

AY-R6255

Illuminated RFID Reader

Installation and Operational Manual



ROSSLARE
SECURITY PRODUCTS

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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 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.
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- All graphics in this manual are for reference only, some deviation between the image(s) and the actual product may occur.
- 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 AY-R6255 is 13.56 MHz RFID reader and is installed when using access control systems. This is a unique product that has a variety of options to control the reader's illumination according to various settings. An example of this are the settings that enable users to set the reader to project green light when everything is normal and red in case of emergency; this is done by adjusting the inputs accordingly.

This product is compatible with any Rosslare controller that supports Wiegand 26-Bit, Wiegand 32-Bit, Wiegand 34-Bit, or Wiegand 40-Bit protocols, as well with any third-party controllers that support the same Wiegand inputs.

The panel links are used to set various conditions between events and outputs to get the required illumination from the reader.

2. Technical Specifications

Electrical Characteristics	
Power Supply Type	Linear (recommended)
Operating Voltage Range	12–16 VDC
Maximum Input Current	Standby: 100 mA Read: 250 mA
Tamper Output	Open collector, active low, max. sink current 16 mA
Read Range* (max)	MIFARE Classic EV1®: 7 cm (2.8 in.) Felica/MIFARE Plus®/DESFire®: 3 cm (1.2 in.) ISO1443B: 5 cm (2.0 in.) China ID: 2 cm (0.8 in.)
Maximum Cable Distance to Controller	150 m (500 ft)
RE Modulation	ASK @ 13.56 MHz
Output Format	Wiegand 26-Bit, Wiegand 32-Bit, Wiegand 34-Bit, Wiegand 40-Bit
Environmental Characteristics	
Operating Temp. Range	-31°C to 63°C (-25°F to 145°F)
Operating Humidity Range	0 to 95% (non-condensing)
Physical Characteristics	
Height x Width x Depth	120 x 89 x 21 mm (4.7 x 3.5 x 0.8 in.)
Weight	202 g (7.1 oz)

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

3. Mounting Instructions



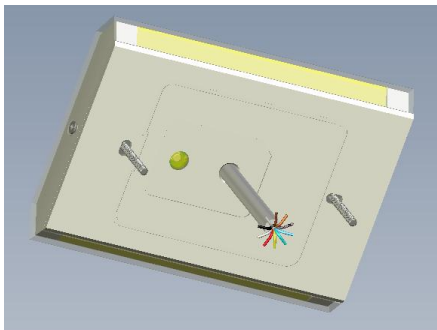
Installation of an RFID reader adjacent to metallic surfaces might alter the reader's specifications. To diminish this interference, use a plastic spacer when mounting the reader.

When mounting the reader, you must remove the snap-off cover to access the screw holes.

To mount the reader:

1. Determine an appropriate mounting position for the reader.
2. Screw off the back of the unit and place it at the desired mounting position.
3. Using the template as a guide, drill two holes (hole size is indicated on mounting template) for mounting the reader to the surface (Figure 1).

Figure 1: Mounting Template



4. Drill a 10-mm ($\frac{7}{16}$ ") hole for the cable.
5. Route the interface cable from the reader to the controller.



The proximity reader is also mountable using strong epoxy glue. After application, firmly hold the reader in place until the glue dries

4. Wiring Instructions

The AY-R6255 is supplied with a 10-wire 45-cm (18") pigtail, comprising a 6-conductor cable.

To connect the reader to the controller:

1. Prepare the reader cable by cutting its jacket back 4.5 cm (1¼") and strip the wires 1.3 cm (½").
2. Prepare the controller cable by cutting its jacket back 3.2 cm (1¼") and stripping the wires 1.3 cm (½").
3. Splice the reader's pigtail wires to the corresponding controller wires and cover each connection.

Table 1: Wiring Colors

Color	Wiring
Black	Ground
Red	Vin
Green	Data 0
White	Data 1
Brown	G.LED
Purple	Tamper
Yellow	SET 0
Blue	SET 1
Gray	SET 2
Orange	SET 3

If the tamper output is being utilized, connect the purple wire to the correct input on the controller.

4. Trim and cover all unused conductors.



Note

- The individual wires from the reader are color-coded according to 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 preferably be attached to an earth ground, or a signal ground connection at the panel, or power supply end of the cable. This configuration is best for shielding the Reader cable from external interference.

5. Operating Instructions

5.1 Lighting

Table 2 shows the settings for Set 0 through Set 3, which determine the color of the unit's lighting.

Table 2: Operations Table

Operation	Set 0	Set 1	Set 2	Set 3
Green	0	0	0	0
Green with dimming	0	0	0	1
Red	0	0	1	0
Red with dimming	0	0	1	1
Blue	0	1	0	0
Blue with dimming	0	1	0	1
Purple	0	1	1	0
Purple with dimming	0	1	1	1
Yellow	1	0	0	0
Yellow with dimming	1	0	0	1
Cyan/Aqua	1	0	1	0
Cyan/Aqua with dimming	1	0	1	1
White	1	1	0	0
White with dimming	1	1	0	1
No Illumination	1	1	1	0
7 colors circularly with dimmer	1	1	1	1

1 – Not connected; 0 – Connected to the ground

5.2 DIP Switch Settings for Output and Input Formats

Setting the DIP Switches of Pins 1 and 2 determine the output format of the reader (Table 3), while Pins 3 and 4 determine the card format that is read (Table 4).



Pins 5 through 8 are for future use.

Table 3: Output Format

Pin 1	Pin 2	Output
0	0	Wiegand 26-Bit
0	1	Wiegand 32-Bit
1	0	Wiegand 34-Bit
1	1	Wiegand 40-Bit

Table 4: Read Format

Pin 3	Pin 4	Read
0	0	ISO14443A
0	1	ISO14444B
1	0	ISO15693.Felica.Topaz
1	1	China ID/ ISO14443A

6. Testing the Reader

Once the reader has been wired to a power supply and the controller, it should be tested.

To test the reader:

1. Power up the reader. The beeper activates 3 times after which the LED lights up green (according to Set 0, Set 1, Set 2, and Set 3 setup). This indicates that the reader is working properly.
The default is that the reader switches colors circularly. The color can be set according to the input wires.
2. Present the appropriate type of proximity card to the reader. The LED turns green (if set to default) and a short beep is emitted, indicating that the card was read properly by to proximity reader.

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.

Caution:

This device complies with Part 15 of the FCC rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

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.

The device has been evaluated to meet general RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.



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