

***Star* 100R** ***iPASS* IP100R**



1. IMPORTANT SAFETY INSTRUCTIONS

The description below is to keep user's safety and prevent any product damage. Please fully read these instruction and use the product properly.



Danger: This symbol indicates that incorrect handling of the product may result in serious injury or death.



Warning: This symbol indicates that incorrect handling of the product may result in injury or property damage.



Cautions about Power

- Only use the standard voltage (DC +12V/ 350mA).
- If the product emits smoke or smells, stop using the product. Unplug the product from DC power source and contact nearest service center.



Cautions about Installation

- Do not install the product in humid, dust (metallic dust) and sooty place.
- Do not install the product in a place subject to high or low temperature and high humidity
- Do not install the product with tools such as driver in hand when power has been supplied.



Cautions about Usage

- Do not drop liquid like water and give a shock severely.
- Do not place magnetic objects near the product.
- Do not replace the wiring cables installed by experts.
- Do not use the product near direct sunlight and heating apparatus.
- If you want to relocate the installed product, turn power off and then move and reinstall it.
- Do not use the product near flammable spray or objects.
- Do not disassemble, repair or modify the product by yourself. If the product needs service or repair, contact nearest service center.
- If liquid has been spilled on the product, unplug it and contact nearest service center.



Cautions about Cleaning

- Do not clean the product with water. Clean gently with dry cloth or tower
- Do not use chemicals such as benzene, thinner or acetone for cleaning.

2. IDENTIFYING SUPPLIED PARTS

Please unpack and check the contents of the box.



Main Unit
(1ea)



Wall Mount
(1ea)



O-Ring
(5ea)



User's Manual
(1copy)



3.5*40 Screw
(4ea)



3.5*12 Screw
(4ea)



Anchor Bolt
(4ea)



Cable & Diode
Cable(4 ea), Diode(2 ea)



Master Card
(1ea)

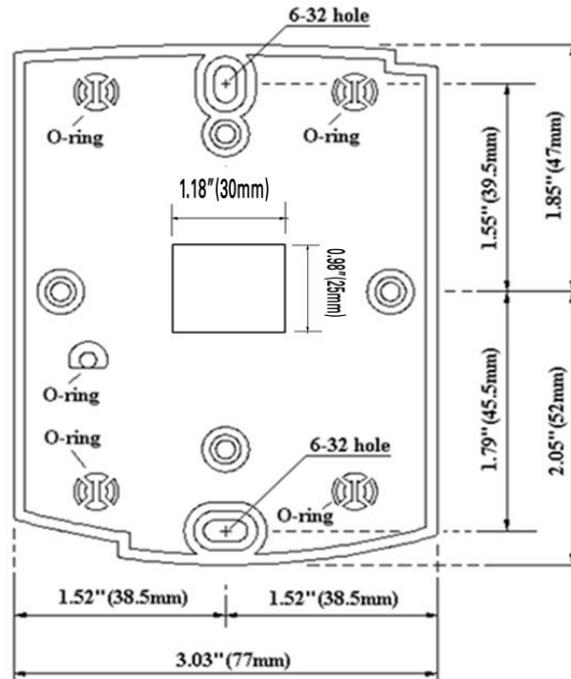
3.FRONT PANEL DESCRIPTION



Figure: Front Panel

4. INSTALLATION

1. Tear off page on the back this manual and use the provided template to drill two 6-32 holes and one 1/2" hole on the proper location of the wall to mount the Wall Mount bracket as shown below. (If the gang box is already installed on the wall then skip this step.)



2. Using 2 screws, install wall mount to the wall.

※ CAUTIONS

Before mounting the STAR 100R unit to the Wall Mount bracket, operational testing of the unit should be completed, as the locking pins will lock the unit to the Wall Mount. Removing the unit from the Wall Mount bracket after they have been installed together may cause damages to the bracket and render its effectiveness.

2. Insert 5 O-rings to the wall mount as indicated, then route the cable of the main unit through the center hole and push the main unit to wall mount to lock the main unit and make sure that the main unit is locked with wall mount.

5. WIRING COLOR TABLE

I/O PORT NAME	SIGNAL NAME	COLOR CODED
2PIN	(J1)	
Main Power(+12V)	DC +12V	Red
Power Ground	GND	Black
10PIN	(J2)	
Door Relay(NC)	NC(1)	Blue with White Stripe

Door Relay(COM)	COM(1)	Gray with Red Stripe
Door Relay(NO)	NO(1)	White with Red Stripe
Alarm Relay(NC)	NC(2)	Purple with White Stripe
Alarm Relay(COM)	COM(2)	White
Alarm Relay(NO)	NO(2)	Purple
Exit Button	EXIT	Orange
Door Sensor	CONTACT	Yellow with Red Stripe
Aux Input 1	INPUT1	Green
Aux Input 2	INPUT2	Green with White Stripe
7PIN	(J3)	
Wiegand Data0	DATA0	Pink
Wiegand Data1	DATA1	Cyan
TTL Output	TTL1/D0	Orange with White
Chime Bell Output	CHI/D1	Brown with White Stripe
Aux Input 3	INPUT3	Green with Red Stripe
RESERVED		Blue with Red Stripe
RESERVED		Yellow with White Stripe
3PIN	(CON2)	
RS232-TX	TXD	Black with White Stripe
RS232-RX	RXD	Red with White Stripe
Ground	GND	Black

Optional: Wiegand Output Function

The default output format of 100R/IP100R is TTL and Chime Bell output. But, you can configure the 100R/IP100R to generate output in Wiegand format and use it like a reader.

(The 100R/IP100R can output data from card reading, but can't output data from keypad input.)

If you want to generate Wiegand instead of TTL output format, follow the table below.

This function is only applicable to : V6.0.0 of the 100R and higher
 V3.0.0 of the IP100R and higher



(Figure: The Position of SW1 and SW2 to generate Weigand Output Format)

SW1 #1	SW1 #2	SW2 #1	SW2 #2	Orange wire with White stripe	Brown wire with White stripe
ON	OFF	ON	OFF	TTL Output	Chime Bell Output
OFF	ON	OFF	ON	Wiegand Data 0 Output	Wiegand Data 1 Output

When the Wiegand Output function is used, TTL Output wire is changed to Wiegand Data 0 and Chime Bell Output wire to Wiegand Data 1 Output wire. Therefore, you can't use those functions. In addition, because TTL Output wire is changed to Wiegand Data 0 Output, you can't initialize the 100W/IP100W using the wires.

(You can use those functions again when setting SW1 and SW2 to the default state.)

6. SYSTEM WIRING FOR TYPICAL APPLICATION

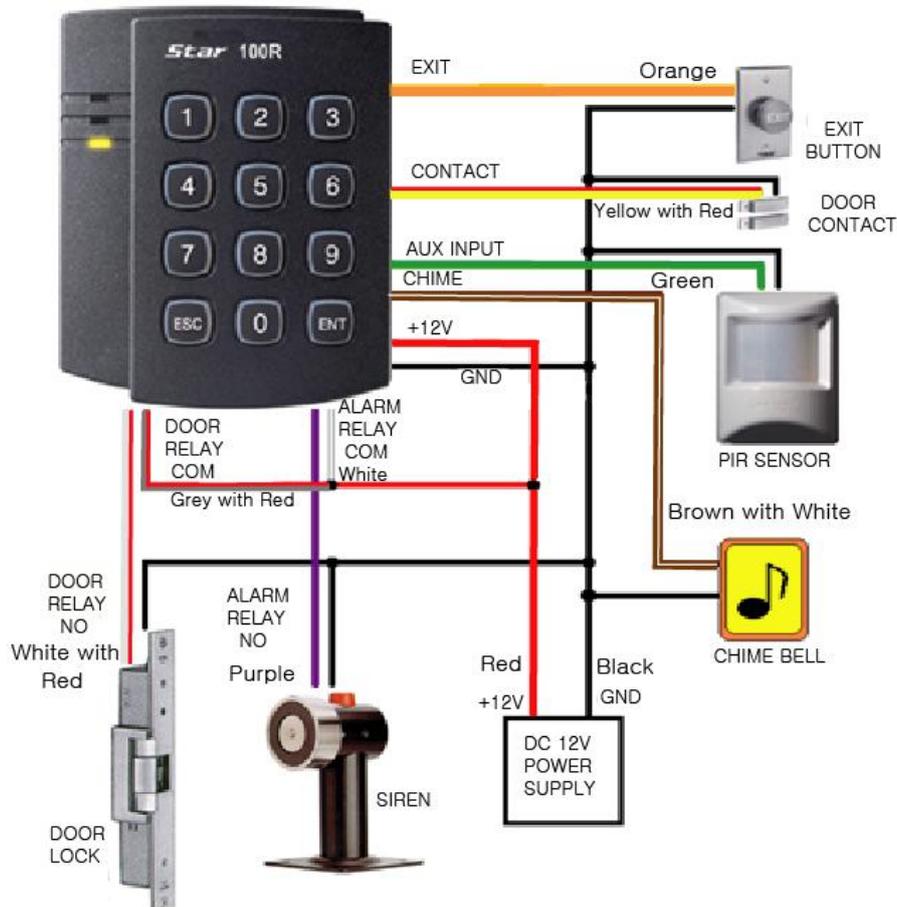


Figure: System Wiring Example

6.1. Power Connection

- Connect (+) wire of DC +12V power to Red wire.
- Connect Power GND (-) wire of DC +12V to Black wire.

6.2. Door Lock Connection

6.2.1 Connection of POWER FAIL SAFE: Door Lock

- Connect Door RELAY (COM), Grey with Red stripe wire to DC +12V (be sure that the existing power supply has enough capacity to support this accessory or upgrade to a sufficient one.)
- Connect (+) wire of Door Lock to Door RELAY (NC), Blue with White stripe wire.
- Connect (-) wire of Door Lock to Power GND (-) wire.

6.2.2 Connection of POWER FAIL SECURE: Door Lock

- Connect Door RELAY (COM), Grey with Red stripe wire to DC +12V (be sure that the existing

power supply has enough capacity to support this accessory or upgrade to a sufficient one.)

- Connect (+) wire of Door Lock to Door RELAY (NO), White with Red stripe wire.
- Connect (-) wire of Door Lock to Power GND (-) wire.

6.3. Alarm Device Connection

- Connect Alarm RELAY (COM), White wire to DC +12V (be sure that the existing power supply has enough capacity to support this accessory or upgrade to a sufficient one.)
- Connect (+) wire of Alarm Device to Alarm RELAY (NO), Purple wire.
- Connect (-) wire of Alarm Device to Power GND (-) wire.

6.4. Exit Button Connection

- Connect one of the wires of Exit Button to Exit Button Input, Orange wire.
- Connect the other wire of Exit Button to Power GND (-) wire.

(If a normally closed Exit button is used, then see section 12-55 of the main manual to change the detection scheme from the defaulted setting.)

6.5. Door Contact Sensor Connection

- Connect Door Contact sensor (COM) wire to Door Contact Input, Yellow with Red stripe wire.
- Connect Door Contact sensor (NO) wire to Power GND (-) wire.

(If a normally closed Door Contact sensor is used, then see section 12-57 of the main manual to change the detection scheme from the defaulted setting.)

6.6. Auxiliary Input Device Connection (Applied to AUX Input #1, #2, #3)

- Connect one wire of the Auxiliary Input Device to the AUX Input wire (Input #1 Green, Input #2 Green with White stripe, Input #3 Green with Red stripe wire).
- Connect the other wire of Auxiliary Input Device to Power GND (-) wire.

(If a normally closed input device is used, then see section 12-49, 51 & 53 of the main manual to change the detection schemes from the defaulted settings.)

6.7. Auto-Dialer Connection (Separate purchase required)

The Auto-dialer function of this unit has not been evaluated by UL.

- Connect the input wire of Auto-Dialer to TTL output, Orange with White stripe wire.
- Connect (+) wire of Auto-Dialer to DC +12V (be sure that the existing power supply has enough capacity to support this accessory or upgrade to a sufficient one.)
- Connect (-) wire of Auto-Dialer to Power GND (-) wire.
- Connect Telephone Line plug (RJ-14) to Auto-Dialer.

(If an active High Auto-Dialer is used, then see section 12-59 of the main manual to change the TTL output level from the defaulted setting.)

6.8. Wiegand Input Connection from Another Compatible Wiegand Reader (Separate purchase required)

- Connect (+) wire of Reader to DC +12V (be sure that the existing power supply has enough capacity to support this accessory or upgrade to a sufficient one.)
- Connect (-) wire of Reader to Power GND (-) wire.
- Connect Wiegand output DATA0 wire of the additional Reader to DATA0, Pink wire.
- Connect Wiegand output DATA1 wire of the additional Reader to DATA1, Cyan wire.

6.9. RS-232 Communication Port Connection

9-pin connector (COM Port, female) is required to connect serial communication RS-232 between Main Unit and Personal Computer.

- Connect RS-232-TX, Black with White stripe wire of Main Unit to pin number 2 of 9-pin connector.
- Connect RS-232-RX, Red with White stripe wire of Main Unit to pin number 3 of 9-pin connector.
- Connect RS-232-GND, Black wire of Main Unit to pin number 5 of 9-pin connector.
- Plug in 9-pin connector to COM1 or COM2 Port of Personal Computer.
- Install and run STAR 100R Application Software.

6.10. Chime Bell Connection (Separate purchase required)

- Connect (+) wire of Chime Bell unit to Bell Output, Brown with White stripe wire of Main Unit.
- Connect (-) wire of Chime Bell unit to Power GND (-) wire.

7. INITIAL SETUP

The Flash memory of each shipped STAR 100R contains a minimum set of defaulted values, but it does not have any other preprogrammed values or user's data in it, therefore, Initial Setup is required upon the first time the unit is powered-up in order to operate the unit properly.

7.1. Registration of RF Cards for RF CARD ONLY MODE

(1) Apply 12V DC to the unit.

All 3 LEDs will be flashing along with a powered-up melody (do mi sol me do do mi sol do~).

(2) Press **0** **1** **ENT** from the keypad. (RF CARD ONLY MODE)

(3) Present RF Cards as follow to register Configuration Card and User Access Cards.



Configuration Card



User Access Cards

.....



Configuration Card again to end task

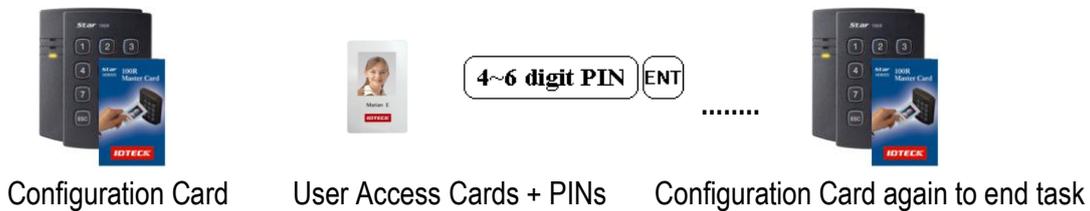
※ **NOTE: The user may choose to register the 8 digit card numbers via the keypad instead of presenting the cards to the unit; this implies that the user must know the 8**

digit representation of each card.

- (4) The first card read becomes the Configuration Card and the following RF Cards are registered as User Access Cards. Once all User Access Cards have been registered, present the Configuration Card again to complete the registration. (Please keep the Configuration Card in a secure location for future changes.)
- (5) Now, the Main Unit is entered into the normal operation mode with factory defaulted settings.

7.2. Registration of RF Cards with PINs for RF CARD + PIN MODE

- (1) Apply 12 V DC to the unit.
All 3 LEDs will be flashing along with a powered-up melody (do mi sol me do..do mi sol do~).
- (2) Press **0** **2** **ENT** from the keypad. (RF CARD + PIN MODE)
- (3) Present RF Cards as follow to register Configuration Card and User Access Cards + 4~6 digit Personal Identification Number (PIN) for each User Access Card.



- (4) The first card read becomes the Configuration Card and the following RF Cards + PINs are registered as User Access Cards with assigned PINs. Once all User Access Cards and PINs have been registered, present the Configuration Card again to complete the registration. (Please keep the Configuration Card in a secure location for future changes.)
- (5) Now, the Main Unit is entered into the normal operation mode with factory defaulted settings.

7.3. Registration of PIN ONLY MODE

- (1) Apply 12V DC to the unit.
All 3 LEDs will be flashing along with a powered-up melody (do mi sol me do do mi sol do~).
- (2) Press **0** **3** **ENT** from the keypad. (PIN ONLY MODE)
- (3) Enter 4~6 digit PIN ENT to register Configuration PIN then 4~6 digit PIN ENT to register for each subsequent User Access PIN at a time and then enter the 4~6 digit PIN ENT (Configuration PIN) to complete the registration.



- (4) The first 4~6 digit PIN becomes the Configuration PIN and the subsequent 4~6 digit PINs are registered as User Access PINs. Once all User Access PINs have been registered, enter the Configuration PIN again to complete the registration. (Please store the Configuration PIN for future changes.)

(5) Now, the Main Unit is entered into the normal operation mode with factory defaulted settings.

7.4. Registration of RF/PIN Combination MODE

(1) Apply 12V DC to the unit.

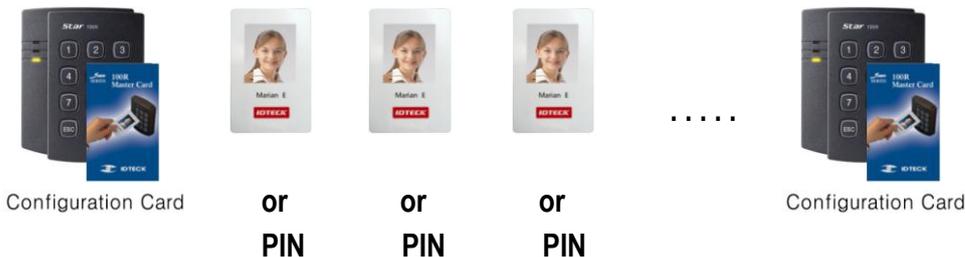
All 3 LEDs will be flashing with a power-up melody.

(2) Press **0 5 ENT** from the keypad. (RF/PIN Combination Mode)

(3) Present Configuration Card to register Configuration Card to the unit.

(4) Present RF Card or enter 4~6 digit PIN number to register user access card or PIN.

(5) Present Configuration Card to complete the registration



7.5. Factory Defaulted Setting Values

After the Initial Setup, the Main Unit uses the factory defaulted setting values below to execute the normal operation mode. You may want to change these factory setting values or modify your User Access list; refer to section 12 of the main manual for instructions on how to customize the operation of your unit.

(1) When User Access Card (or PIN) is granted

- Door RELAY activates for 3sec.

- Green LED lights on for 3sec.



(2) When User Access Card (or PIN) is not recognized

- Alarm RELAY activates for 2sec.

- Red LED lights on for 2sec.



(3) Duress Password = 00, Duress Alarm to TTL output port for 03 sec.

(4) QUICK ACCESS MODE = Disable

(5) Chime Bell output = Enable, Chime Bell activation time = 05 sec.

(6) Melody sound = Enable

(7) Keypad lock-out time when Try-Out error detected = 01 min.

(8) Detect all inputs from 'H' to 'L'

(9) Activate TTL output to 'L'

(10) Delay time to activate SECURE MODE = 00 min.

(11) Door Open time-out for Door Contact sensor = 00 sec.

(12) Number of times of Try-out = 05 times

(13) Input keypress time-out time = 20 sec.

- (14) Tamper Alarm = Disable, Tamper Alarm output port = 02 (Alarm Relay)
- (15) Toggle Mode: Disable
- (16) Unlock followed by Door Contact: Disable

8. OPERATION

8.1. Normal Operation Mode (Safe Mode)



When the Main Unit operates in normal mode, the yellow LED is flashing every second.

8.2. Open the Door



Registered Card (or PIN)

When a registered Card (or PIN) is read, the Door will open for 3 seconds along with the "do-mi-sol-do" melody.



8.3. Exit (Open the Door)



Exit Button

To request for exit from the inside, an Exit Button can be used to open the door for the same duration as in 11-2.



8.4. Action and Alarm Caused by Unregistered Card (or PIN)



When an unregistered Card (or PIN) is read, thus, access is denied and the Alarm can be activated for 2 seconds along with "sol-do-sol-do" melody.



Unregistered Card (or PIN)

(If you do not want to activate the Alarm in case of unregistered access attempt, then you can change this setting as shown in section 12.)

8.5. Secure Mode

The last person to exit can change the operation of the unit from Normal Mode to Secure Mode by entering the Secure Code of **7 7 ENT** onto the keypad.



Change to Secure Mode.

The Secure Mode will revert back to the normal mode when a registered card (or PIN) is presented / entered.

8.6. DURESS Alarm



In case of Duress, enter the 2 digit Duress Password and the door will open as usual; however, the Duress Alarm (TTL Output) will activate an external Auto-Dialer to notify the appropriate personnel. See section 9.7 and 12.29 of the main manual for more instructions on this feature.

8.7. Chime Bell Operation

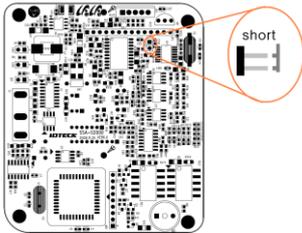
The  key can be used to activate an external Chime Bell for 5 seconds, the defaulted value.

9. INITIALIZATION

When you lost the Configuration Card or forget the Master PIN number, you may need to re-initialize the unit for new setup. There is a hard-wired Initialize function on the unit.

※ **WARNING:** You may lose all setup data after Initialization.

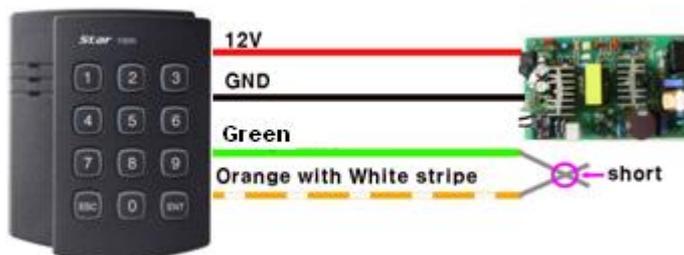
9.1. Hardware Initialization (When the master card or ID is lost)



- 1) Open the top case taking out four bolts on the back.
- 2) As the left picture, make two jumpers short in state of being on power
- 3) 3-color LED blinking with beep sound indicates success of initialization

9.2. Wire Initialization

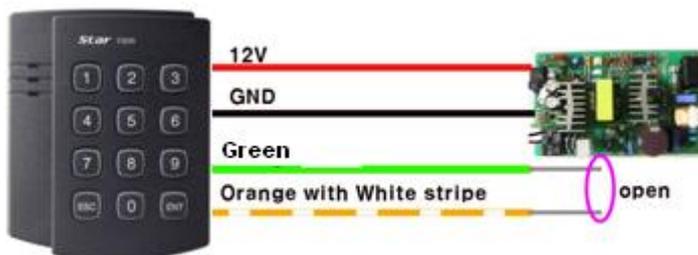
(When the master card or ID is lost, 100R: Over V5.0.0 / IP100R: Over V2.0.0)



- 1) Main power off.
- 2) Connect the Green and orange with white stripe wire together and power on.
- 3) 3 color LED blinking with beep sound indicates the success of initialization.

100R: V5.0.0 ~ V5.0.3 / IP100R: V2.0.0 ~ V2.0.1

- 4) Main power off again.
- 5) Disconnect orange wire and orange with white stripe wire as shown above (normal connection diagram) and power on.



100R: Over V5.0.4 / IP100R: Over V2.0.2

- 4) Disconnect those two wires and wire them as shown above (normal connection diagram).

10. Template

