AY-x6255 Family

CSN SELECT Smart Card Readers

Installation and User Manual

1. Introduction

The AY-x6255 is a family of multi-format contactless smart card readers for use in access control system solutions.

CSN SELECT readers support reading from the secure memory of the following credential technologies:

- MIFARE Ultralight / Ultralight C
- MIFARE Classic
- MIFARE Plus S / Plus X
- MIFARE DESFire EV1
- ISO 14443A
- ISO 14443B
- ISO 15693
- iClass
- ISO 18092 (NFCIP-1)
- FeliCa

1.1 Box Content

Before beginning, verify that all of the following is in the box. If anything is missing, please report the discrepancy to your nearest Rosslare office.

- One AY-x6255 unit
- Installation kit – Includes two wall plugs, two mounting screws, security Torx screw, and security Torx screw tool
- Installation and operating instructions

AY-K6255 AY-L6255 AY-H6255 AY-M6255

2. Technical Specifications

2.1 Electrical Characteristics

Power Supply Type	Linear (recommended)
Operating Voltage Range	8 to 16 VDC
Current @ 12 V	Standby: 100 mA Maximum: 120 mA
Read Range*	MIFARE Classic EV1: 40 to 45 mm (1.5 to 1.8 in.) MIFARE Plus: 30 mm (1.2 in.) MIFARE DESFire EV1: 30 mm (1.2 in.)
LED Control Input 1**	Green LED control, TTL
LED Control Input 2**	Red LED control, TTL
Auxiliary Input**	Buzzer control, TTL
Auxiliary Output**	Tamper output (open collector, active low, max. sink current 30 mA)
Maximum Cable Distance to Controller	Wiegand: 150 m (500 ft) with 18-AWG cable OSDP (RS-485): 1200 m (4,000 ft) with 2x2 18-AWG twisted shielded cable

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

** Standard configuration. Custom configurations are available.

2.2 Environmental Characteristics

Operating Temp. Range	-25°C to 65°C (-13°F to 149°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)	AY-K6255: 80.5 x 40.5 x 14.7 mm (3.2 x 1.6 x 0.6 in.)
	AY-L6255: 144.9 x 42.9 x 22.1 mm (5.7 x 1.7 x 0.9 in.)
	AY-H6255: 110.7 x 75.0 x 17.1 mm (4.4 x 3.0 x 0.7 in.)
	AY-M6255: 89.5 x 88.9 x 16.8 mm (3.5 x 3.5 x 0.7 in.)
Weight	AY-K6255: 77 g (2.7 oz)
	AY-L6255: 126 g (4.4 oz)
	AY-H6255: 163 g (5.7 oz)
	AY-M6255: 145 g (5.1 oz.)

3. Wiring Instructions

The units are supplied with a 10-conductor 18" (46-cm) pigtail or with 10 terminal blocks.

To connect a pigtail reader to the controller:

1. Prepare the reader cable by cutting its jacket back 3.2 cm (1¼") and strip the insulation from the wires 1.3 cm (½").
2. Prepare the controller cable by cutting its jacket back 3.2 cm (1¼") and strip the insulation from the wires 1.3 cm (½").
3. Splice the reader's pigtail wires to the corresponding controller wires (as indicated in Table 1) 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.

   The LED control may be configured by the factory to function either as a LED control or as buzzer control. Currently, the auxiliary input is used as buzzer control and LED Control 1 is used as the green LED control.
5. Trim and cover all unused conductors.

Table 1: AY-x6255 Wiring

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

*H and M models only

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.

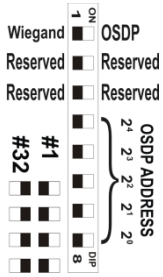
4. OSDP Operation

> Note: The K and L models do not currently support OSDP function.

CSN SELECT readers that support OSDP operation are compatible with most 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 1 shows the DIP switch settings, which are described below.

Figure 1: 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, state is = 0 => address = 1
  - All the DIP switches in On position, state is = 0x1F => address = 0x20 = 32

  DIP switches 4, 6, 8 in On position and 5, 7 in Off position, state is = 0x15 => address = 0x16 = 22

Declaration of Conformity

AYMH6255: FCC ID = GCD-AYCX6X55

AYKL6255: FCC ID = GCD-AYX6255

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

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.

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.

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