AYC-W6500

Fingerprint, Proximity & PIN Convertible Reader/Controller

Installation and Programming Manual

ROSSLARE
SECURITY PRODUCTS

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This manual's sole purpose is to assist installers and/or users in the safe and efficient installation and usage of the system and/or product, and/or software described herein.

BEFORE ATTEMPTING TO INSTALL AND/OR USE THE SYSTEM, THE INSTALLER AND THE USER MUST READ THIS MANUAL AND BECOME FAMILIAR WITH ALL SAFETY REQUIREMENTS AND OPERATING PROCEDURES.

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- ROSSLARE exclusive warranty and liability is limited to the warranty and liability statement provided in an appendix at the end of this document.
- This manual describes the maximum configuration of the system with the maximum number of functions, including future options. Therefore, not all functions described in this manual may be available in the specific system and/or product configuration you purchased.
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1. Introduction

The AYC-W6500 is a fingerprint, proximity & PIN convertible reader/controller, designed for use either as a standalone unit or in conjunction with Rosslare's BioTrax™ software system.

The unit automatically determines whether to function as a reader or as a controller. When the AYC-W6500 unit is connected to a standard access controller, then it functions as a reader. If the unit is connected to one of Rosslare's intelligent power supplies – PS-A15T/TU, PS-C15T/TU, PS-A25T/TU, or PS-C25T/TU – it functions as a secured controller.

When the unit operates as a reader, transmission of a Card ID or PIN ID entered by the user takes place only after successful fingerprint verification.

When the unit operates as a controller, door output opens after a Card ID or PIN ID is entered followed by successful fingerprint verification.

For information on how the unit functions as a reader, see Chapter 4.

For information on how the unit functions as a controller, see Chapter 5.

The AYC-W6500 can optionally work with BioTrax software. For more information on BioTrax software see the BioTrax Software Manual.

The unit is suitable for indoor mounting, accepts up to 500 users, and allows entry via a personal identification number (PIN) and/or by presenting a proximity card.

PIN codes may be restricted to a single set length of 4, 5, or 6 digits. Alternatively, the PIN codes can be a variable length of between 4 and 8 digits.

1.1 Key Features

The AYC-W6500 system includes the following key features:

- Built-in proximity card reader (125 kHz ASK Modulation)
- Built-in fingerprint capacitive sensor
- PIN, proximity card, and a fingerprint identification per user
- Accurate fingerprint verification, using two fingerprint templates for each user.
- 1 second verification time
- BioTrax PC software for complete management of the fingerprint database and fast configuration of the reader
- Up to 500 users
- Optical back tamper sensor and open controller tamper output
- Programmable keypad backlight options (On, Off, 10 second activation on key touch)
- Internal buzzer provides audible interface feedback

- Two tri-color status LEDs
- Two user levels
  - Normal User
  - Secure User
- Code Search feature that helps make maintaining user codes easier
- Plastic case for indoor use
- Comes with mounting template for easier installation
- Comes with an installation kit that includes a security screw and a security screw tool

1.1.1 Reader and Controller Features

Additional features for the AYC-W6500 series include the following:

1.1.1.1 Reader

- Programmable keypad transmission format
- Programmable input (LED_CTL) can control either the operation of the LED or the unit's operation mode.
- Programmable facility code
- Two modes of operation:
  - Normal mode
  - Secure mode
- Built-in proximity card reader (125 kHz ASK Modulation)
- Programmable proximity card transmission format
  - Clock & Data
  - Wiegand 26-Bit Controller

1.1.1.2 Controller

- Bi-directional secure communication with AC-Ax5T or PS-Cx5T secured power supply
- Two user levels:
  - Normal user
  - Secure user
- Request-to-Exit (REX) signal from PS-Ax5T/TU or PS-Cx5T/TU power supply
- Two modes of operation:
  - Normal mode
  - Secure mode
- Programmable Lock Output Release, Siren, and Alarm Delay timers
- Programmable auxiliary input (controlled via the PS-A25T or PS-C25T power unit)

1.2 Unpacking the Equipment

Before you begin, please confirm you have received all the items listed below. If you find any items missing, contact your local Rosslare distributor immediately.

- One AYC-W6500 unit
- CD with the BioTrax software
- Installation kit
- Installation and operating instructions
- Software manual
- RS-232 cable

1.3 Ancillary Equipment

The following equipment is required to complete installation:

1.3.1 Reader

- Compatible host controller (not supplied) – UL listed access control unit (for example, AC-225)

1.3.2 Controller

- PS-Ax5T/TU and PS-Cx5T/TU (x stands for 1 or 2) intelligent power supply (for controller applications only, optional)—this unit connects to the following:
  - Electric lock output mechanism or a magnetic lock device, which implements fail safe (power to lock) or fail secure (power to open) functions
  - REX button—normally open type. Switch is closed when pressed
  - General input switch (for example, door monitor contact)
  - Auxiliary output

Rosslare accessories can be found at www.rosslaresecurity.com.

2. Technical Specifications

Electrical Characteristics	
Power Supply Type	Linear type (recommended)
Operating Voltage Range	10 to 16 VDC (provided by the PS-Ax5T/TU and PS-Cx5T/TU when used as a controller)
Input Current Standby (12 VDC)	140 mA
Input Current Max (16 VDC)	330 mA
Reader Outputs	Open collector, 5 V termination
Tamper Output	Open Collector Output
Auxiliary Input (LED_CTL)	Dry contact, Normally Open 0 to 5 V
Operational Characteristics	
Cable Distance to Host Controller	Up to 500 ft (150 meters) using an 18 AWG cable
Operation Modes	• Normal: PIN or Proximity Card + Fingerprint Verification • Secure: Proximity Card + PIN code + Fingerprint Verification
Fingerprint Sensor	Capacitive biometric fingerprint sensor
No. of Users	500
Fingerprint Templates	Up to 1910 templates (two templates per fingerprint)
Verification Time	Less than 1.5 seconds
Verification Method	1:1
Max. Proximity Card Read Range*	7.5 cm (3 in.)
Proximity Card Modulation	ASK at 125 kHz
Proximity Card Compatibility	EM cards
Card Transmit format (Reader)	Wiegand 26-Bit, or Clock & Data
Keypad	3 x 4 Key, backlit
Keypad Transmit Format (Reader)	Programmable PIN code formats
LED Status	Two tri-colored LEDs
Communication	RS-232 (to host computer)
Sensor ESD Rating	±15 kV (Fingerprint Sensor)

Environmental Characteristics	
Operating Temperature Range	-5°C to 60°C (23°F to 140°F)
Operating Humidity Range	10 to 90% RH (non-condensing)
Operating Environment	Indoor
Dimensions	131 x 125 x 35 mm (5.16 x 4.92 x 1.38 in.)
Weight	270 g (9.52 oz)

* Measured using a Rosslare proximity card or equivalent. Range also depends on electrical environment and proximity to metal.

3. Installation

The AYC-W6500 is easy to install and fits all standard US and UK gang boxes.

3.1 Mounting Instructions

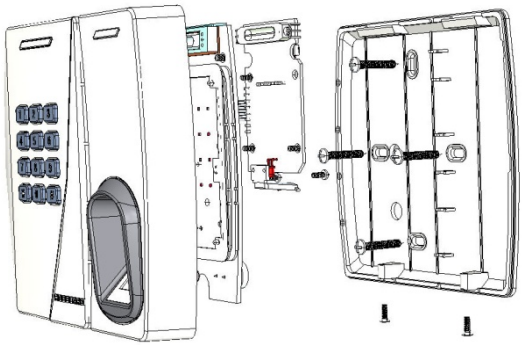
Before connecting the AYC-W6500, mount it on an appropriate surface. In most circumstances, the unit should be located at approximately shoulder height.

To mount the unit on a surface:

1. Remove the unit's front cover, using the security spline key.

   The screw holes on the back plate are now visible.
2. Select an approximate location for the unit.
3. Peel off the back of the self-adhesive installation template and attach the template to the required location.
4. Using the template as a guide, drill four holes into the surface. The required hole size is marked on the template.

Figure 1 AYC-W6500 Assembly and Mounting



5. Drill an additional 10-mm ($^{7}/_{16}$") hole for the cable.

   When installing the unit on a metallic surface, cover the inside of the hole with a grommet or electrical tape.
6. Do one of the following:
   - When operating the unit as a reader, route the unit's interface cable to the access controller.
   - When operating the unit as a secured controller, route the unit's interface cable to the PS-Ax5T/TU or PS-Cx5T/TU power supply.

   Rosslare recommends using a regulated linear power supply.
7. Screw the back plate into the surface. Ensure the screws are the size specified on the installation template.

It is also possible to mount the unit using any strong epoxy glue.
Apply the glue and then hold the unit's back plate firmly in place until the glue dries.

8. Re-attach the unit's front cover.

3.2 Wiring Instructions

The unit is supplied with a 41-cm (16") pigtail, having a 10-conductor cable.

To connect the unit to the controller:

1. Prepare the unit's cable by cutting the cable jacket back 3.2 cm (1¼") and stripping the wire 1.3 cm (½").
2. Prepare the controller cable by cutting the cable jacket back 3.2 cm (1¼") and stripping the wire 1.3 cm (½").
3. Splice the unit's pigtail wires to the corresponding controller wires and cover each connection.

Refer to Table 1 and to the wiring diagrams provided on the following pages (Figure 2 through Figure 6).

Table 1: Wire Colors

Controller	Reader	Color	Functionality
5~16 VDC	5~16 VDC	Red	+DC Input
Shield/Ground	Shield/Ground	Black	Ground
C1	Data 1	White	Communication
C2	Data 0	Green	Communication
LED_CTL	LED_CTL	Brown	Auxiliary Input
Tamper	Tamper	Purple	Tamper
Tx	Tx	Blue	RS-232 Transmit
Rx	Rx	Grey	RS-232 Receive
Ground	Ground	Orange	RS-232 Ground
N/A	N/A	Yellow	N/A

4. If the tamper output is used, connect the purple wire to the correct input on the controller when used as reader, or to the zone input of an intruder alarm system when used as a controller.
5. Trim and cover all unused conductors.

- The individual wires from the unit are color-coded according the Wiegand standard.
- When using a separate power supply for the unit, this supply and that of the controller must have a common ground.
- The unit's cable shield wire should preferably be attached to an earth ground, a signal ground connection at the panel, or the power supply end of the cable. This configuration is best for shielding the unit cable from external interference.

Note

Actual wiring should be according to the power supply's terminal blocks; all figures in this section are schematic for reference only.

Figure 2: Wiring Diagram and Schematic for the AYC-W6500

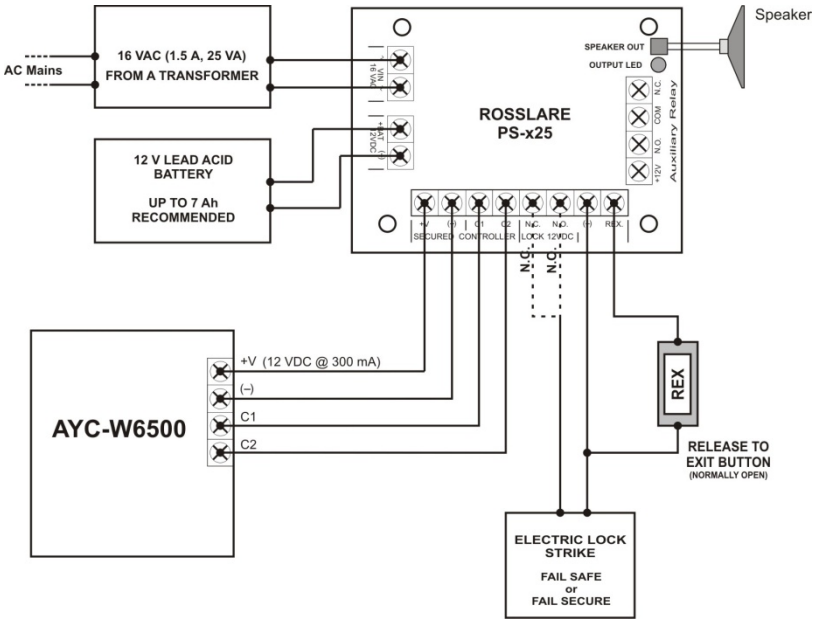


Figure 3 shows the auxiliary output connection using the internal power.

Figure 3: Auxiliary Output Connection with Internal Power

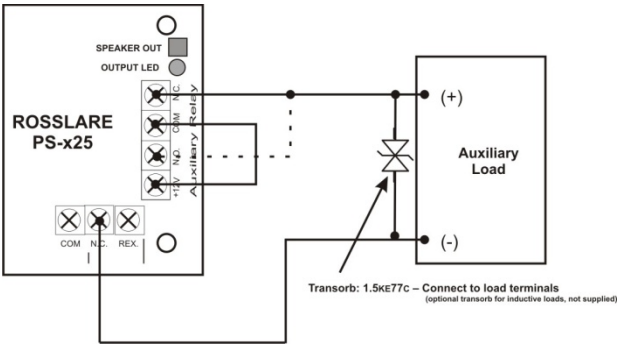


Figure 4 shows the auxiliary output connection using external power.

Figure 4: Auxiliary Output Connection with External Power

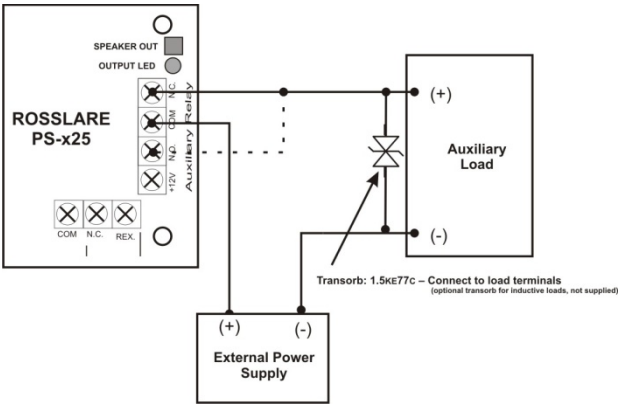


Figure 5 shows the wiring for the reader application.

Figure 5: Wiring for Reader Application

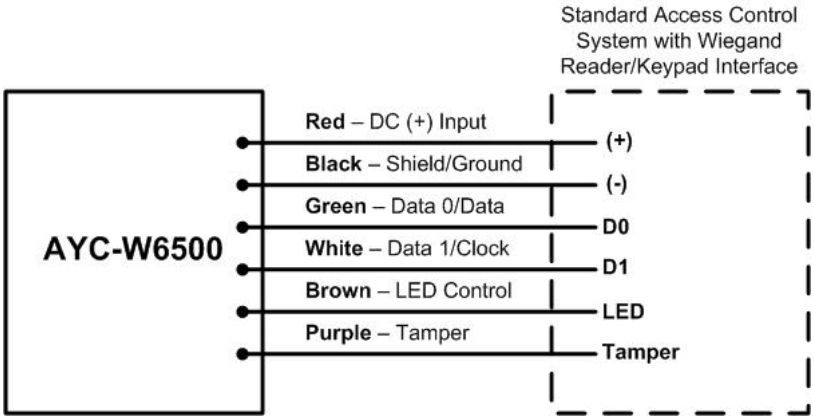
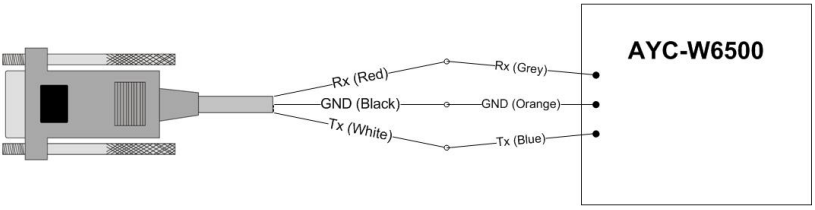


Figure 6 shows the wiring for to a PC using the RS-232 cable.

Figure 6: PC Connection Using RS-232 Cable

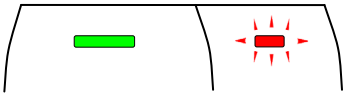


4. Reader Functionality

The AYC-W6500 series can function both as a reader and as a controller. When the unit is connected to a standard access controller, it functions as a reader. When the unit is reset and is operating as a reader, it generates one beep. The keypad can be programmed to output four different data formats.

The AYC-W6500 has two LEDs: the red LED indicates the status of the unit and the green LED indicates the status of the fingerprint reader.

Figure 7: Unit Status LED and the Fingerprint Reader LED



This chapter explains how the AYC-W6500 functions as a reader.

4.1 Modes of Operation

The AYC-W6500 has two modes of reader operation:

- Normal mode
- Secure mode

4.1.1 Normal Mode

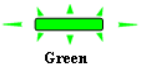
In Normal mode, the Status LED is red.

Normal mode is the default mode. In Normal mode, the door is locked until a PIN code or card and the user's finger is presented to the unit.

To use the unit in Normal mode:

1. Present your proximity card or enter the PIN code.

   The Fingerprint LED flashes green.

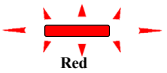


2. Place your finger on the sensor for verification.

   If your fingerprint details are not found in the unit, the Fingerprint Reader LED flashes orange.

4.1.2 Secure Mode

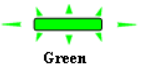
In Secure mode, the Status LED flashes red.



To use the unit in Secure Mode:

1. Present your proximity card.

   The Status LED flashes green for 10 seconds.



2. While the Status LED is flashing, enter the PIN code.

   The Status LED stops flashing and stays lit.

   The Fingerprint LED flashes green.

3. Place your finger on the sensor for verification.

   If your fingerprint details are found in the unit, the Fingerprint LED turns green.

   If your fingerprint details are not found in the unit, the Fingerprint LED flashes orange.

4.1.3 Changing the Operation Mode

The unit can be easily toggled between Normal and Secure modes, directly from the keypad.

> Note: It is also possible to control the operation mode from the auxiliary input(see Section 4.3.7.3).

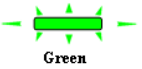
4.1.3.1 Changing from Normal Mode to Secure Mode

The default factory setting for Normal/Secure code is 3838.

To change from Normal mode to Secure mode:

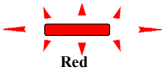
1. Enter the Normal/Secure code.

   The Status LED flashes green



2. Press **#** to confirm the mode change.

   The Status LED flashes red.



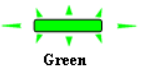
4.1.3.2 Changing from Secure Mode to Normal Mode

The default factory setting for Normal/Secure code is 3838.

To change from Secure mode to Normal mode:

1. Enter the Normal/Secure code.

   The Status LED flashes green



2. Press **#** to confirm the mode change.

   The Status LED turns red.

4.2 Enrolling a Fingerprint

Users must complete a one-time procedure to enroll their fingerprints.

To enroll fingerprints in Normal mode:

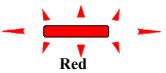
1. Present an enrolled proximity card or PIN code.

   The Fingerprint LED flashes orange.

2. Place the user's finger on the sensor.

   The unit sounds a short beep followed by an additional three short beeps.

   The fingerprint reader LED flashes red.



3. Place the user's finger on the sensor again.

   The unit sounds a short beep.

   The Fingerprint LED turns off.

   The unit sounds three short beeps to indicate that the fingerprint has been successfully enrolled.

   If the fingerprint was not successfully enrolled, the unit sounds a single long beep. Repeat the process from the beginning.

To enroll fingerprints in Secure mode:

1. Present an enrolled proximity card.

   The Status LED flashes green.

2. Enter the PIN code of the same user.

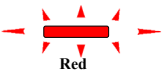
   The Status LED turns green.

   The Fingerprint LED flashes orange.

3. Place the user's finger on the sensor.

   The unit sounds a short beep followed by an additional three short beeps.

   The Fingerprint LED flashes red.



4. Place the user's finger on the sensor again.

   The unit sounds a short beep.

   The fingerprint reader LED turns off.

   The unit sounds three short beeps to indicate that the fingerprint has been successfully enrolled.

   If the fingerprint was not successfully enrolled, the unit sounds a single long beep. Repeat the process from the beginning.

4.3 Programming the AYC-W6500

Programming of the AYC-W6500 is performed solely via the unit's keypad, using a built-in Programming Menu System.

To reach the Programming Menu System, first place the AYC-W6500 into Programming mode. See Section 4.3.1.1 for more information.

4.3.1 Programming Menu

During manufacturing, certain codes and settings are pre-programmed into the unit. These settings are referred to here as default factory settings.

Table 2 lists all the available AYC-W6500 menus.

Table 2: Programming Menu

Default Factory Settings are marked by a *.

Menu Description		Default			
		4 digits	5 digits	6 digits	4–8 digits
1	**Selecting PIN Codes Transmission Format** 0. Multiple keys, Wiegand 26-Bit 1. Single Key, Wiegand 6-Bit (Rosslare Format) * 2. Single Key, Wiegand 6-Bit 3. Single Key, Wiegand 8-Bit				
2	**Selecting Card Transmission Format** 1. Wiegand 26-Bit * 2. Clock & Data				
3	**Changing Programming Code**	1234	12341	123412	12341234
4	**Setting Secure Mode Code**	3838	38383	383838	38383838

Menu Description		Default			
		4 digits	5 digits	6 digits	4–8 digits
5	**Changing the Facility Code**				
6	**General Settings**	0004			
	Set Lockout	4000			
	Keypad Backlight Options	5000			
	Auxiliary Input (LED_CTL) Toggles Operation Mode	2100			
	Auxiliary Input (LED_CTL) sets LED to Green	2800			
	Auxiliary Input (LED_CTL) controls buzzer	2900			
	Fingerprint Enrollment enabled(default setting)	7011			
	Fingerprint Enrollment disabled	7012			
7	**Enrolling PIN Code**				
8	**Deleting PIN Code**				
0	**Return to Factory Default and Set PIN Code Length** 0 – 4-digit PIN code * 5 – 5-digit PIN code 6 – 6-digit PIN code 8 – 4- to 8-digit PIN code				

4.3.1.1 Entering Programming Mode

The Programming mode allows the user to control how the AYC-W6500 behaves and to set operation preferences.

It is not possible to program the unit while it is operating in Secure mode.

To enter Programming mode:

1. Press **#** twice.

   The Status LED flashes orange.

2. Enter your programming code.

   If the programming code is valid, the Status LED turns orange.

   The AYC-W6500 is now in Programming mode.

Note

The factory default programming code is 1234.

If a programming code is not entered within 60 seconds, the AYC-W6500 returns to Transmit mode.

4.3.1.2 Exiting Programming Mode

To exit Programming mode:

1. Press **#** key twice.

   The unit sounds three short beeps.

   The Status LED turns red. 

   The AYC-W6500 has now returned to Normal Access mode.

4.3.2 Selecting the Keypad Transmission Format

The AYC-W6500 can operate using any one of four different keypad transmission formats. The keypad transmission format is set in Menu 1.

Note

Only one keypad transmission format can be active at any time.

To select the Keypad Transmission format:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **1** to enter **Menu 1**.
3. Enter the appropriate option number for the keypad transmission format that you wish to select (Section 4.3.2.1).

   If an incorrect option number is entered, the reader returns to Normal Access mode and the keypad transmission format remains unchanged.

   See below for more information on the keypad transmission formats.

4.3.2.1 Keypad Transmission Format Option Number

See the table below to determine the option number for the Keypad Transmission Format you wish to select. Keys are transmitted only after the fingerprint is verified and not after each key press.

Keypad Transmission Format	Option Number
Multiple keys, Wiegand 26-Bit	0
Single keys, Wiegand 6-Bit Rosslare format	1*
Single keys, Wiegand 6-Bit	2
Single keys, Wiegand 8-Bit	3

* Option 1 is the default factory setting.

More information on each of the different keypad transmission formats is available in the following subsections.

4.3.2.2 Option 0: Multiple Keys, Wiegand 26-Bit

Option 0 is invalid if the PIN code length has been set to the 4–8 characters option (programming menu 0-8).

The number of keys and frame contents sent with each key press depends on the PIN code length and on the Facility Code settings.

- PIN Code 4 Keys – PIN Code and Facility Code

Bit 1	Even Parity	Bit 10	MSB bit of PIN Hex value
Bit 2-9	Facility Code	Bit 25	LSB bit of PIN Hex value
Bit 10-25	PIN code Hex value	Bit 26	Odd Parity

The PIN number range is 0000 to 9999 (270Fh).

- PIN Code 5 Keys – PIN code and Facility Code

Bit 1	Even Parity	Bit 10	MSB bit of PIN Hex value
Bit 2-9	Facility Code	Bit 25	LSB bit of PIN Hex value
Bit 10-25	PIN code Hex value	Bit 26	Odd Parity

The maximum PIN code is 65535 (0FFFFh). A higher PIN code is not transmitted.

- PIN Code 6 Keys – The PIN code is sent as entered

Bit 1	Even Parity	Bit 14–17	4th digit of PIN
Bit 2-5	1st digit of PIN	Bit 18–21	5th digit of PIN
Bit 6-9	2nd digit of PIN	Bit 22–25	6th digit of PIN
Bit 10-13	3rd digit of PIN	Bit 26	Odd Parity

The PIN number range is 000000 to 999999 (0F423Fh)

- PIN Code 4–8 Keys – Not a valid setting

4.3.2.3 Option 1: Single Key, Wiegand 6-Bit (Rosslare Format)

Transmission of 4 bits with 2 parity bits added occurs after fingerprint verification, with a delay of 50 ms between each number transmitted.

The first bit is even parity, and set based on bits 2 and 3.

The sixth bit is odd parity, and set based on bits 4 and 5.

0= 1 1010 0 ="A" in Hexadecimal	6 = 1 0110 0
1 = 0 0001 0	7 = 1 0111 1
2 = 0 0010 0	8 = 1 1000 1
3 = 0 0011 1	9 = 1 1001 0
4 = 1 0100 1	* = 1 1011 1 ="B" in Hexadecimal
5 = 1 0101 0	# = 0 1100 1 ="C" in Hexadecimal

- PIN Code 4 keys – 4 Wiegand 6-bit frames, s entered
- PIN Code 5 keys – 5 Wiegand 6-bit frames, 5 digits entered

- PIN Code 6 keys – 6 Wiegand 6-bit frames, 6 digits entered
- PIN Code 4–8 keys – 4 to 7 Wiegand 6-bit frames, 4–7 keys entered
  or, 8 Wiegand 6-bit frames, 8 keys entered, followed by **#**

4.3.2.4 Option 2: Single Key, Wiegand 6-Bit with Parities

Transmission of 4 bits with 2 parity bits added occurs after fingerprint verification, with a delay of 50 ms between each number transmitted.

The first bit is even parity, and set based on bits 2 and 3.

The sixth bit is odd parity, and set based on bits 4 and 5.

0 = 0 0000 1	6 = 1 0110 0
1 = 0 0001 0	7 = 1 0111 1
2 = 0 0010 0	8 = 1 1000 1
3 = 0 0011 1	9 = 1 1001 0
4 = 1 0100 1	* = 1 1010 0 = "A" in Hexadecimal
5 = 1 0101 0	# = 1 1011 1 = "B" in Hexadecimal

"*****"and "**#**"are not sent

- PIN Code 4 Keys – 4 Wiegand 6-bit frames, s entered
- PIN Code 5 Keys – 5 Wiegand 6-bit frames, 5 digits entered
- PIN Code 6 Keys – 6 Wiegand 6-bit frames, 6 digits entered
- PIN Code 4–8 Keys – 4 to 7 Wiegand 6-bit frames, 4–7 keys entered
  or, 8 Wiegand 6-bit frames, 8 keys entered, followed by **#**.

4.3.2.5 Option 3: Single Key, Wiegand 8-Bit Complemented

Transmission of 4 bits complementing the value of the key pressed sent in Wiegand 8-bit frames occurs after fingerprint verification in several frames 50 ms apart, the number of frames depend on the PIN code length.

0 = 1111 0000	6 = 1001 0110
1 = 1110 0001	7 = 1000 0111
2 = 1101 0010	8 = 0111 1000
3 = 1100 0011	9 = 0110 1001
4 = 1011 0100	* = 0101 1010
5 = 1010 0101	# = 0100 1011

"*****"and "**#**"are not sent

- PIN Code 4 Keys – 4 Wiegand 8-bit frames, s entered
- PIN Code 5 Keys – 5 Wiegand 8-bit frames, 5 digits entered
- PIN Code 6 Keys – 6 Wiegand 8-bit frames, 6 digits entered
- PIN Code 4–8 Keys – 4 to 7 Wiegand 8-bit frames, 4–7 keys entered
  or, 8 Wiegand 6-bit frames, 8 keys entered, followed by **#** key

4.3.3 Selecting Proximity Card Transmission Format

The AYC-W6500 has two proximity card transmission formats. The card transmission format is set in Menu 2.

Follow the steps below to select the appropriate Proximity Card reader transmission format you wish to use.

To select a proximity card transmission format:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **2** to enter **Menu 2**.
3. Enter the appropriate option number for the proximity card transmission format you wish to select:
   - Option 1: Wiegand 26-Bit
   - Option 2: Clock & Data

   The unit sounds three beeps.

   The system returns to Normal Access mode.

   If an incorrect option number is entered, the reader returns to Transmit mode and remains unchanged.

4.3.4 Changing the Programming Code

The programming code is used to enable programming the reader. The programming code is set in Menu 3.

To change the programming code:

1. Enter Programming mode (Section 4.3.1.1).
2. Press **3** to enter **Menu 3.**
3. Enter the new code you wish to set as the programming code.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

4.3.5 Changing the Secure Code

The Secure Code is used to switch from Normal mode to Secure Access mode. The Secure Code is set in Menu 4.

- The programming code cannot be erased. The code 0000 is not valid and does not delete the programming code.
- The factory default programming code is 1234.
- It is recommended to change the default programming code.

To change the Secure code:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **4** to enter **Menu 4**.
3. Enter the new code you wish to set as the Secure code.

   The unit sounds three beeps.

The system returns to Normal Access mode.

The default Secure code is 3838.
This code can be erased by entering the PIN code value 0000.

4.3.6 Changing the Facility Code

This code is used only by PIN codes that are transmitted in multiple keys formats. It is inserted in the MSB byte of the transmitted data, one bit following the leading parity bit.

The default Facility Code is 000.

The facility code is set in Menu 5.

To change the Facility code:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **5** to enter **Menu 5**.
3. Enter the new code number between 0–255 that you wish to set as the Facility code.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

4.3.7 General Unit Settings

General settings and preferences for how the unit operates are set in Menu 6.

4.3.7.1 Setting the Backlight

The keypad backlight can be set to always on, always off or can be switched on for 10 seconds after a key is pressed. The default is Always On.

By default, the backlight is set to Always Off (code 5000).

To set the Keypad Backlight Mode:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Construct the code using the instructions below:

Digit 1	Digit 2	Digit 3	Digit 4
5	Option: • **0 :** always off • **1 :** always on • **2 :** lit for 10secs after the first key is pressed	Any number	Any number


Note

In Secure mode, Option 2 turns the keypad backlight on whenever a user presents a card.

The unit sounds three beeps.

The system returns to Normal Access mode.

4.3.7.2 Setting Lockout

Lockout is intended to stop users from guessing the unit's programming code.

When the programming code is entered incorrectly too many times, the keypad locks and cannot be used for a set period of time. The number of tries and the lockout duration are set in the lockout menu.

To set the Keypad Lockout preferences:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Enter code according to the following:

Digit 1	Digit 2	Digit 3	Digit 4
4	**1–9** sets the number of consecutive wrong code attempts before a lockout occurs. **0** deactivates the Lockout function.	**0–99** sets the lockout duration in seconds, divided by a factor of ten. Example: A value of "**20**" sets the lockout duration at 200secs. When a lockout is triggered, the unit does not function for this period of time.	

The unit sounds three beeps.

The system returns to Normal Access mode.

4.3.7.3 Controlling Operation by Auxiliary Input (LED_CTL)

When set, the unit can be toggled between Normal mode and Secure mode using the Auxiliary input, "LED_CTL".

Alternatively, it is possible to control the unit's Status LED or the buzzer from the LED_CTL input. When the LED_CTL input is set, the LED turns green or the buzzer sounds.

To control the unit via the LED_CTL auxiliary input:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Press **2.**

4. Choose one of the following:
   - **1** to toggle the operation mode between Normal and Secure by the LED_CTL Input.
   - **8** to control the Status LED by the LED_CTL Input.
   - **9** to control the buzzer by the LED_CONTROL Input.
5. Press any two keys to complete the code.

   The system returns to Normal Access mode.

   The unit sounds three beeps.

4.3.7.4 Enabling and Disabling Fingerprint Enrollment

By default, when users present their proximity card or enter their PIN code for the first time, the AYC-W6500 automatically requests and enrolls the each user's fingerprint.

For increased security, it is possible to disable automatic fingerprint enrollment.

To set fingerprint enrollment operation:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Enter **7 0 1**.
4. To disable fingerprint enrollment, press **2**.
5. To re-enable fingerprint enrollment, press **1**.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

4.3.8 Adding and Removing Users from the Reader

The AYC-W6500 maintains an internal database of all the users who may access the unit.

Each user's information is associated with a user slot number. Each user slot number may contain the user's Card code, PIN code and fingerprint details.

There are two ways of finding users within the unit's database:

- Standard method

  You can manage both Card and PIN codes using the Standard method.

  You must already know the user slot number for the user whose details you wish to add.
- Code Search method

  You can search for users by a current card ID or PIN code using the Code Search method.

  Use this method when the user slot code is unknown and you have already assigned the user at least one card or PIN code.

4.3.8.1 Enrolling Users by Card and PIN Code

Every user may be assigned a proximity card ID, a PIN code ID, and one fingerprint record.

Card and PIN code IDs are added in the unit's Programming mode.

Enroll cards and PIN codes using either the Standard method or the Code Search method.

To enroll cards and codes with the Standard Method:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **7** to enter **Menu 7.**

   The Status LED turns green.

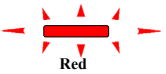
3. Enter a 3-digit User Slot number between 001 and 500 to which you wish to enroll a primary or secondary code.

   For example, User Slot 003 represents User #3.

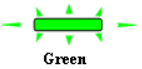
   If the selected slot has no code, the Status LED flashes orange, indicating that the controller is ready to accept the first ID.

   If the selected slot already has a Card ID but no PIN code, the Status LED flashes red, indicating that the unit is ready to accept a PIN code.

   If the selected slot already has a PIN code ID but no Card ID, the Status LED flashes green, indicating that the controller is ready to accept a card ID.

   If the selected slot already has both a Card ID and PIN code, the unit sounds a long beep and the controller must return to the beginning of Step 3.

4. Add a new ID (Card or PIN code) for this slot number.

   If the PIN code is valid, the Status LED stops flashing but stays green.

   The unit waits for the next 3-digit slot number. A card or PIN code can then be assigned to this new slot.

5. When you are finished enrolling codes, press **#** twice.

   The unit returns to Normal Access mode.

To enroll cards and codes with the Code Search method:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **7** to enter **Menu 7.**

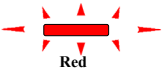
   The Status LED turns green.

3. Enter the 3-digit user slot number 000.

   The Status LED flashes orange.

4. Enter the user ID (Card or PIN Code).

   If the card presented exists, the Status LED flashes red.



   If the PIN Code entered exists, the Status LED flashes green.

   If the ID does not exist in the system or if the second ID is already enrolled, the unit sounds a long beep. Repeat Step 4 from the beginning.

5. Enter the second ID (Card or PIN code, depending on which was the first ID).

   If the second ID is valid the Status LED flashes orange.

6. To enter more IDs, return to Step 4.
7. Press **#** twice to exit Programming mode.

   If the second ID is invalid, the unit sounds a long beep. The AYC-W6500 continues to wait for a valid ID to be entered.

   If the second ID is of the same type (PIN-PIN/Card-Card), the unit sounds a short beep. The AYC-W6500 continues to wait for a valid ID to be entered.

4.3.9 Deleting Users

Users can be deleted using the Standard and the Code Search method.

Deleting a user erases all IDs of that user – card ID, PIN ID and Fingerprint template.

To delete codes with the Standard Method:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **8** to enter **Menu 8.**

   The Status LED turns green.

3. Enter the 3-digit user slot code you wish to delete.

   If the user slot is empty, the unit sounds a long beep. The AYC-W6500 continues to wait for a valid user slot number.

   If the user slot exists, the Status LED flashes green.

4. Enter your programming code to confirm the deletion.

   The unit sounds three short beeps and the AYC-W6500 returns to Normal Access mode.

   If the programming code is invalid, the unit sounds a long beep and the AYC-W6500 returns to Normal Access mode.

Rosslare recommends that you maintain a written record of added and deleted users. This makes it easier to track and manage which user slots are in use.

To delete user codes with the Code Search Method:

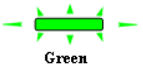
1. Enter Programming mode (see Section 4.3.1.1).
2. Press **8** to enter **Menu 8.**
3. Enter the 3-digit user slot number **000**.

   The Status LED flashes orange

4. Present the user's card or enter the user's PIN code

   If the card or PIN code is not found, the unit sounds a long beep. Present a different card or enter a different PIN code.

   If the card or PIN code you entered is found, the Status LED flashes green.



5. Enter your programming code to confirm the deletion.

   If the programming code is valid, the unit sounds three beeps and the AYC-W6500 returns to Normal Access mode.

   If the programming code is invalid, the unit sounds a long beep and the AYC-W6500 returns to Normal Access mode

4.3.10 PIN Code Length/Factory Default Settings

Use this command to erase all user codes, reset all operation codes to their factory settings and to specify a new PIN code length.

Any user codes, PIN codes or fingerprints that have already been stored in the system are permanently erased.

Warning

Use this function with extreme care!
This function erases the unit's memory entirely and resets all codes to their factory default settings.

Note

Option 8, setting length to 4–8 digits, is invalid if the Multiple keys, Wiegand 26-bit option of transmission format (1-0) is selected.

To set PIN code length and reset to factory default settings:

1. Enter Programming mode (see Section 4.3.1.1).
2. Select the desired PIN code length as follows:
   - 00 – Returns to factory defaults and sets a 4-digit code
   - 05 – Returns to factory defaults and sets a 5-digit code
   - 06 – Returns to factory defaults and sets a 6-digit code
   - 08 – Returns to factory defaults and sets a 4- to 8-digit code

Note: When choosing the 4- to 8-digit option, you can either enter zeros before the code, or press pound at the end (for example if code is 12345**, enter either** 00012345 **or** 12345#**).**

3. The Status LED flashes green.

4. Enter your programming code.

   If the programming code is valid, all memory is erased. The unit sounds three beeps and the controller returns to Normal Access mode.

   If the programming code is invalid the unit sounds a long beep and the controller returns to Normal Access mode without erasing the memory of the controller.

Note

The programming code cannot be deleted. For example, 0000 is invalid and does not delete the programming code.

4.3.11 Replacing a Lost Programming Code

In the event that the programming code is forgotten, the unit may be reset after installation.

To reset the Programming code:

1. Disconnect the unit from its power supply.
2. Activate the tamper sensor by removing the reader from the wall or removing the reader's case.
3. Reconnect the reader to the power supply.
4. You have 10 seconds to enter Programming mode using the factory default programming code 1234.

5. Controller Functionality

The AYC-W6500 can function both as a reader and as a controller. If the unit is connected to a Rosslare PS-Ax5T/TU or PS-Cx5T/TU intelligent power supply, or others, it functions as a controller. This is indicated by two short beeps on power-on reset.

For increased security and to prevent unauthorized access, the Lock output, Request to Exit input and the auxiliary input and output are not located on the AYC-W6500 unit. Instead, these functions are controlled via the PS-Ax5T/TU or PS-Cx5T/TU intelligent power supply.

The unit's auxiliary LED_CTL input and the auxiliary relay (located on the PS-Ax5T/TU or PS-Cx5T/TU) can be programmed for various auxiliary operations modes to achieve maximum flexibility in various installation conditions.

This chapter explains how the AYC-W6500 series functions as a controller.

5.1 Introduction

The AYC-W6500 accepts up to 500 users and provides entry via the use of PIN codes and/or Proximity cards after fingerprint verification.

Each user's information is associated with a user slot number. Each user slot number may contain the user's Card code, PIN code, and fingerprint details.

The PIN code length can be a set number of 4, 5, or 6 digits or it can be variable length of 4–8 digits.

When choosing the 4- to 8-digit option, either enter zeros before the code, or press # at the end (example: for a code 12345, enter either **00012345** or **12345#)**.

5.2 Modes of Operation

The AYC-W6500 has two modes of operation:

- Normal mode
- Secure mode

5.2.1 Normal Mode

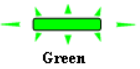
In Normal mode, the Status LED is red.

Normal mode is the default mode. In Normal mode, the door is locked until a PIN code or card and the user's finger is presented to the controller.

To use the unit in Normal mode:

1. Present your proximity card or enter the PIN code.

   The Fingerprint LED flashes green.

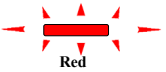


2. Place your finger on the sensor for verification.

   If your fingerprint details are not found in the unit, the Fingerprint Reader LED flashes orange.

5.2.2 Secure Mode

In Secure mode, the Status LED flashes red.



To use the unit in Secure mode:

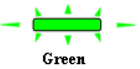
1. Present your proximity card.

   The Status LED flashes green for 10 seconds.

2. While the Status LED is flashing, enter the PIN code.

   The Status LED stops flashing and stays lit.

   The Fingerprint LED flashes green.



3. Place your finger on the sensor for verification.

   If your fingerprint details are found in the unit, the Fingerprint LED turns green.

   If your fingerprint details are not found in the unit, the Fingerprint LED flashes orange.

5.2.3 Changing the Modes of Operation

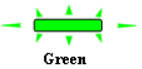
The unit can be easily toggled between Normal and Secure modes, directly from the keypad.

5.2.3.1 Changing from Normal Mode to Secure Mode

The default factory setting for the Normal/Secure code is 3838.

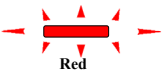
1. Enter the Normal/Secure code.

   The Status LED flashes green



2. Press **#** to confirm the mode change.

   The Status LED flashes red.

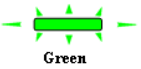


5.2.3.2 Changing from Secure Mode to Normal Mode

The default factory setting for Normal/Secure code is 3838.

1. Enter the Normal/Secure code.

   The Status LED flashes green



2. Press **#** to confirm the mode change.

   The Status LED turns red.

5.3 Enrolling a Fingerprint

Users must complete a one-time procedure to enroll their fingerprints.

To enroll fingerprints in Normal mode:

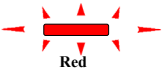
1. Present an enrolled proximity card or PIN code.

   The Fingerprint LED flashes orange.

2. Place the user's finger on the sensor.

   The unit sounds a short beep followed by an additional three short beeps.

   The fingerprint reader LED flashes red.



3. Place the user's finger on the sensor again.

   The unit sounds a short beep.

   The Fingerprint LED turns off.

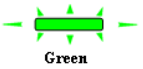
   The unit sounds three short beeps to indicate that the fingerprint has been successfully enrolled.

   If the fingerprint was not successfully enrolled, the unit sounds a single long beep. Repeat the process from the beginning.

To enroll fingerprints in Secure mode:

1. Present an enrolled proximity card.

   The Status LED flashes green.



2. Enter the PIN code of the same user.

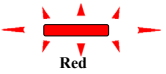
   The Status LED turns green.

   The Fingerprint LED flashes orange.

3. Place the user's finger on the sensor.

   The unit sounds a short beep followed by an additional three short beeps.

   The Fingerprint LED flashes red.



4. Place the user's finger on the sensor again.

   The unit sounds a short beep.

   The fingerprint reader LED turns off.

   The unit sounds three short beeps to indicate that the fingerprint has been successfully enrolled.

   If the fingerprint was not successfully enrolled, the unit sounds a single long beep. Repeat the process from the beginning.

5.4 Door Alarms

Door alarms can be generated by connecting the unit's auxiliary input (LED_CTL) to a Door Position Switch.

Both Door-Forced and Door-Ajar conditions are supported, with a configurable delay timer for each alarm type. Only one door alarm is enabled at any one time.

5.5 Case and Back Tamper

If the case of the controller is opened or the controller is removed from the wall, a tamper event is triggered and a coded tamper signal is sent to the secure power supply controller, or other compatible device, which activates the siren. In addition, another output is opened, which can be connected to another device or alarm system, as necessary.

Clear the tamper event by entering a valid Employee or Test Code that opens the Lock Strike Output in the current mode of operation.

For example, while in Secure mode, using the test codes to clear a tamper event does not work because the test codes do not work in Secure mode. However, applying a Secure Code clears the tamper event in Secure mode.

5.6 REX Function

The REX button is connected to the PS-Cx5T/TU or PS-Ax5T/TU intelligent power supply unit. The REX button is used to open the door without the use of a PIN code and must be located inside the secured premises.

For example, a REX button may be located inside the door or at a receptionist's desk, where authorized personnel can grant entry to visitors.

The function of the REX button depends on whether the Lock output is programmed for Fail Secure Operation or Fail Safe Operation.

- Fail Secure Operation: From the moment the REX button is pressed, the door is unlocked until the Lock output Release Time has passed. After this time, the door re-locks even if the REX button has not been released.
- Fail Safe Operation: From the moment the REX button is pressed, the door is unlocked. When the REX button is released, the controller waits a for the duration set as the Lock Output Release Time, and then re-locks.

5.7 PS-Ax5T/TU or PS-Cx5T/TU Units

The AYC-W6500 must be used with the PS-Cx5T/TU or PS-Ax5T/TU intelligent power supplies, which provide Lock output and REX input.

The supplies include a speaker for bell and siren functionality. The unit signal from the keypad used for the bell is also used for the door opened chime.

Both units communicate through a proprietary Rosslare protocol, which provides a secure link between the controller and the power supply unit. This in turn activates the door unlocking. For more information, see the PS-Cx5T/TU or PS-Ax5T/TU manuals.

5.8 Programming the AYC-W6500

Programming the AYC-W6500 is performed solely via the unit's keypad, using a built-in Programming Menu System.

To reach the Programming Menu System, first place the AYC-W6500 into Programming mode.

During manufacturing, certain codes and settings are pre-programmed into the unit. These settings are referred to here as default factory settings.

The table below lists all the available AYC-W6500 menus. It also shows of all the AYC-W6500's default factory codes and settings.

5.8.1 Programming Menu

Menu No.	Menu Description	Default			
		4 digits	5 digits	6 digits	4–8 digits
1	Changing the Test Code	2580	25802	258025	25802580
2	Auxiliary Test (Open Code 2)	0852	08520	085208	08520852
3	Changing Program Code	1234	12341	123412	12341234
4	Changing Normal/Secure Code	3838	38383	383838	38383838
6	Setting Fail Secure/Safe Lock Output, Siren and Lock output Release time	0004			
	Settings Auxiliary Modes and Alarms	2004			
	Set Lockout	4000			
	Keypad Backlight Options	5000			
	Chime Settings	6000			
	Enable Fingerprint Enrollment	7011			
	Disable Fingerprint Enrollment	7012			
7	Enrolling PIN Code				
8	Deleting PIN Code				
9	Open Lock				
	Open Auxiliary				
	Open Lock and Auxiliary				
0	Return to factory defaults/Change PIN code Length	0			

You will find a complete description and instructions for each of the above menu items in the following subsections.

5.8.1.1 Entering Programming Mode

1. Press **#** twice.

   The Status LED flashes orange.

2. Enter your programming code.

   If the programming code is valid, the Status LED turns orange.

   The AYC-W6500 is now in Programming mode.

Note

The factory default programming code is 1234.

If a programming code is not entered within 60 seconds, the AYC-W6500 returns to Transmit mode

5.8.1.2 Exiting Programming Mode

1. Press **#** twice.

   The unit sounds three short beeps.

   The Status LED turns red. 

   The AYC-W6500 has now returned to Normal Access mode.

5.8.2 Changing the Lock Test Code (Testcode1)

The Lock Test Code is an override code that opens the Lock output. It is intended for use during the initial installation of the unit.

When the first user is enrolled into the controller, the default Test Code is automatically deleted. If the code is programmed again, it is not deleted with the entry of additional user codes.

After the first user is enrolled and the default test code is automatically deleted, the original (default) Test Code cannot be re-programmed.

Note

- The Lock Test Code does not operate work in Secure mode.
- Wrong entries return the controller to Normal mode.
- Code 0000 erases the Test Code.
- The Default Test Code is 2580

To change the lock test code (Testcode1):

1. Enter Programming mode (see Section 4.3.1.1).

   The Status LED turns orange. 

2. Press **1** to enter **Menu 1.**

   The Status LED turns green. 

3. Enter the new code you wish to set as the Lock Test Code.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

5.8.3 Auxiliary Open Code Settings (Testcode2)

The Auxiliary Open Code activates the auxiliary output. This allows users to test the unit during initial install, or after modifications.

The default auxiliary open code is 0852. Entering an incorrect Auxiliary Open returns the controller to Normal mode.

The Testcode2 Auxiliary Open Code is not deleted by the system. The Auxiliary Open Code does not apply in some auxiliary modes. See Section 5.8.7 for more information.

Note

Code 0000 erases the Auxiliary Code.

This code is not active in Secure mode or in certain modes programmed by menu 6-2XXX

To set the Auxiliary Open Code:

1. Enter Programming mode (see Section 5.8.7).

   The Status LED turns orange. 

2. Press **2** to enter **Menu 2.**

   The Status LED turns green. 

3. Enter the new code you wish to set as the Auxiliary Open Code.

   The system returns to Normal Access mode.

5.8.4 Changing the Programming Code

The programming code is used to enable programming the controller.

Note

- The programming code cannot be erased. The code 0000 is not valid and does not delete the programming code.
- The factory default programming code is 1234.
- To ensure security, Rosslare recommends changing the default programming code.

To change the programming code:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **3** to enter **Menu 3.**

   The Status LED turns green. 

3. Enter the new code you wish to set as the Programming code.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

5.8.5 Changing the Secure Code

This code allows switching between Normal and Secure Access modes.

Note

- Code 0000 erases the Normal/Secure Code.
- This code is disabled when the Auxiliary Input is set to toggle between Normal and Secure Access modes.
- The default Normal/Secure code is 3838.

To change the secure code:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **4** to enter **Menu 4.**

   The Status LED turns green.

3. Enter the new code you wish to set as the Normal/Secure code.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

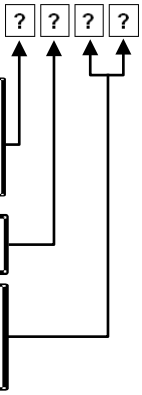
5.8.6 Setting Fail Safe/Secure Operation, Tamper Siren, and Lock Output Release Time

The unit operates in either Fail Safe or Secure modes.

In either mode, it is possible to program how long the siren sounds in the case of a tamper alert, and how long the lock output remains released.

To set the unit to Fail Safe or Secure mode:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Construct the code using the instructions below:



   First Digit

   For Fail Secure Operation the first digit should be **0.**

   For Fail Safe Operation the first digit should be **1.**

   Second Digit

   Siren Time in minutes (1-9, 0-disabled).

   Third and Fourth Digit

4. Enter the number of seconds (from 1 to 99) that you want the Lock to be released.

   For example, 0312 means Fail Secure Operation, a 2-minute Siren, and a 12 second Lock output release time.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

The default value is 0004, which corresponds to Fail Secure operation, no siren, and a 4-second Lock Output release time.

5.8.7 Setting Auxiliary Mode and Alarms

In addition to the Lock output and Lock REX, the AYC-W6500 features an Auxiliary Output and an Auxiliary Input. The Auxiliary mode defines the function of the Auxiliary Input and Output.

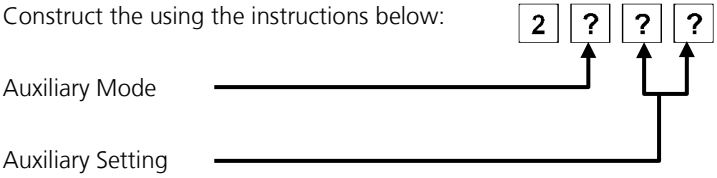
The AYC-W6500 can be set to use these inputs and outputs for a variety of functions.

5.8.7.1 Setting the Auxiliary Mode

The auxiliary mode must be set on the controller. In addition, the auxiliary input and/or output must be wired as necessary.

To set alarms and auxiliary:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Construct the using the instructions below:



Each of the Auxiliary modes has a two-digit setting that affects how the Auxiliary mode functions.

The second digit defines the Auxiliary function.

The third and fourth digits sometimes define delay times for door monitor functions; otherwise, they have no affect and can be set to any number.

The unit sounds three beeps.

The system returns to Normal mode.

5.8.7.2 Auxiliary Mode Operations

Table 3 presents a quick reference guide indicating the behavior of the auxiliary input and output in each auxiliary mode.

Table 3: Auxiliary Option Menu

Aux Mode	Auxiliary Input Behavior	Auxiliary Output Trigger	Settings
0	Closes Output	• Auxiliary input closes • Testcode2 entered • "Open Aux" user enters card or PIN code	Duration (sec) output closed (01-99). ("00" toggles output.)

Aux Mode	Auxiliary Input Behavior	Auxiliary Output Trigger	Settings
1	Toggles Controller between Normal and Secure modes.	• Testcode2 entered • "Open Aux" user enters card or PIN code	Duration (sec) output closed (01–99). (**00** toggles output.)
2	Toggles Controller between Normal and Secure modes.	Star button (*)	Duration (sec) output closed (01–99). (**00** toggles output.)
3	Toggles Controller between Normal and Secure modes.	Tamper event	Duration (sec) output open (01–99). (**00** sets output to tamper state.)
4	Toggles Controller between Normal and Secure modes.	• Testcode1 entered • "Open Aux" user enters card or PIN code	Duration (sec) output closed (01–99).
5	Normally, when input is opened, output also opens. After a trigger event, input has no effect for a set duration.	Door opened by valid card or PIN code and fingerprint.	Duration (sec) before output resets to match input (01-99).
6	Opens output after a set duration, if no valid door entry code registered	Input opened but no valid door entry code registered.	Duration (sec) output closed (01-99).
7	If input held open beyond a set duration, the auxiliary output opens	Auxiliary input closes	Duration (sec) output closed (01-99).
8	When input is closed, LED lights green	Auxiliary input closes	Duration (sec) output closed (01-99)
9	When input is closed, LED lights red	Auxiliary input closes	Duration (sec) output closed (01-99)

The following subsections present a detailed explanation of the auxiliary input and output behaviors in each of the controller's auxiliary modes.

Auxiliary Mode 0

Auxiliary Input behavior	When the auxiliary input is closed, it triggers the auxiliary output.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open.)
Auxiliary Output trigger	The auxiliary output is triggered by one of the following conditions: • The auxiliary input is closed • A user enters the auxiliary open code (Testcode1). • A user with Open Auxiliary status presents a valid card or PIN code and fingerprint (see Section 5.8.14)
Settings	Time in seconds that the auxiliary output remains closed (01-99). Setting **00** toggles the auxiliary relay.

Example Use:

Operate the controller as a two door controller. The door is opened by a valid code or by the REX control for the second door.

The auxiliary input is connected to a REX button for the second door.

The auxiliary output is connected to the lock on the second door.

Auxiliary Mode 1

Auxiliary Input behavior	When the auxiliary input is closed, the controller switches between Normal and Secure modes.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open.)
Auxiliary Output trigger	The auxiliary output is triggered by one of the following conditions: • A user enters the auxiliary open code (testcode2). • A user with Open Auxiliary status presents a valid card or PIN code and fingerprint (see Section 5.8.14)
Settings	Time in seconds that the auxiliary output remains closed (01-99). Setting **00** toggles the auxiliary relay.

Example Use:

Using the auxiliary input, allow a time switch or alarm system to automatically switch the controller between normal and secure modes.

The auxiliary input is connected to the alarm system.

Using the auxiliary output, operate the controller as a two-door controller. The door is opened by a valid code but there is no REX control for the second door.

The auxiliary output is connected to the lock on the second door.

Auxiliary Mode 2

Auxiliary Input behavior	When the auxiliary input is closed, the controller switches between Normal and Secure modes.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open.)
Auxiliary Output trigger	The auxiliary output is triggered when the star button (*) is pressed.
Settings	Time in seconds that the auxiliary output remains closed (01-99). Setting **00** toggles the auxiliary relay.

Example Use:

Using the auxiliary input, allow a time switch or alarm system to automatically switch the controller between normal and secure modes.

The auxiliary input is connected to the alarm system.

Using the auxiliary output, open the door using the star button (*).

The auxiliary output is connected to the lock on the door.

(In this mode, the auxiliary open code (Testcode2) and Open Auxiliary status users do not activate the auxiliary output.)

Auxiliary Mode 3

Auxiliary Input behavior	When the auxiliary input is closed, the controller switches between Normal and Secure modes.
Auxiliary Output behavior	When the auxiliary output is triggered, it opens for a set duration. (Auxiliary output is normally closed.)
Auxiliary Output trigger	The auxiliary output is triggered when the controller's tamper sensor is activated.
Settings	Time in seconds that the auxiliary output remains open (01-99). Setting **00** resets the auxiliary output to match the state of the tamper sensor.

Example Use:

Using the auxiliary input, allow a time switch or alarm system to automatically switch the controller between normal and secure modes.

The auxiliary input is connected to the alarm system.

Using the auxiliary output, inform an alarm system or sound a siren when the controller is tampered with.

The auxiliary output is connected to the siren or alarm system.

Auxiliary Mode 4

Auxiliary Input behavior	When the auxiliary input is closed, the controller switches between Normal and Secure modes.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open.)
Auxiliary Output trigger	The auxiliary output is triggered by one of the following conditions: • A user enters the auxiliary open code (testcode1). • A user with Open Auxiliary status presents a valid card or PIN code and fingerprint (see Section 5.8.14)
Settings	Time in seconds that the auxiliary output remains closed (01-99).

Example Use:

Using the auxiliary input, allow a time switch or alarm system to automatically switch the controller between normal and secure modes.

The auxiliary input is connected to the alarm system.

Using the auxiliary output, perform a direct shunt. When a user enters a valid code, the controller overrides the alarm system and unlocks the door.

When the direct shunt duration has completed, the alarm regains control of the door and raises an alarm if the door was left open.

The auxiliary output is connected in parallel with the alarm's door sensor output.

Auxiliary Mode 5

Auxiliary Input behavior	Normally, when the auxiliary input is opened, the auxiliary output also opens. When the input is closed, the output also closes. After a trigger event, the auxiliary input has no effect on the auxiliary output for a set duration.
Auxiliary Output behavior	Normally, when the auxiliary input is opened, the auxiliary output also opens. When the input is closed, the output also closes. When the auxiliary output is triggered, it closes for a set duration and is not affected by the state of the auxiliary input. After this duration, it returns to normal behavior. (Auxiliary output is normally closed.)
Auxiliary Output trigger	The auxiliary output is triggered when any user opens the door with a valid card or PIN code and fingerprint.
Settings	Time in seconds before the triggered auxiliary output resets to match the state of the auxiliary input (01-99).

Example Use:

Using the auxiliary input and output, perform a standard shunt. When a user enters a valid code, the controller overrides the alarm system and unlocks the door.

When the standard shunt duration has completed, the alarm regains control of the door and raises an alarm if the door was left open.

The auxiliary input is connected to the door sensor output.

The auxiliary output is connected to the alarm. (The alarm system is not connected directly to the door.)

Auxiliary Mode 6

Auxiliary Input behavior	If the auxiliary input is opened and no valid door entry code was entered, the auxiliary output opens after a set duration.
Auxiliary Output behavior	When triggered, the auxiliary output opens after a set duration. (Auxiliary output is normally closed.)
Auxiliary Output trigger	The auxiliary output is triggered if no valid door entry code was entered and the auxiliary input is opened.
Settings	Time in seconds before the auxiliary output opens (01-99).

Example Use:

Using the auxiliary input and output, detect if the door has been forced open.

If the door remains open after a set duration but no valid door entry code was entered, then the auxiliary output informs an alarm system or sounds a siren.

The auxiliary input is connected to the door sensor output.

The auxiliary output is connected to the alarm system.

Auxiliary Mode 7

Auxiliary Input behavior	When the auxiliary input is held open for more than a set duration, the auxiliary output opens.
Auxiliary Output behavior	When triggered, the auxiliary output opens after a set duration. (Auxiliary output is normally closed.)
Auxiliary Output trigger	The auxiliary output is triggered by the auxiliary input.
Settings:	Time in seconds before the auxiliary output opens (01-99).

Example Use:

Using the auxiliary input and output, detect if the door has been left open for too long.

If the door was opened with a valid code bur remains open beyond a set duration, the auxiliary output informs an alarm system or sounds a siren.

The auxiliary input is connected to the door sensor output.

The auxiliary output is connected to the alarm system.

Auxiliary Mode 8

Auxiliary Input behavior	When the auxiliary input is closed, the LED lights green.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open)
Auxiliary Output trigger	The auxiliary output is triggered by one of the following conditions: • A user enters the auxiliary open code (Testcode2). • A user with Open Auxiliary status presents a valid card or PIN code and fingerprint (see Section 5.8.14)

Settings	Time in seconds that the auxiliary output remains closed (01-99). Setting **00** toggles the auxiliary relay.

Example Use:

Using the auxiliary input, control the state of the controller's LED.

Using the auxiliary output, operate the controller as a two door controller. The door is opened by a valid code.

The auxiliary output is connected to the lock on the second door.

Auxiliary Mode 9

Auxiliary Input behavior	When the auxiliary input is closed, the LED lights green.
Auxiliary Output behavior	When the auxiliary output is triggered, it closes for a set duration. (Auxiliary output is normally open.)
Auxiliary Output trigger	The auxiliary output is triggered by one of the following conditions: • A user enters the auxiliary open code (testcode1). • A user with Open Auxiliary status presents a valid card or PIN code and fingerprint (see Section 5.8.14)
Settings	Time in seconds that the auxiliary output remains closed (01-99). Setting **00** toggles the auxiliary relay.

Example Use:

When connecting brown wire to GND the buzzer is activated.

Using the auxiliary output, operate the controller as a two door controller. The door is opened by a valid code.

The auxiliary output is connected to the lock on the second door.

5.8.8 Setting Lockout

Lockout is intended to stop users from guessing PIN codes.

When the programming code is entered incorrectly too many times, the keypad locks and cannot be used for a set period of time. The number of tries and the lockout duration are set in the lockout menu.

To set the keypad lockout preferences:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Enter code according to the following:

Digit 1	Digit 2	Digit 3	Digit 4
4	**1–9** sets the number of consecutive wrong code attempts before a lockout occurs. **0** deactivates the Lockout function.	**0–99** sets the lockout duration in seconds, divided by a factor of ten. Example: a value of **20** sets the lockout duration at 200secs. When a lockout is triggered, the unit does not function for this period of time.	

5.8.9 Setting the Backlight Behavior

The keypad backlight can be set to always on, always off or can be switched on for 10 seconds after a key is pressed. The default is always on.

To set the backlight behavior:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Construct the code using the instructions below:

Digit 1	Digit 2	Digit 3	Digit 4
5	Option: • **0 :** always off • **1 :** always on • **2 :** lit for 10secs after a key is pressed	Any number	Any number

In secure mode, Option 2 turns the keypad backlight on whenever a user presents a card.

The unit sounds three beeps.

The system returns to Normal Access mode.

5.8.10 Setting Chime

The chime can be turned on or off.

To enable or disable the chime:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Construct the code using the instructions below:

Digit 1	Digit 2	Digit 3	Digit 4
6	Option: • **0 :** always off • **1 :** always on	Any number	Any number

The unit sounds three beeps.

The system returns to Normal Access mode.

5.8.11 Enabling and Disabling Fingerprint Enrollment

When fingerprint enrollment is enabled, users are required to enroll their fingerprints the first time they present a card or enter an ID code. This is the default setting.

To ensure security, disable fingerprint enrollment after use. This prevents unauthorized persons enrolling their fingerprints using the cards of existing new users.

In addition, disable local fingerprint enrollment when using the unit with the AS-W6500 BioTrax software system. BioTrax manages fingerprint enrollment from its server computer.

To set fingerprint enrollment:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **6** to enter **Menu 6.**
3. Enter **7 0 1** to set fingerprint enrollment.
4. To enable fingerprint enrollment, press **1**
5. To disable fingerprint enrollment, press **2**.

   The unit sounds three beeps.

   The system returns to Normal Access mode.

5.8.12 Adding and Removing Users from the Reader

The AYC-W6500 maintains an internal database of all users who can access the unit.

Each user's information is associated with a user slot number. Each user slot number may contain the user's Card code, PIN code, and fingerprint details.

There are two ways of finding users within the unit's database:

- Standard method

  You can manage both Card and PIN codes using the Standard method.

  You must already know the user slot number for the user whose details you wish to add.

- Code Search method

  You can search for users by a current card ID or PIN code using the Code Search method.

  Use this method when the user slot code is unknown and you have already assigned the user at least one card or PIN code.

5.8.12.1 Enrolling Users by Card and PIN Code

Every user may be assigned a proximity card ID, a PIN code ID, and one fingerprint record.

Card and PIN code IDs are added in the unit's Programming mode.

Enroll cards and PIN codes using either the Standard method or the Code Search method.

To enroll cards and codes with the standard method:

To enroll IDs with the Standard Method, you must know a user's slot number.

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **7** to enter **Menu 7.**

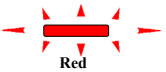
   The Status LED turns green.

3. Enter a 3-digit user slot number between 001 and 500 to which you wish to enroll a primary or secondary code.

   For example, User Slot 003 represents User #3.

   - If the selected slot has no Card ID code, the Status LED flashes orange, indicating that the controller is ready to accept the first ID.

   - If the selected slot already has a Card ID but no PIN code, the Status LED flashes red, indicating that the controller is ready to accept a PIN code.



   - If the selected slot already has a PIN code ID but no Card ID, the Status LED flashes green, indicating that the controller is ready to accept a card ID.

   - If the selected slot already has both a Card ID and PIN code, the unit sounds a long beep and the controller returns to the beginning of Step 3.

4. Add a new ID (Card or PIN code) for this slot number.

   If the PIN code is valid, the Status LED stops flashing and shines green.

   The unit waits for another the next 3-digit slot number. A card or PIN code can then be assigned to this new slot.

5. When you are finished enrolling codes, press **#** twice.

   The unit returns to Normal Access mode.

To enroll cards and codes (Code Search Method):

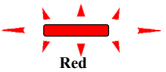
1. Enter Programming mode (see Section 4.3.1.1).
2. Press **7** to enter **Menu 7.**

   The Status LED turns green.

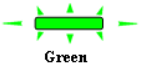
3. Enter the 3-digit user slot number **000**.

The Status LED flashes orange.

4. Enter the user ID (Card or PIN Code).
   - If the card presented exists, the Status LED flashes red.



   - If the PIN Code entered exists, the Status LED flashes green.



   - If the ID does not exist in the system or if the second ID is already enrolled, the unit sounds a long beep. Repeat Step **4** from the beginning
5. Enter the second ID (Card or PIN code, depending on which was the first ID).
   - If the second ID is valid, the Status LED flashes orange.

   - If the second ID is invalid, the unit sounds a long beep.

     The AYC-W6500 continues to wait for a valid ID to be entered.
   - If the second ID is of the same type (PIN-PIN/Card-Card), the unit sounds a short beep.

     The AYC-W6500 continues to wait for a valid ID to be entered
6. To enter more IDs, return to Step **5**.
7. Press **#** twice to exit Programming mode.

5.8.13 Deleting Users

Users can be deleted using the Standard and the Code Search methods.

Deleting a user erases all IDs of that user – card ID, PIN ID and Fingerprint template.

Rosslare recommends that you maintain a written record of added and deleted users. This makes it easier to track and manage which user slots are in use.

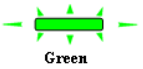
To delete codes (Standard Method):

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **8** to enter **Menu 8.**

   The Status LED turns green.

3. Enter the 3-digit User Slot codes you wish to delete.
   - If the user slot is empty, the unit sounds a long beep.

   The AYC-W6500 waits for a different user slot number.
   - If the user slot exists, the Status LED flashes green.



4. Enter your programming code to confirm the deletion.

   The unit sounds three short beeps and the AYC-W6500 returns to Normal Access mode.

   If the programming code is invalid, the unit sounds a long beep and the AYC-W6500 returns to Normal Access mode.

To delete user codes using the Code Search method:

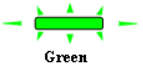
1. Enter Programming mode (see Section 4.3.1.1).
2. Press **8** to enter **Menu 8.**

   Enter the 3-digit User Slot number 000.

   The Status LED flashes orange.

3. Present the user's card or enter the user's PIN code.

   If the card or PIN code you entered is found, the Status LED flashes green.



   If the card or PIN code is not found, the unit sounds a long beep.
4. Present a different card or enter a different PIN code.
5. Enter your programming code to confirm the deletion.

   The unit sounds three short beeps and the AYC-W6500 returns to Normal Access mode.

   If the programming code is invalid, the unit sounds a long beep and the AYC-W6500 returns to Normal Access mode.

5.8.14 Open Lock and/or Auxiliary

Use this command to program how the controller should behave when a specific user presents a valid card, PIN code, or fingerprint.

To set a user's open lock and/or auxiliary preferences:

1. Enter Programming mode (see Section 4.3.1.1).
2. Press **9** to enter **Menu 9.**
3. Enter a 3-digit user slot number between 001 and 500. For example, User Slot 003 represents User #3.
4. Select the action to be performed when this user presents her card, PIN code or fingerprint:
   - **1** – Open Lock
   - **2** – Open Auxiliary
   - **3** – Open Lock and Auxiliary
5. The unit sounds three short beeps and the AYC-W6500 returns to Normal Access mode.

5.8.15 PIN Code Length/Factory Default Settings

Use this command to reset all codes to their factory settings and to specify a new PIN code length.

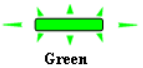
Use this function with extreme care!
This function erases the unit's memory entirely and resets all codes to their factory default settings.

To set PIN code length and reset to factory default settings:

1. Enter Programming mode (see Section 4.3.1.1).
2. Select the desired PIN code length as follows:
   - **00** – Returns to factory defaults and sets a 4-digit code
   - **05** – Returns to factory defaults and sets a 5-digit code
   - **06** – Returns to factory defaults and sets a 6-digit code
   - **08** – Returns to factory defaults and sets a 4- to 8-digit code

Note: When choosing the 4- to 8-digit option, you can either enter zeros before the code, or press pound at the end (for example if code is 12345**, enter either** 00012345 **or** 12345#**).**

3. The Status LED flashes green.



4. Enter your programming code.

   If the programming code is valid, all memory is erased. The unit sounds three beeps and the controller returns to Normal Access mode.

   If the programming code is invalid the unit sounds a long beep and the controller returns to Normal Access mode without erasing the memory of the controller.

> Note: The programming code cannot be deleted. For example, 0000 is invalid and does not delete the programming code.

5.8.16 Replacing a Lost Programming Code

In the event that the programming code is forgotten, the unit may be reset after installation.

> Note: The AYC-W6500 must be in Normal mode. Make sure that the Status LED is red before proceeding.

To reset the programming code:

1. Disconnect the Power Supply Unit (PS-A25T Power Supply or PS-C25T).
2. Press the REX Button on the Power Supply Unit (PS-A25T Power Supply or PS-C25T).
3. Reconnect the power supply to the unit with REX button pressed.
4. Release the REX Button.
5. You now have 15 seconds to program a new Programming code into the Unit using the initial default code 1234, before the controller reverts to the existing code.

5.8.17 Replacing a Lost Normal/Secure Code

In the event that the Normal/Secure code is forgotten, the unit may be reset after installation.

> Note: The AYC-W6500 must be in Secure mode. Make sure that the Status LED flashes red before proceeding.

To reset the Normal/Secure code:

1. Disconnect the Power Supply Unit (PS-A25T Power Supply or PS-C25T).
2. Press the REX Button on the Power Supply Unit (PS-A25T Power Supply or PS-C25T).
3. Reconnect the power supply to the unit with the REX button pressed.
4. Release the REX button.
5. You now have 15 seconds to enter the default Normal/Secure code (3838) into the Unit.
6. Enter a new Normal/Secure code using the standard procedure.

A. Limited Warranty

The full ROSSLARE Limited Warranty Statement is available in the Quick Links section on the ROSSLARE website at www.rosslaresecurity.com.

Rosslare considers any use of this product as agreement to the Warranty Terms even if you do not review them.

AYC-W6500

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