LED for Power / E-Lock indication.
2. Lower LED for status LED

Power LED	Status LED	Description
RED	RED	Ready Mode
RED	GREEN	Prompt to input password
GREEN	RED	Program Mode
GREEN	GREEN	During E-Lock release

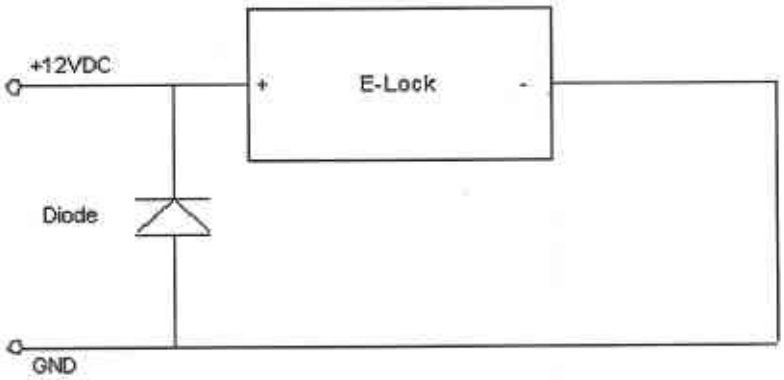
Buzzer Indication

Beep Sound	Description
1	Key-In, Access Granted
2	Return to Program Mode
3	Access Denied, Invalid Password, Invalid key in value
4	Power on, Reset to factory setting
Door Ajar	One beep sound for every 2 sec continuously until door sensor closed

3. Installation Diagram



Caution : E-lock should be connect a diode to prevent back EMF.



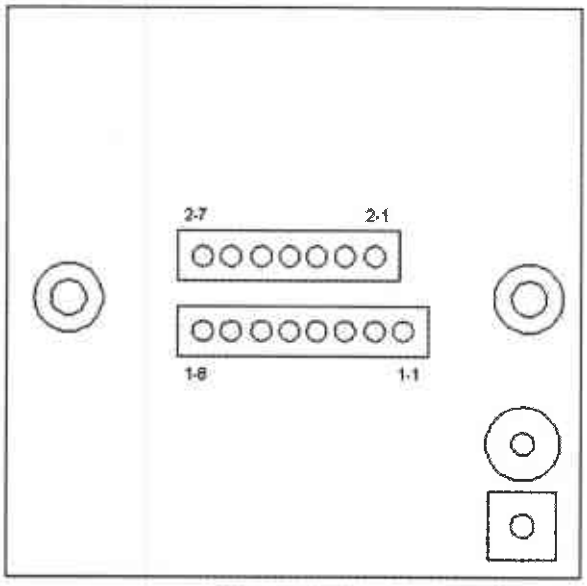
PIN assignment

PIN 1

Number	Color	Description
1-1	BROWN	RS232 – TX. Transmit to Host / PC
1-2	PURPLE	RS232 – RX. Receive from Host / PC (For firmware upgrade)
1-3	GREY	Signal common ground
1-4	YELLOW	Door Sensor input
1-5	BLUE	Request to Exit
1-6	ORANGE	Alarm output at H/L voltage, L/L voltage at normal
1-7	GREEN	Reserved for future use
1-8	WHITE	Reserved for future use

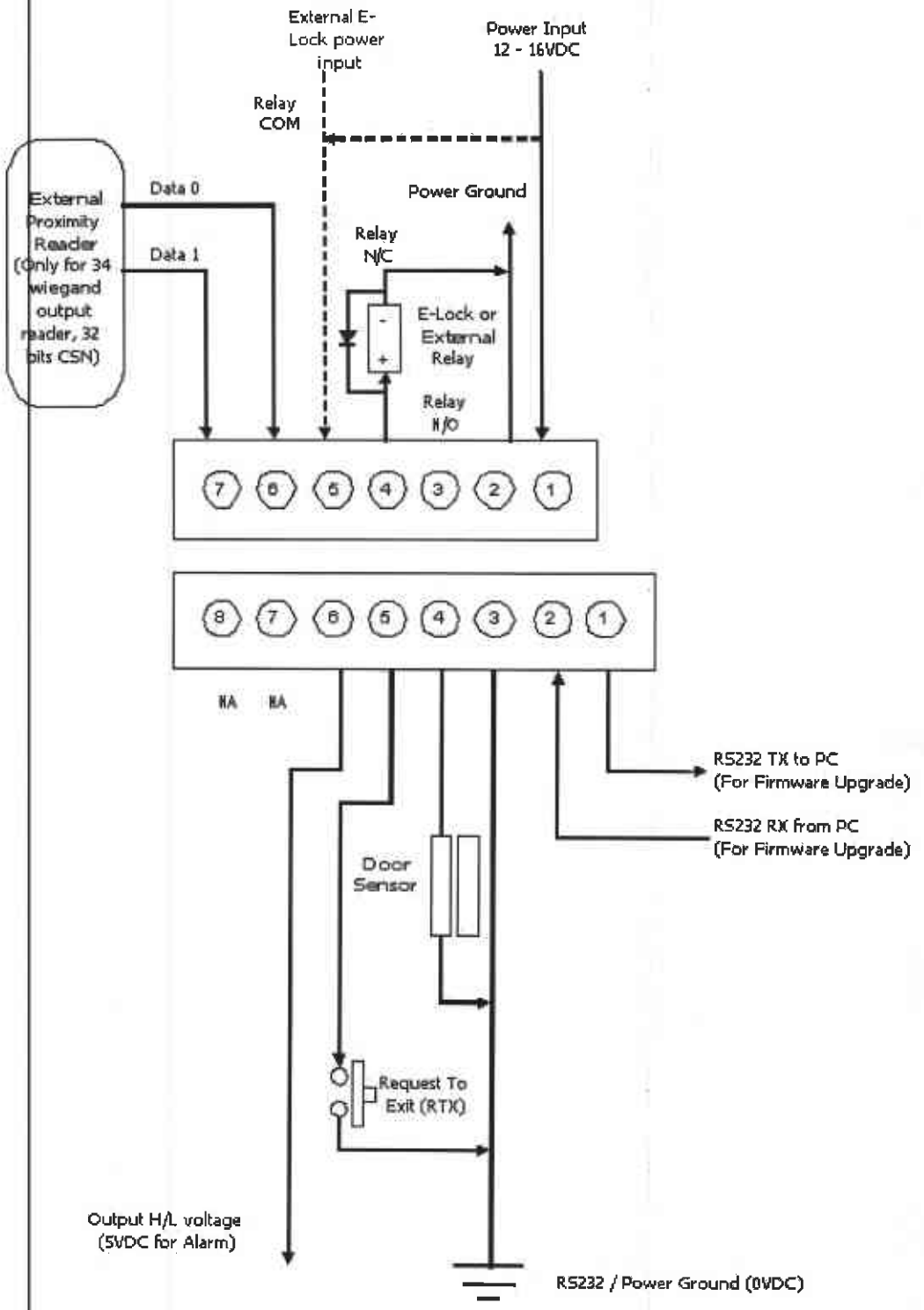
PIN 2

Number	Color	Description
2-1	RED	Power input. 12.5-16VDC
2-2	BLACK	**Power Ground.**
2-3	BLUE	Relay Normal Close. Connect to E-Lock, output 12VDC, 1.5ADC
2-4	YELLOW	Relay Normal Open. Connect to E-Lock, output 12VDC, 1.5ADC
2-5	PURPLE	Relay Common (Electric Lock Power Input)
2-6	GREEN	External Reader – Data 0
2-7	WHITE	External Reader – Data 1



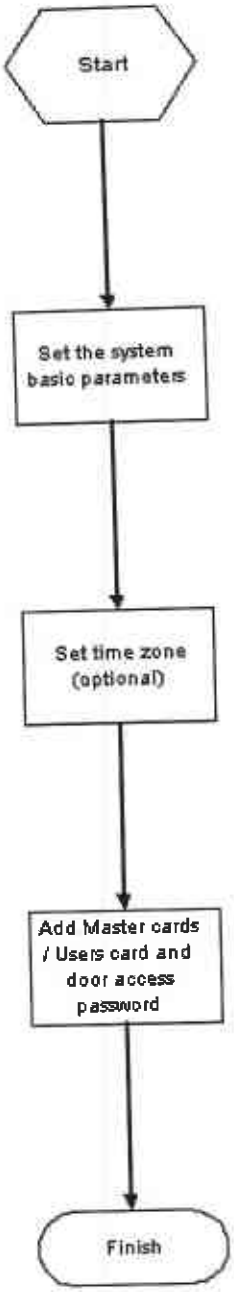
Back View - Not In Scale

External Device Connection Diagram



4. Set up Step by Step

Flow Chart for setup 9936ST standalone proximity keypad controller



Make sure all cables in correct connection before power on

Set system basic parameters:
Enter and Exit the program mode
Reset to factory setting
Change master password
Change door global password
Set host reader to normal / security mode
Set operation mode
Set current time
Set E-Lock release time

Set time zone (optional):
Set password disable time zone
Set electric lock release time period
Set alarm disable time zone
Enable password disable time zone function (optional)
Enable alarm disable time zone function (optional)
Enable electric lock release time zone function (optional)
Enable door ajar function
Enable Alarm function

Add Master Card / User Card and Door Access Passowrd:
Add master card
Add user card
Add door access password

Live Operation

Enter / Exit the program mode

1. Press "**" + "Master Password" or "present master card" + "#". Power LED in GREEN color and Status LED in RED LED. **Default master password is "12345678".**
2. Press "**#" to exit or 30 second timeout for auto exit.
3. In ready mode, Master Password can also open door.

Reset to factory setting

Reset to factory setting
Press "*801#801#"

Reset to factory setting excludes card holder, individual password & master card.
Press "*802#802#"

Change master password

Press "*9" +"New Master Password" + "#"+ "New Master Password"+"#"
Remark : Master Password for 1 to 8 digits

Change door global password

Press "*82" + "Global Access Password" + "#" + "Global Access Password" + "#"
Default Global Access Password is "111111"
Remark : Global Password for 1 to 6 digits

Set host reader to normal / security mode

Set Host reader to
IN reader mode – Press "*71#' (Default Setting)
OUT reader mode – Press "*72#"

Set operation mode

Press "*01#" (Default Mode)
IN Reader setting - User Card + Global Password or Door Access Password
OUT Reader setting - User Card or Door Access Password
Press "*02#"
IN Reader setting - User Card + Global Password only
OUT Reader setting - User Card only

Set current time

Press "*83" + "HHMMSS" + "#" + "HHMMSS" + "#"

Setting Electric Lock release time

Press "*81" + "Lock release time (00s to 30s)" + "#"
Default electric Lock opening time : 5 seconds

Set password disable time zone

Between the time period, no need to input password
Setting password disable time zone (1):
Press "*84" + "From HHMM" + "#" + "To HHMM" + "#"

Setting password disable time zone (2) :
Press "*85" + "From HHMM" + "#" + "To HHMM" + "#"

Set electric lock release time period

Between the time period, electric lock will be released
Setting E-Lock Opened time zone (1):
Press "*86" + "From HHMM" + "#" + "To HHMM" + "#"

Setting E-Lock Opened time zone (2):
Press "*87" + "From HHMM" + "#" + "To HHMM" + "#"

Remark : Please remember to disable this function before holiday

Set alarm disable time zone
In the time period, no alarm output
Setting Alarm Disable time zone (1):
Press "*88" + "From HHMM" + "#" + "To HHMM" + "#"

Setting Alarm Disable time zone (2):
Press "*89" + "From HHMM" + "#" + "To HHMM" + "#"

Enable password disable time zone function (optional)
Enable – Press "*34" + "#". Enable Password disable time zone
Disable – Press "44#" (Disable Default)

Enable alarm disable time zone function (optional)
Enable – Press "*36" + "#". Enable Alarm disable time zone
Disable – Press "46#" (Disable Default)

Enable electric lock release time zone function (optional)
Enable – Press "*35" + "#". Enable E-Lock release time zone
Disable – Press "45#" (Disable Default)

Enable door ajar function
Enable – Press "*32" + "Door Ajar Time (00s to 60s)" + "#". If door ajar exceeds the preset period, beeper will beep every 2 seconds continuously until door closed properly.
Disable – Press "42#" (Default)

Enable Alarm function
Enable – Press "*33"#"
Disable – Press "*43#" (Default)
Present valid card + PIN for rest alarm (if needs PIN input)

5. Add card and door password

Please prepare the card no. list into table before you add / delete card !!!

Add master card
Press "*10" + "present master card" + "#"
Remark : if continue add master card, no need to press "*10" again.
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Add user card
Press "*11" + Location ID + "#" + "present user card" or "key in 10 digits card no." + "#"
(Location ID from '1' to '2000')
Remark : if continue add user card, no need to press "*11" again, only key in Location ID + "#" + "present user card" or "key in 10 digits card no." + "#".
If the card no. has already been exists, 3 short beep sound will remind the operator, press "#" again to confirm, otherwise after the 5 beep sound without press the "#" key, this update is not completed and return to program mode.
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Add door access password
Press "*12" + Location ID + "#" + "Door Access Password" + "#" + "Door Access Password" + "#".
(Location ID from '2001' to '2200')
Remark : if continue add door access password, no need to press "*12" again, only key in Location ID + "#" + "Door Access Password" + "#" + "Door Access Password" + "#".
If the door access password has already been exists, 3 short beep sound will remind the operator, press "#" again to confirm, otherwise after the 5 beep sound without press the "#" key, this update is not completed and return to program mode.
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

6. Delete card and door password

Delete master card
Press "*20" + "present master card" + "#"
Remark : if continue delete master card, no need to press "*20" again, only "present master card" + "#"
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Delete user card
Press "*21" + "present user card" or "key in 10 digits card no." + "#"
Remark : if continue delete user card, no need to press "*21" again, only "present user card" or "key in 10 digits card no." + "#"
If the same card no. stored in different location ID, all the same card no. will be deleted as well.
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Delete door access password
Press "*22" + "Door Access Password" + "#" + "Door Access Password" + "#".
Remark : if continue delete door access password, no need to press "*22" again, only key in "Door Access Password" + "#" + "Door Access Password" + "#".
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Empty location ID
Press "*23" + Location ID + "#" + Location ID + "#".
(Location ID from '1' to '2200')
Remark : if continue erase Location ID content, no need to press "*23" again, only key in Location ID + "#" + Location ID + "#".
Press "#" return to program mode and hear 2 beep sound, press "**#" again to exit program mode.

Delete all Master Cards
Press "*27#27#"

Delete all User Cards
Press "*28#28#"

Delete all Door Access Password
Press "*29#29#"

7. Keep Users' Record

Please don't forget to keep user's record in file for record.

User Card No. Maintenance

Location ID	External Card No.	Internal Card No. (optional)	User Name	Expiry Date
1				
2				
3				
.				
.				
.				
.				
1999				
2000				

Door Access Password Maintenance

Location ID	Door Access Password	User Name	Expiry Date
2001			
2002			
2003			
.			
.			
.			
.			
2199			
2200			

8. Live operation

a) No need to input leading zero for card no. and password.

b) After input password, press "#" for finish.

c) After user presents the valid user card, lower LED will change to green color and waiting for user input password, after key-in the password, press "#" for finish. If password time zone enable and the current time within the time zone period, no need to input password.

d) The length of master password is from 1 to 8 digits, no need to input leading zeros.

e) The length of global door access password is from 1 to 6 digits, no need to input leading zeros.

f) The length of the 200 door access password is from 1 to 6 digits, no need to input leading zeros.

g) If door sensor is enforced open, output alarm signal in H/L voltage according to the following situation:

h) Alarm is enable

i) Alarm disable time zone disable.

j) Alarm disable time zone enable – current time beyond the alarm time zone.

k) Alarm is disable – no alarm output although door sensor is enforced open.

l) E-Lock operation. After valid card & password confirmed, E-lock will be closed according to:

m) Door does not open until the E-lock open time finished.

n) Door closed before the E-Lock open time finished.

o) E-Lock opening time shall be shorter than the door ajar enable time

9. How To Order Guide

Item No. Format **XXXXaabcde**

	Symbol	Details
Base Part No.	**XXXX**	Model no. : **8020**
RF Technology	**aa**	**EM** - EM
		HD - HID
		IC - Philips i-Code II
		MF - Philips Mifare
Current Version	**b**	Current Version : **A**
Reader Type	**c**	**A** - CSN reader
		B - Sector reader, only for Philips Mifare
Cover Color	**d**	**B** - Charcoal Gray Color
		W - Beige Color
Keypad	**e**	**K** - Keypad