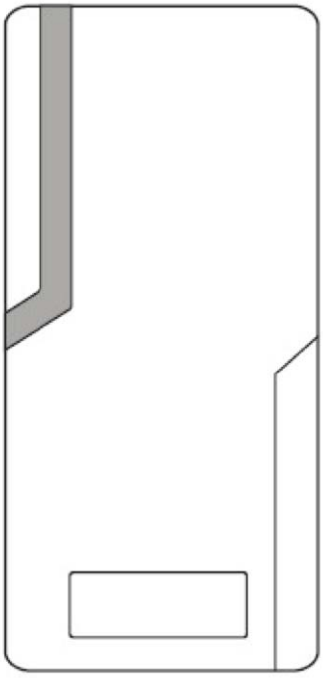
Model SAW+ 10,000
A Waterproof Stand Alone Proximity Reader



User Manual

SAW+ 10,000 Quick Reference Programming Guide	
Function description	Choose from the relevant function below and input
Enter programming mode	* 888888 # Then you can do the programming (888888 is the defualt factory mastercode)
To exit the programming mode	*
Note: In order to start programming the master user must enter the programming mode	
Change the mastercode	0 New code # Repeat new code # (Code must be 6-8 numbers)
Add card user	1 Read card # (Can add cards continuously)
Delete card user	2 Read card # (Can delete cards continuously)
To Unlock the door	
To Unlock the door	Read user card

1. Packing List

Name	Quantity	Remark
SAW+ 10,000	1	
Infrared remote control	1	
Manager add card	1	
Manager delete card	1	
Short Pin	1	Used for factory default setting
User manual	1	
Self Tapping Screws	4/2	Φ3.5*27mm

Please ensure that all the above contents are correct. If any are missing please notify the supplier of the SAW+ 10,000.

2. Description

The SAW+ 10,000 is fully waterproof stand alone Proximity access Reader, which uses an advanced micro processor, equipped with large capacity Flash memory, it supports up to 10,000 cards. It can read both 125KHZ HID card and 125KHZ EM card. It is easy to add or delete card users by using the master card; as well as, with the infrared remote control programmer, the user can set the reader by themselves.

The SAW+ 10,000 not only has the features of low power consumption, automatic selection of lock , anti vandal alarm and exit button, but also has protective functions against input over voltage and outputs short -circuit. The block enrollment function allows you to enroll a maximum 10,000pcs HID cards or EM cards at a time within 10 minutes. These features make the SAW+ 10,000 easy in operation, safe and reliable; it is an ideal choice for door access.

3. Features

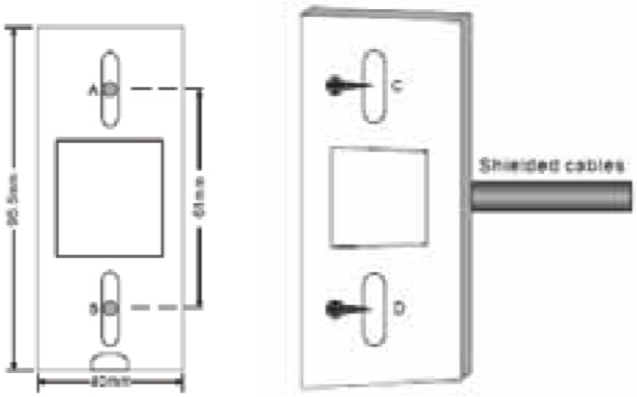
- Standalone Card Reader
- Waterproof, confirm to IP68
- Use capacity: 10,000
- Card interface: HID&EM 125KHZ card/tag
- Remote control for programming
- Manager cards for fast add and delete users
- Card block enrollment
- Can enroll a maximum of 10,000 cards at a time within 10 minutes
- Wiegand26 input/output
- Can be used as a slave reader
- 2 pcs SAW+ 10,000 can be interconnected
- Can be used as controller by connecting wiegand reader
- Anti-submarine back Function
- Alarm signal output, Door open detection
- LED display; Full of 10000 users, recognizing speed <15ms.

4. Specifications

Supply Voltage	DC12V±10%
User capacity	10,000
Sleeping Current	<15mA
Card type	HID&EM 125khz Card/Tag
Card Reading Distance	1.6 ~3.1 in
Wiegand interface	Wiegand 26
Operating Temperature	-13~140°F
Operating Humidity	20%~98%
Environment	Confirm to IP68
Lock output load	Max20A
Alarm output load	Max20A
Adjustable Do or Relay Time	00-99 seconds
Adjustable Alarm Time	0- 3 minutes
Wiring Connections	Electric Lock, Exit Button, DOTL, External Alarm
Manager card	Two
Dimensions	4.1 x 1.9 x .9 in

5. Installation

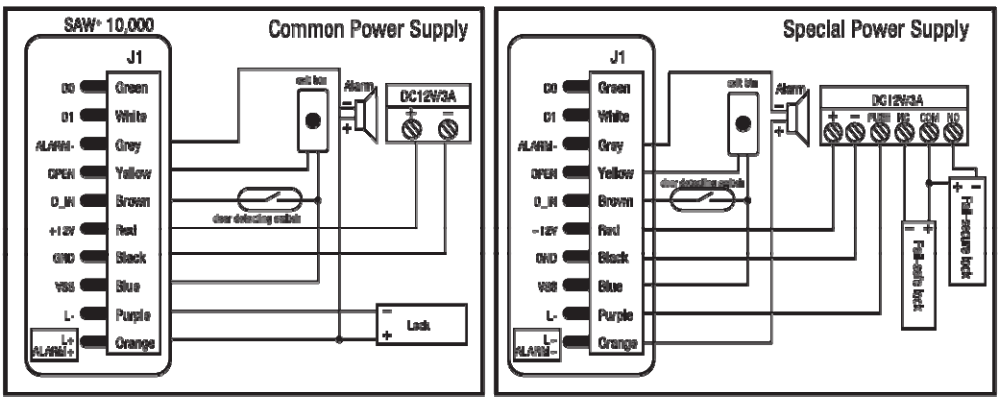
- Drill holes on the wall or prepare the cassette.
- Wire through the hole, and blanket the unused cable in case of short circuit.
- Fix the back cover firmly on the cassette or the wall.
- Attach the reader to the back cover.



6. Wiring

No	Color	Function	Description
1	Green	D0	Wiegand output, input signal wire D0
2	White	D1	Wiegand output, input signal wire D1
3	Grey	ALARM+	connecting to the negative pole of the alarm equipment
4	Yellow	OPEN	To connect to one part of Exit Button
5	Brown	D_IN	Door Contact input,
6	Red	12V	(+) 12Vdc Positive Regulated Power Input
7	Black	GND	(-) Negative Regulated Power Input
8	Blue	VSS	the negative pole of the controller, connect to the other part of Exit button and door contact
9	Purple	L-	Connect to the negative pole of the Lock
10	Orange	L+/Alarm+	Connect to the positive pole of the lock and alarm equipment

Connection Diagram



Note: Do not power on until all wiring has been completed

7. To Reset to Factory Default

Power off, use the supplied Contact Pin to short out the 2P socket on the main board, then power on, if successful, the beeper will beep twice, the LED shines in orange, remove the

Short Pin, then read the Two Manager cards (Manager add card firstly, Manager delete card secondly), after that the LED turns red, which means the SAW+ 10,000 has been reset to factory default setting. Remarks: Reset to factory default setting, the users' information enrolled is still retained. When re-set to Factory setting, the two Manager cards must be re-enrolled.

8. Sound and Light indication

Operation status	LED	Buzzer
Reset to factory default setting	Orange blinks	Two short ring
Sleeping mode	Red flashes slowly	
Operation successful		Short ring
Enter into programming mode	Red flashes	Short ring
Enter into setting	Orange flashes	Short ring
Exit programming mode	Red flashes slow	Short ring
Operation failed		Three short ring
Open the door	Green flashes	Short ring
Alarm	Red flashes fast	Alarm

9. SAW+ 10,000 Detailed Programming Guide

9.1 User settings

There are 2 ways to add and delete users: A By manager card; - By remote control	
A - By Manager card (The most convenient way)	
To Add user by Manager Add Card	Manager add card Read card Manager add card **Cards can be added continuously.**
To Delete User by Manager Delete Card	Manager delete card Read Card Manager delete card **Cards can be deleted continuously.**
B- By Remote control	
Enter into the programming mode firstly	
To Enter the programming mode	* Manager Password # **888888 is the default factory master code**
Remarks: All the steps below must be done after enter into programming mode	
To change the master code	0 New Password # Repeat New Password # **The master code must be 6~8 digit number.**

9. SAW+ 10,000 Detailed Programming Guide (continued)

To add a card user (Method 1) This is the faster way to enter cards using ID number auto generation. The card can be either be presented or input the 8 digit card number from the card can be manually entered	1 Read Card # or 1 Input Card number (8 digit) # Card can be added continuously without exiting programming mode. The card number is the last 8 digits of the number printed on the card.
To add a card user (Method 2) This is the alternative way to enter cards using User ID Allocation. In this method a User ID is allocated to a card. Only one user ID can be allocated to a single card.	1 ID number # Read Card # or 1 ID number # the Card number (8 digits) #
To add a **series of card** users – **Block Enrollment** (It can enroll maximum 10,000pcs cards at a time within 10 minutes.)	8 8 digits Card number # Card quantity # Card quantity is between 1-10,000. Of the 8 digits card number, for HID card, they are the 3 digits of a facility code and 5 digits of a serial number; for EM card, they are the last 8 digits on the card.
To delete a **card** user. Note users can be deleted continuously without exiting programming mode	2 Read Card # or 2 Card number #
To delete **ALL users.** (Note: This option will delete all users but Manager Cards. Be careful with use)	2 0000 #

9.2 Door setting

Lock power setting	
Fail secure (Unlocked when power on) This is the factory default, 3 seconds	4 0~99 # 0-99 is to set the door relay time 0 99 seconds.
Fail safe (unlocked when power is off)	5 0~99 # 0 99 is to set the door relay time 0 99 seconds.

9.2 Door setting (continued)

Anti-Pass Back Settings	
Anti-Pass back Disabled (Factory default) Anti-Pass back Master Mode: Anti-Pas back Auxiliary Machinery Mode (Note: the detailed wiring diagram and illustration, please refer to the "Advanced application"	3 0 # 3 1 # 3 2 #
Door open detection Door Open Too Long (DOTL) warning. When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened normally, but not closed after 1 minute, the inside buzzer will beep automatically to remind people to close the door and continue for 1 minute before switching off automatically. Door Forced Open warning. When used with an optional magnetic contact or built in magnetic contact of the lock, if the door is forced open, or if the door is opened after 120 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate.	
To disable door open detection. (Factory default)	6 0 #
To enable door open detection	6 1 #
Security Mode Setting	
Reader Lockout & Alarm Output options. If there are 10 invalid cards or 10 incorrect PIN numbers in a 10 minute period either the reacer will lockout for 10 minutes or the alarm will operate for 10 minutes, depending on the option selected below.	
Normal status (No lockout or Alarm)	7 0 # (Factory default setting)
Keypad Lockout	7 1 #
Alarm Output	7 2 #
Alarm output time	
To set the alarm output time (0-3 minutes) Factory default is 1 minute	9 0～3 #
To remove the alarm	
To remove the Door Forced Open warning	Read valid card or Master Code#
To remove the Door Open Too Long warning	Close the door or Read valid card or Master Code #

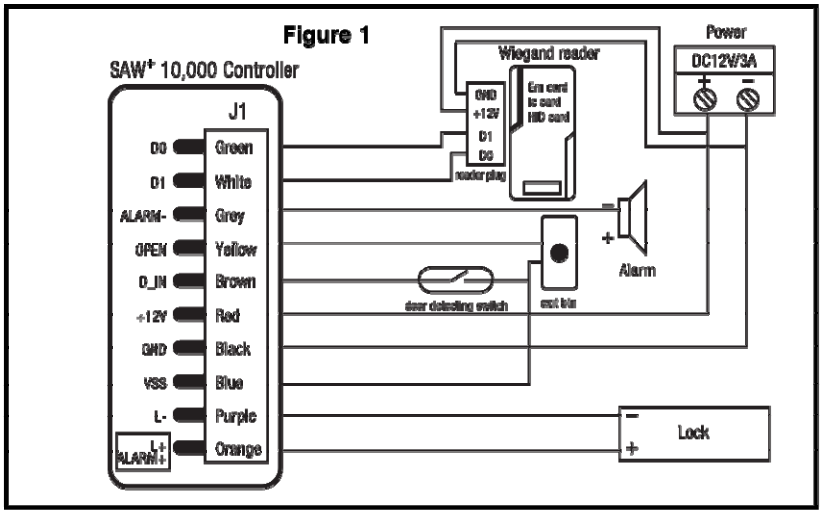
To Unlock the door	
To Unlock the door	Read User card (Note that Manager Card can't be used as User Card to unlock the door.)

10. Advanced Application

10.1 SAW+ 10,000 operating as a Controller

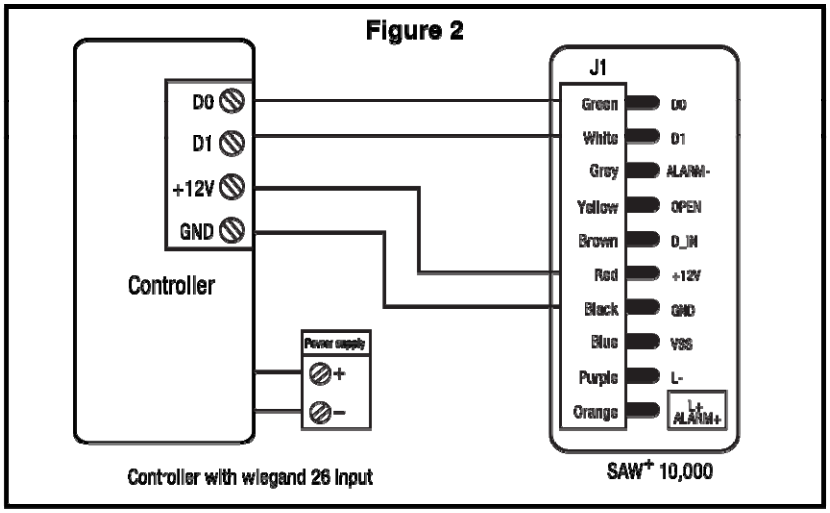
In this mode the SAW+ 10,000 supports a Wiegand 26 bit input so an external Wiegand device with a 26 bit output can be connected to the Wiegand input terminals on the SAW+ 10,000 Either an ID card reader (125 KHZ) or an IC card reader (13.56MHZ) can be connected to the SAW+ 10,000. Cards are required to be added at the external reader, except where an external ID reader is used, in this case cards can be added at either reader or controller. See figure 1

Figure 1



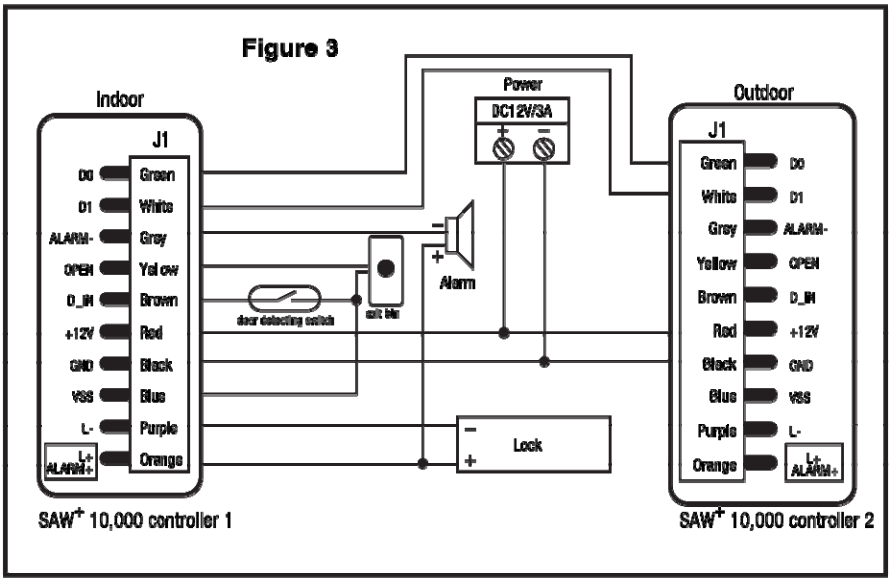
10.2 SAW+ 10,000 operating as a Wiegand Output Reader

In this mode the SAW+ 10,000 supports a Wiegand 26 bit output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bit input. See figure 2



10.3 Two SAW+ 10,000 units interconnected for a single door

In this mode two SAW+ 10,000 units are used for a single door, one for entry and the other for exit. Either device acts as the controller and reader at the same time. Users can be enrolled on either of the devices. In this mode the user capacity for one door can be up to 20,000. The setting of the two SAW+ 10,000 units must be the same including the master code. See figure 3



10.4 Anti-Pass back for single door (3 1 #)

See Figure 1 for the connection diagram. Install one Wiegand reader (or a SAW+ 10,000 without user information as reader) outside the door, connecting to one SAW+ 10,000 Controller inside the door which acts as the Anti-Pass Back Master unit. Of the two devices, they build up an anti-pass backsystem for single door. The operation and function is as below:

4.1 Set the needed function and enroll the User Cards on the inside SAW+ 10,000 - Anti-Pass Back Master unit.

4.2 With the valid user card, the user can only enter the door from the outside reader, and exit from the inside SAW+ 10,000 Controller. On the other hand, without entering record from the reader the user can't exit from the controller inside, also, the user can t enter in and exit continuously.

10.5 Anti-Pass Back for 2 doors

See Figure 4 for the Connection Diagram. Door 1 with one SAW+ 10,000, and Door 2 with one SAW+ 10,000, set SAW+ 10,000 on Door 1 as the Anti-Pass Back Auxiliary unit (3 2 #), and set the other SAW+ 10,000 on Door 2 as the Anti-Pass Back Master unit (3 1 #). Then they build up a two doors anti-pass back system, which is normally used for a parking lot...etc

The operation and function is shown below:

5.1 Set the needed function and enroll the User Cards from SAW+ 10,000 Anti-Pass Back Master unit on Door 2

5.2 With the valid user card, the user can only enter in from Door 1, and exit from Door 2. On the other hand, without entering record from the Auxiliary unit, the user can t exit from the Master unit or Auxiliary unit, also, the user can t enter in and exit continuously.

FCC WARNING

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: The manufacturer is not responsible for any changes or modifications not expressly approved by the manufacturer for compliance, such modifications could void the user's authority to operate the equipment.