AY-H6255BT

ROSSLARE SECURITY PRODUCTS

CSN SMART

CSN SMART™ Smart Card Readers
Installation and User Manual

1. Introduction

The CSN SMART™ AY-H6255BT is an innovative reader that lets cardholders use a smartphone as a credential in access control systems using the following BLE ID and NFC ID compatible apps:

- My BLE-ID™ – app that allows a mobile device to be used as a credential
- BLE-Admin™ – app used by the administrator to configure the reader

You can download these apps from Google Play or the Apple Store, depending on the model of your mobile device.

The unit features three technologies: a built-in CSN smart card (13.56 MHz) reader, an NFC ID reader, and a Bluetooth BLE ID reader mode that supports BLE ID transmitted by both Android and iOS smartphone apps.

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
- Android app and BLE ID for Android and iPhone

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.

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

Figure 1: AY-H6255BT

2. Technical Specifications

2.1 Electrical Characteristics

Power Supply Type	Regulated
Operating Voltage Range	8 to 16 VDC
Current @ 12 V	Standby: 110 mA, max: 185 mA
Bluetooth BLE Read Range	From 1 m to 10 m (3.2 to 32.5 ft) (line of sight)
RFID and NFC Read Range*	5 cm to 10 m (2.0 to 3.9 in.)
LED/Buzzer Controls	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

* 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.

2.2 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, meets IP65, epoxy-potted, suitable for indoor and outdoor use

2.3 Physical Characteristics

Dimensions (H x W x D)	110.7 x 75.0 x 17.0 mm (4.4 x 3.0 x 0.7 in.)
Weight	177 g (6.2 oz)

3. Wiring

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

To connect the reader to the controller:

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.
4. If the tamper output is being utilized, connect the purple wire to the correct input on the controller.
5. 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 power supply end of the cable.

Table 1: Wiring

Wire Color	Function
Red	Power
Black	Ground
Green	Data 0 / Data
White	Data 1 / Clock
Orange	Green LED Control*
Brown	Red 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. Configuration with the BLE-Admin App

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

5. Bluetooth NFC ID and BLE ID Operation

5.1 NFC ID

The NFC ID read function of the AY-H6255BT can read both active and passive NFC credentials. Rosslare features smartphone applications that generate Unique NFC ID for each smartphone.

NFC ID is a short-range contactless technology that works at a range of 3 to 10 cm 2.0 to 3.9 in from the readers depending on the smartphone or passive tag.

The reader scans for NFC ID and transmits the ID number to the host controller via OSDP or Wiegand protocols.

Scan the QR code to download Rosslare's NFC app.

5.2 BLE ID

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

The service accepts incoming connection requests and transfers the credential by Wiegand or OSDP connection to the host. This feature includes MAC address and reader name advertising.

BLE ID credentials have a line-of-sight range of up to 10 m (33 ft) from the reader depending on the type and brand of smartphone or BLE device.

Refer to the *AY-H6x55BT myBLE-ID APP-x411* and *AY-H6x55BT BLE-Admin APP-x421* manuals for more details.

6. Configuration Card Programming

The *CS-CCT Configuration Card Tool for the DR-6255* application is used to create a configuration card, which in turn can be used to configure the AY-H6255BT reader.

The application allows you to configure RFID output settings, keypad settings (for AYC models), input behavior for the LED, buzzer, and hold controls, and the behavior for the LED and buzzer when a credential is presented or when in Standby mode.

For more information, please see the *CS-CCT Configuration Card Tool for the DR-6255 Software Manual*.

7. OSDP Operation

> **Note**
> - 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.

CSN SMART readers that support OSDP operation are 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 shows the DIP switch settings, which are described below.

Figure 2: DIP Switch Settings
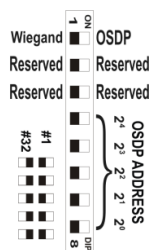
- DIP Switch 1

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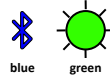   - All the DIP switches in On position, address = 32

8. LEDs Operation

8.1 Standby Mode

Once the reader powers on (or resets), the reader enters Standby Mode. The left LED is blue and the right LED is red.
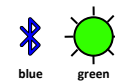
blue   red

8.2 Card Read

When the reader reads a contactless card, the right LED flashes green and the unit beeps once. The data is transferred to the host via Wiegand.

blue   green

8.3 NFC ID Read

When the reader reads an NFC ID, the right LED flashes green and the unit beeps once. The ID is transferred to the host via Wiegand.

blue   green

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.

Radio Equipment Directive (RED)

Rosslare hereby declares that the AY-H6255BT is in compliance with essential requirements and other relevant provisions of Directive 2014/53/EU.

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.

International Standards Approvals

Description	Latest Standard	Latest EU Directive
CE-EMC	EN 61000-6-3:2007+A1:2011+AC:2012 EN 50130-4:2011+A1:2014 EN 61000-3-2:2014 EN 61000-3-3:2013 AOC	EMCD 2014/30/EU
CE-LVD	EN60950-1 : 2006+A11 : 2009+A1 : 2010+A12 : 2011+A2 : 2013	RED 2014/53/EU
CE-RED	N 300 330 V2.1.1 EN 301 489-1 V2.2.0 EN 301 489-3 V2.1.1 EN 301 489-17 V3.1.1/EN 300 328 V 2.1.1 EN62479: 2010 NB	RED 2014/53/EU
FCC	FCC Part 15B FCC Part 15.225 and 15.247 FCC ID	

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