AY-H6355BT

CSN SMART™ Smart Card Readers

Installation and User Manual

Bluetooth™

BLE 4.1

CSN SMART™

ROSSLARE
SECURITY PRODUCTS

Table of Contents

List of Figures

List of Tables

Notice and Disclaimer

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.

- The system must not be used for purposes other than those for which it was designed.
- The use of the software associated with the system and/or product, if applicable, is subject to the terms of the license provided as part of the purchase documents.
- 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.
- Incorrect operation or installation, or failure of the user to effectively maintain the system, relieves the manufacturer (and seller) from all or any responsibility for consequent noncompliance, damage, or injury.
- The text, images and graphics contained in the manual are for the purpose of illustration and reference only.
- All data contained herein subject to change without prior notice.
- In no event shall manufacturer be liable for any special, direct, indirect, incidental, consequential, exemplary or punitive damages (including, without limitation, any and all damages from business interruption, loss of profits or revenue, cost of capital or loss of use of any property or capital or injury).
- All wiring diagrams are intended for reference only, the photograph or graphic of the PCB(s) are intended for clearer illustration and understanding of the product and may differ from the actual PCB(s).

1. Introduction

The CSN SMART™ AY-H6355BT is an innovative reader from Rosslare geared for quad-play operation: backlit PIN keypad, smart card CSN (13.56 MHz) card reader, NFC ID read, and BLE ID smartphone ID read capabilities. Designed with premium components and IP65 mechanicals, it works well indoors and outdoors. The reader also features OSDP support and configuration card operation programming.

There are two apps that can be used with the reader:

- My BLE-ID™ app – Allows a mobile device to be used as a credential
- BLE-Admin™ app – Used by the administrator to configure the CSN SMART reader series

You can download these apps from Google Play or the Apple Store, depending on the model of your mobile device. Refer to the *AY-H6x55BT myBLE-ID APP-x411* and *AY-H6x55BT BLE-Admin APP-x421* manuals for more details.

The standard reader outputs the Wiegand CSN data in Wiegand 26-Bit format. Other Wiegand formats are selectable using the *CS-CCT Configuration Card Tool for the DR-6255* application.

The following list shows the credential technologies for which we have confirmed compatibility:

- ISO14443A – MIFARE® Ultralight® Nano / EV1/ C, MIFARE Classic® / Classic EV1, MIFARE Plus® S / SE / X / EV1, MIFARE DESFire® EV1 / EV2, N-TAG NFC / Card Emulation
- ISO15693 – HID® iClass®, PicoPass, iCode, LEGIC
- ISO18092 – SONY® FeliCa® (Hong Kong Octopus)
- Rosslare’s CS-ECA NFC app (HCE) for Android smartphones

  Scan the QR code to download Rosslare’s NFC app.
- Android app and BLE ID for Android and iPhone

1.1 Installation Kit

The installation kit consists of the following items to be used during the installation procedure:

- 1 self-adhesive mounting label template
- 2 mounting screws and 2 screw anchors
- 1 Torx key tool and 1 Torx security screw

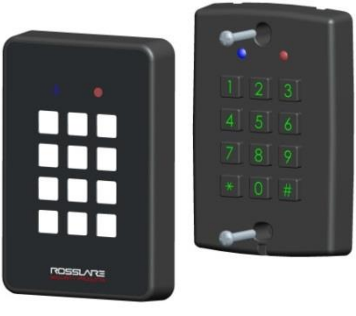
2. Mounting

Before mounting, you should determine the best location for the reader.

To mount the units:

1. Peel off the back of the self-adhesive mounting label template and place it at the required mounting location.
2. Using the template as a guide, drill two holes (sizes indicated on the template) used for mounting the back plate onto the surface.
3. Insert a suitable wall plug into each screw hole.
4. Drill a 10-mm (7/16”) hole for the cable. If mounting on metal, place a grommet or electrical tape around the edge of the hole.
5. Wire the reader as described in Chapter 3. A linear type power supply is recommended.
6. Remove the reader's snap-off front cover to reveal the two screw holes (see Figure 1).

Figure 1: Removing the Top Cover



> The location of the screws varies depending on the model number of the reader.

7. Align the two holes of the reader with those drilled in the wall and firmly attach the reader to the wall with two screws, whose size is indicated on the template.
8. Relocate the front cover onto the reader.

Note The reader can also be mounted using strong epoxy glue. After application, the reader should be firmly held in place until the glue dries

3. Wiring Instructions

The units are supplied with a 10-conductor 56-cm (22-in.) pigtail with exposed wires coated with solder.

To connect the unit as a reader to an access control unit:

1. Select the appropriate connections according to Table 1.
2. Prepare the controller cable by cutting its jacket back about 3 cm (1¼") and strip the insulation from the wires about 1.3 cm (½").
3. Splice the reader’s pigtail wires to the corresponding controller wires and cover each joint with insulating tape.

Table 1: Wiring the Unit as a Reader to a Control Panel

Wire Color	**Output**
Red	Power
Black	Ground
Green	Data 0 / Data / C2
White	Data 1 / Clock / C1
Orange	Green LED Control*
Brown	Yellow LED Control*
Purple	Tamper Output
Yellow	Buzzer Control*
Blue	RS-485 - A / OSDP**
Gray	RS-485 - B / OSDP**

* These wires have programmable functions that may be adjusted by presenting a configuration card within 10 seconds upon powering on the unit. See the *CS-CCT Configuration Card Tool for the DR-6255 Software Manual* for how you can create a configuration card.

** RS-485 is used for firmware update.

4. Trim and insulate the ends of all unused conductors individually. Do not short any unused wires together.

Note

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

4. OSDP Operation

- In OSDP mode, all control lines (Inputs/Outputs) are disabled.
- In OSDP mode, if a connection is not established or lost with the controller, the right LED flashes yellow continuously.

The reader is compatible with all reader-related OSDP commands. The reader address is set using DIP switches on the back of the reader.

Release the screw on the back of the reader to remove the door to access the DIP switches (Figure 2).

Figure 2: DIP Switch Compartment

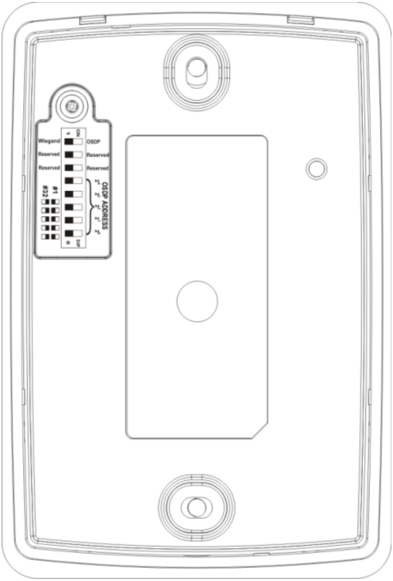
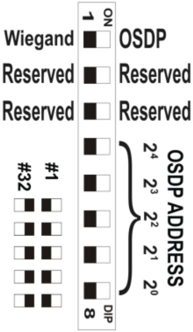


Figure 3 shows the DIP switch settings, which are also described below.

Figure 3: DIP Switch Settings



DIP Switch 1

This switch is used to select the reader output (Wiegand or OSDP):

- Off = Wiegand
- On = OSDP

DIP Switch 2

This switch is reserved for future use.

DIP Switch 3

This switch is reserved for future use.

DIP Switches 4 to 8

These switches set the address of the reader for OSDP protocol.

DIP Switch 4 is MSB and DIP Switch 8 is LSB. The address is the DIP switch state +1.

Examples:

- All the DIP switches in Off position, address = 1
- All the DIP switches in On position, address = 32

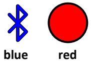
5. Reader Functionality

Upon power on, the unit flashes yellow, then blue, and then orange, each for 1 second and a beep is heard for each color.

5.1 Standby Mode

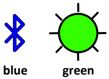
The default mode of the reader is Standby mode. In Standby mode, the unit is ready to receive data from an entered PIN code or from a presented proximity card, NFC ID, and BLE ID.

When the reader is in Standby mode, the left LED is blue and the right LED is red.



When a contactless card or an NFC ID device is presented or a keypad entry is being transmitted, the right LED flashes green and you hear a beep.

When a BLE ID device or smartphone app is received by the reader, the right LED flashes green and you hear two short beeps



Keypad data can be sent via one of eight different keypad transmission formats (see Section 5.2.3).

Proximity cards presented to the reader are sent in either various Wiegand formats or Clock & Data format (see Section 5.2.4).

5.2 Programming

Programming is done solely via the unit's keypad driven Programming Menu System. During the manufacturing process, certain codes and settings are pre-programmed. These settings are called the default factory settings.

Table 2 shows the names of all the reader menus.

Default factory settings are marked by a "*" sign.

Table 2: Reader Programming Menus

Menu Description		**Default**
1	**Selecting Keypad Transmission Format**	
	Single Key, 6-Bit Wiegand (Rosslare Format)	*
	Single Key, 6-Bit Wiegand with Nibble + Parity Bits	
	Single Key, 8-Bit Wiegand, Nibbles Complemented	
	4 Keys Binary + Facility Code, Wiegand 26-Bit	
	1 to 5 Keys + Facility Code, Wiegand 26-Bit	
	6 Keys BCD and Parity Bits, Wiegand 26-Bit	
	1 to 8 Keys BCD, Clock & Data	
	Single Key, Wiegand 4-Bit	
2	**Selecting Card Transmission Format**	
	Wiegand 26-Bit	*
	Clock & Data	
	Wiegand 32-Bit	
	Wiegand 32-Bit Reversed Byte	
	Wiegand 34-Bit	
	Wiegand 40-Bit	
	Wiegand 56-Bit	
	Wiegand 64-Bit	
3	**Changing the Programming Code**	**1234**
4	**Changing the Facility Code**	**0**
5	**Selecting Credential Technology**	**0**
6	**Backlight Options**	
	Off	
	On (Default)	*
	Off until key press when on for 10 seconds	
	Dimmed until key press when on for 10 seconds	
0	**Return to Factory Default Settings**	

5.2.1 Entering Programming Mode

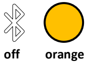
To reach the Programming Menu System, the unit must first be placed into Programming mode.

- The factory 4-digit Programming code is 1234.
- If a Programming code is not entered within 20 seconds, the unit returns to Standby mode.

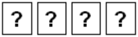
To enter Programming mode:

1. Press # four times.

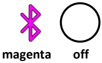
   The left LED turns off and the right LED turns orange.



2. Enter your 4-digit Programming code.



   If the Programming code is valid, the left LED turns magenta and the right LED turns off.



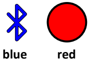
   If the Programming code is invalid, you hear a long beep and the reader returns to Standby mode.

5.2.2 Exiting Programming Mode

To exit Programming mode:

1. Press # to exit Programming mode at any time.

   - You hear a long beep.
   - The left LED turns blue and the right LED turns red.



   This indicates that the unit has returned to Standby mode.

   Wrong entries may reset the reader back to Standby mode. If no key is pressed for 20 seconds while in Programming mode, the unit exits Programming mode and returns to Standby mode.

5.2.3 Selecting Keypad Transmission Format

The AYC-x6355 has nine different keypad transmission formats.

See Table 3 in Section 5.2.3.1 for more information on keypad transmission formats.

> Note
>
> - Only one keypad transmission format can be active at any one time.
> - When using the keypad transmission format "1 to 8 keys BCD, Clock & Data" (Option 8), an additional input is required to specify the number of keys in the PIN code.

To select the keypad transmission format:

1. Enter Programming mode.

   magenta off

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

   1

   The right LED turns green.

   magenta green

3. Enter the appropriate option number for the keypad transmission format that you wish to select.

   ?

   You hear three beeps.

   The system returns to Standby mode.

   blue red

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

5.2.3.1 Keypad Transmission Format Option Number

Table 3 presents the eight different keypad transmission formats.

Table 3: Keypad Transmission Format Option Number

Keypad Transmission Format	Option Number
Single Key, Wiegand 6-Bit (Rosslare Format)	1*
Single Key, Wiegand 6-Bit with Nibble + Parity Bits	2
Single Key, Wiegand 8-Bit, Nibbles Complemented	3

Keypad Transmission Format	Option Number
4 Keys Binary + Facility Code, Wiegand 26-Bit	4
1 to 5 Keys + Facility Code, Wiegand 26-Bit	5
6 Keys BCD and Parity Bits, Wiegand 26-Bit	6
1 to 8 Keys BCD, Clock & Data Single Key	8
Single Key, Wiegand 4-Bit	9

* Option 1 is the default factory setting.

More information on each of the different keypad transmission formats is available below and on the following pages.

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

Each key press immediately sends 4 bits with 2 parity bits added – even parity for the first 3 bits and odd parity for the last 3 bits.

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

Option 2: Single Key, Wiegand 6-Bit Nibble and Parities

Each key press immediately sends 4 bits with 2 parity bits added – even parity for the first 3 bits and odd parity for the last 3 bits.

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

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

This option inverts the most significant bits in the message leaving the least 4 significant bits as a Binary Coded Decimal (BCD) representation of the key. The host system receives an 8-bit message.

0 = 11110000	6 = 10010110
1 = 11100001	7 = 10000111
2 = 11010010	8 = 01111000
3 = 11000011	9 = 01101001
4 = 10110100	* = 01011010 = "A" in Hexadecimal
5 = 10100101	# = 01001011 = "B" in Hexadecimal

Option 4: 4 Keys Binary + Facility Code, Wiegand 26-Bit

This option buffers 4 keys and outputs keypad data with a 3-digit Facility code like a standard 26-Bit card output.

The Facility code is set in Programming Menu number four and can be in the range 000 to 255. The factory default setting for the Facility code is 000 (see Section 5.2.6).

The keypad PIN code is 4-digit long and can range between 0000 and 9999. On the fourth key press of the 4-digit PIN code, the data is sent across the Wiegand Data lines as binary data in the same format as a 26-Bit Card.

If ***** or **#** are pressed are pressed during PIN code entry, the keypad clears the PIN code entry buffer, generate a beep and is ready to receive a new 4-digit keypad PIN code.

If the entry of the 4-digit keypad PIN code is disrupted and no number key is pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a beep and is ready to receive a new 4-digit keypad PIN code.

(EP) FFFF FFFF AAAA AAAA AAAA AAAA (OP)

Where:

EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

F = 8-bit Facility code

A = 16-bit code generated from keypad

Option 5: 1 to 5 Keys + Facility Code, Wiegand 26-Bit

Option 5 buffers up to 5 keys and outputs keypad data with a Facility code like a 26-Bit card output.

The Facility code is set in Programming Menu number four and can be in the range 000 to 255. The factory default setting for the Facility code is 000 (see Section 5.2.6).

The keypad PIN code can be one to five digits in length and can range between 1 and 65,535. When entering a keypad PIN code that is less than 5 digits in length, **#** must be pressed to signify the end of PIN code entry. For keypad PIN codes that are 5 digits in length, on the fifth key press of the 5-digit PIN code, the data is sent across the Wiegand Data lines as binary data in the same format as a 26-Bit Card.

If ***** is pressed during PIN code entry or a PIN code greater than 65,535 is entered, the keypad clears the PIN code entry buffer, generates a beep and is ready to receive a new 5-digit keypad PIN code.

If the entry of the 1- to 5-digit keypad PIN code is disrupted and a number key or **#** is not pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep and is ready to receive a new 1- to 5-digit keypad PIN code.

(EP) FFFF FFFF AAAA AAAA AAAA AAAA (OP)

Where:

EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

F = 8-bit Facility code

A = 16-bit code generated from keypad

Option 6: 6 Keys BCD and Parity Bits, Wiegand 26-Bit

Option 6 sends buffer of 6 keys, adds parity and sends a 26-Bit Binary BCD message. Each key is a four bit equivalent of the decimal number.

The keypad PIN code must be 6 key presses long. On the sixth key press of the 6-digit PIN code, the data is sent across the Wiegand Data lines as a BCD message.

If the entry of the 6-digit keypad PIN code is disrupted and no number key is pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep and is ready to receive a new 6-digit keypad PIN code.

(EP) AAAA BBBB CCCC DDDD EEEE FFFF (OP)

Where:

EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

A = The first key entered	D = Fourth key entered
B = Second key entered	E = Fifth key entered
C = Third key entered	F = Sixth key entered

Option 8: 1 to 8 Keys BCD, Clock & Data

Buffers up to 8 keys and outputs keypad data without a Facility code like standard Clock and Data card output.

The keypad PIN code can be one to eight digits in length. The PIN code length is selected while programming the reader for Option 8. The reader transmits the data when it receives the last key press of the PIN code. The data is sent across the two data output lines as binary data in Clock & Data format.

If ***** or **#** key is pressed during PIN code entry, the keypad clears the PIN code entry buffer, generates a beep, and is ready to receive a new keypad PIN code.

If the entry of the digit keypad PIN code is disrupted and a number key or **#** is not pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep, and is ready to receive a new keypad PIN code.

> Note
>
> When using the keypad transmission format "1 to 8 keys BCD, Clock & Data" (Option 8) an additional input is required to specify the number of keys in the PIN code.

Option 9: Single Key, Wiegand 4-Bit

Each key press immediately sends 4 bits of data, with no parity bits added.

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

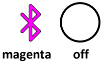
5.2.4 Selecting Proximity Card Transmission Format

There are eight different proximity card transmission formats.

See Table 3 in Section 5.2.3.1 for more information on keypad transmission formats.

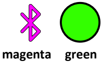
To select the proximity card transmission format:

1. Enter Programming mode.



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

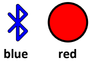
   The right LED turns green.



3. Enter the appropriate option number for the proxy card transmission format that you wish to select:
   - **1** – Wiegand 26-Bit
   - **2** – Clock & Data
   - **3** – Wiegand 32-Bit
   - **4** – Wiegand 32-Bit Reversed Byte
   - **5** – Wiegand 34-Bit
   - **6** – Wiegand 40-Bit
   - **7** – Wiegand 56-Bit
   - **8** – Wiegand 64-Bit

   You hear three beeps.

   The system returns to Standby mode.



5.2.4.1 Proximity Card Transmission Format Option Number

Table 4 presents the nine different keypad transmission formats.

Table 4: Proximity Card Transmission Format Option Number

Proximity Card Transmission Format	Option Number
Wiegand 26-Bit	1*
Clock & Data	2
Wiegand 32-Bit	3
Wiegand 32-Bit Reversed Byte	4
Wiegand 34-Bit	5
Wiegand 40-Bit	6
Wiegand 56-Bit	7
Wiegand 64-Bit	8

* Option 1 is the default factory setting.

More information on each of the different keypad transmission formats is available below and on the following pages.

Option 1: Wiegand 26-Bit

In this mode, 3 LSB bytes from the card serial number (UID) are transmitted in Wiegand 26-Bit format. Two parity bits are added. An even parity bit is sent first, followed by three bytes of card data, and by an odd parity bit.

(EP) AAAA AAAA AAAA AAAA AAAA AAAA (OP)

Where: EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

A = 3 bytes code generated from card data

Option 2: Clock and Data

In this mode, up to 6 bytes of the card serial number are transmitted in Clock & Data format.

Option 3: Wiegand 32-Bit

In this mode, 4 LSB bytes from the card serial number are transmitted in Wiegand 32-Bit format. No parity bits are added.

AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD

Where: A = 4th (MSB) byte of card serial number

B = 3rd byte of card serial number

C = 2nd byte of card serial number

D = 1st (LSB) byte of card serial number

Option 4: Wiegand 32-Bit Reversed Byte

In this mode, 4 LSB bytes from card serial number are transmitted in Wiegand 32-bit format. Bytes are sent in reversed order. The LSB part of the card serial number is sent first and the MSB byte is sent last. No parity bits are added.

DDDD DDDD BBBB BBBB CCCC CCCC AAAA AAAA

Where: D = 1st (LSB) byte of card serial number

C = 2nd byte of card serial number

B = 3rd byte of card serial number

A = 4th (MSB) byte of card serial number

Option 5: Wiegand 34-Bit

In this mode, 4 LSB bytes of card serial number are transmitted in Wiegand 34-Bit format. Bytes are sent in reversed order. The LSB part of the card serial number is sent first and the MSB byte is sent last. An even parity is sent first, followed by 32-Bit data and an odd parity bit.

(EP) AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD (OP)

Where: EP = Even parity for first 16 data bits

OP = Odd parity for last 16 data bits

A = 4th (MSB) byte of card serial number

B = 3rd byte of card serial number

C = 2nd byte of card serial number

D = 1st (LSB) byte of card serial number

Option 6: Wiegand 40-Bit

In this mode, 4 LSB bytes of card serial number are transmitted in Wiegand 40-Bit format. Bytes are sent in reversed order. The LSB part of card serial number is sent first. The last byte sent is a Checksum byte generated by adding 4 data bytes and discarding the remainder beyond 8 bytes.

AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD (CSUM)

Where: A = 4th (MSB) byte of card serial number

B = 3rd byte of card serial number

C = 2nd byte of card serial number

D = 1st (LSB) byte of card serial number

CSUM = Checksum value, 1 byte (A+B+C+D)

Option 7: Wiegand 56-Bit

In this mode, 7 bytes of card serial number are transmitted in Wiegand 56-Bit format. No parity bits are added.

AAAA AAAA BBBBBBBB CCCCCCCC DDDDDDDD EEEEEEEE FFFFFFFF GGGGGGGG

Option 8: Wiegand 64-Bit

In this mode, 8 bytes of card serial number are transmitted in Wiegand 64-Bit format. No parity bits are added.

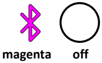
AAAA AAAA BBBBBBBB CCCCCCCC DDDDDDDD EEEEEEEE FFFFFFFF GGGGGGGG HHHHHHHH

5.2.5 Changing the Programming Code

> Note
> - The Programming code cannot be erased, meaning the code 0000 is invalid and does not erase the Programming code.
> - The factory default 4-digit Programming code is 1234.

To change the Programming code:

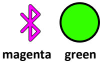
1. Enter Programming mode.



2. Press **3** to enter Menu 3.

3

The right LED turns green.

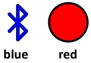


3. Enter the new 4-digit code you wish to set as the Programming code.

? ? ? ?

You hear three beeps.

The system returns to Standby mode.

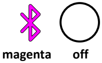


5.2.6 Changing the Facility Code

> Note
> - The Facility code can be in the range of 000 to 255.
> - The default Facility code is 0.

To change the Facility code:

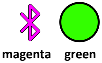
1. Enter Programming mode.



2. Press **4** to enter Menu 4.

4

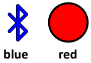
The right LED turns green.



3. Enter the new 3-digit code you wish to set as the Facility code.

? ? ?

You hear three beeps.

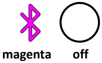


The system returns to Standby mode.

5.2.7 Selecting Credential Technology

To select the credential technology:

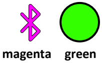
1. Enter Programming mode.



2. Press **5** to enter Menu 5.

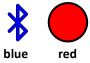
5

The right LED turns green.



3. Enter one of the following codes:
   - **0** – All formats (default)
   - **1** – 14443A
   - **2** – 14443B
   - **3** – 15693
   - **4** – Felica
   - **5** – China ID
   - **6** – Topaz

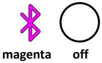
   You hear three beeps.
   The system returns to Standby mode.



5.2.8 Setting the Backlight Behavior

To set the backlight behavior:

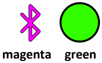
1. Enter Programming mode.



2. Press **6** to enter Menu 6.

6

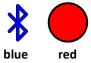
The right LED turns green.



3. Enter one of the following codes:
   - **0** for always off
   - **1** for always on
   - **2** for 10 sec. backlight after a key is pressed otherwise off
   - **3** for 10 sec. backlight after a key is pressed otherwise dimmed

   You hear three beeps.

   The system returns to Standby mode.

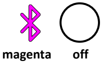


5.2.9 Return to Factory Default Settings

> You must be very careful before using this command! This erases the entire memory and return all codes to their factory default setting.

To return to factory default settings:

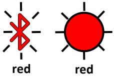
1. Enter Programming mode.



2. Press **0** to enter Menu 0.

   0

   Both LEDs flash red.



3. Enter your 4-digit Programming code.

   ? ? ? ?

   If the Programming code is valid, all memory is erased. You hear three beeps and the reader returns to Standby mode.

   If the Programming code is invalid, you hear a long beep and the reader returns to Standby mode without erasing the memory of the reader.

5.2.10 Replacing a Lost Programming Code

In the event that the Programming code is forgotten, the AYC-x6355 can be reprogrammed in the field using the following instructions:

1. Remove power from the reader.
2. Activate tamper by removing the reader from the wall or removing the reader's case.
3. Apply power to the reader.
4. You now have 10 seconds to enter Programming mode using the factory default Programming code 1234.

5.3 Configuration with the BLE-Admin™ Application

1. Download the BLE-Admin application from Google Play or App Store using the following QR code.

2. Open the application, select the required reader from the list displayed.
3. Enter the password.

NOTES:

- Use the default password (12345678) when you log in to the BLE-Admin application for the first time.
- It is highly recommended that you change the password (see step 4).

4. On the main screen, configure the following

Option	Remarks
Reader Name	Assign name to selected door reader
Password	Change password

NOTE: The My BLE-ID application allows a mobile device to be used as a credential. Download the application from Google Play or App Store using the following QR code.

6. Technical Specifications

Electrical Characteristics	
Power Supply Type	Regulated
Operating Voltage Range	8 to 16 VDC
Current @ 12 V	Standby: 120 mA, max: 220 mA
Read Range*	Contactless 13.56 MHz and NFC: Up to 7 cm (2.8 in.)
	Bluetooth BLE 4.1: Up to 10 m (32 ft) open air
Green LED Control	Dry Contact, N.O.
Red LED Control	Dry Contact, N.O.
Buzzer Control	Dry Contact, N.O.
Tamper Output	Open collector, active low, max. sink current 16 mA
Maximum Cable Distance to Controller	Wiegand: 150 m (500 ft) with 18-AWG cable OSDP (RS-485): 1,200 m (4,000 ft) with 2x2 18-AWG twisted shielded cable
Environmental Characteristics	
Operating Temp. Range	-35°C to 66°C (-31°F to 150°F)
Operating Humidity Range	0 to 95% (non-condensing)
Outdoor Usage	Weather-resistant, UV-resistant, epoxy-potted, suitable for indoor and outdoor use
Physical Characteristics	
Dimensions (H x W x D)	110.7 × 75.0 × 18.2 mm (4.4 x 3.0 x 0.7 in.)
Weight	190 g (6.7 oz)

* Measured using a Rosslare MIFARE Classic EV1 (ISO card). Read range with other credential technologies may vary. Range also depends on electrical environment and proximity to metal.

A. Declaration of Conformity

FCC ID: GCD-AYH6X55BT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

B. Radio Equipment Directive (RED)

Rosslare hereby declares that the AY-H6355BT is in compliance with essential requirements and other relevant provisions of Directive 2014/53/EU.

C. 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.

AY-H6355BT

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