AY-HR/JR/KR/LR/MR12B

Proximity Readers

Installation Manual

1. Introduction

The AY-xR12B Series Proximity Readers (models AY-HR12B/JR12B/KR12B/LR12B/MR12B) are RFID proximity card readers to be installed for use with access control systems.

Figure 1: AY-xR12B Series

H J K L M

2. Technical Specifications

2.1 Electrical Characteristics

Power Supply Type	Linear type (recommended)	
Operating Voltage Range	5 to 16 VDC	
Maximum Input Current	AY-KR12B AY-JR12B	Standby: 35 mA Read: 50 mA
	AY-HR12B AY-LR12B AY-MR12B	Standby: 35 mA Read: 100 mA
Tamper Output	Open collector, active low, max sink current 16 mA	
Max Cable Distance to Controller	150 meters (500 ft.)	
RF Modulation	ASK	
Output Format	Wiegand 26-Bit	
Read Range (Max)*	AY-HR/LR12B	12 cm (4.7 in.)
	AY-JR/MR12B	10 cm (3.9 in.)
	AY-KR12B	8 cm (3.2 in.)

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

2.2 Environmental Characteristics

Operating Environment	Suitable for outdoor use (IP68)
Operating Temp. Range	-31°C to 63°C (-25°F to 145°F)
Operating Humidity Range	0 to 95% (non-condensing)
Regulatory Approvals	USA: UL 294 and FCC Part 15B Europe: CE Listed

2.3 Physical Characteristics

Model	Dimensions (H x W x D)	Weight
AY-HR12B	109.91 x 74.91 x 15 mm (4.3 x 3.0 x 0.6 in.)	100 g (3.5 oz)
AY-JR12B	119.95 x 41.95 x 14 mm (4.7 x 1.7 x 0.6 in.)	88.5 g (3.1 oz)
AY-KR12B	79.91 x 39.91 x 12.8 mm (3.2 x 1.6 x 0.5 in.)	70.5 g (2.5 oz)
AY-LR12B	144.91 x 42.91 x 20 mm (5.7 x 1.7 x 0.8 in.)	116 g (4.1 oz)
AY-MR12B	88.91 x 88.91 x 15 mm (3.5 x 3.5 x 0.6 in.)	109 g (3.9 oz)

3. Mounting Instructions

Mount the reader with the appropriate screws (not supplied) as indicated on the template.

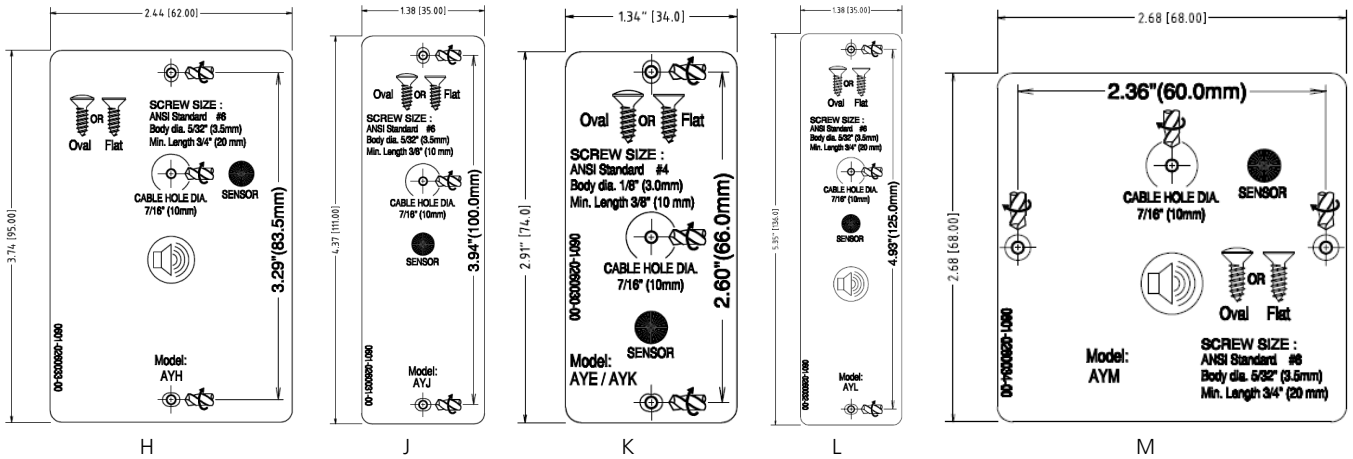
To mount the reader:

1. Remove the snap-off cover to access the screw holes.
2. Determine an appropriate mounting position for the reader.
3. Peel off the back of the self-stick mounting label template included with the unit and place at the desired mounting position.
4. Using the template as a guide, drill two holes for mounting the reader to the surface. The hole size is indicated on the mounting template (Figure 2).
5. 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.
6. Route the interface cable from the reader to the controller. A linear type power supply is recommended.

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

Card readers are to be used with a listed access control unit whose power supply is UL Listed Class 2 or equivalent.

Figure 2: Mounting Templates



H J K L M

4. Wiring Instructions

The proximity reader is supplied with a 45-cm (18") pigtail, having a 6-conductor cable.

To connect the reader to the controller:

1. Prepare the reader cable by cutting the cable jacket back 3.4 cm (1¼") and strip the wires 1.3 cm (½").
2. Prepare the controller cable by cutting the cable jacket back 3.4 cm (1¼") and strip the wires 1.3 cm (½").
3. Splice the reader pigtail wires to the corresponding controller wires and cover each connection (Table 1).

Table 1: Wiring

Color	Wiegand Output
Red	DC + Input
Black	Ground
Green	Data 0
White	Data 1
Brown	LED Control
Purple	Tamper

4. If the tamper output is being utilized, connect the purple wire to the correct input on the controller.
5. Trim and cover all conductors that are not used.

Note

- The individual wires coming out of the reader are color coded according to the recommended Wiegand standard.
- When using a separate power supply for the reader, this supply and the controller's power supply must have a common ground.
- The cable shield wire on the reader should be attached to an earth ground (best) or 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. Testing

The reader should be tested after wiring it to a power supply and the controller.

To test the reader:

1. Power up the reader.

   The LED and beeper activate three times. This indicates that the reader is working properly.
2. Present the appropriate type of proximity card to the reader.

   The LED momentarily flashes green and a short beep is emitted. This indicates that the card was read properly by the proximity reader.

After the card data is processed by the controller, the controller can then turn the LED green.

Refer to the controller description of the LED operation if the reader LED is controlled by the controller.

Declaration of Conformity

- 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.

Contact Information

United States and Canada
Rosslare Security Products, Inc.
Southlake, TX, USA
Toll Free: +1-866-632-1101
Local: +1-817-305-0006
Fax: +1-817-305-0069
support.na@rosslaresecurity.com

Europe
Rosslare Israel Ltd.
Rosh HaAyin, Israel
Tel: +972-3-938-6838
Fax: +972-3-938-6830
support.eu@rosslaresecurity.com

Latin America
Rosslare Latin America
Buenos Aires, Argentina
Tel: +54-11-4001-3104
support.la@rosslaresecurity.com

China
Rosslare Electronics (Shenzhen) Ltd.
Shenzhen, China
Tel: +86-755-8610-6842
Fax: +86-755-8610-6101
support.cn@rosslaresecurity.com

Asia Pacific, Middle East, Africa
Rosslare Enterprises Ltd.
Kowloon Bay, Hong Kong
Tel: +852-2795-5630
Fax: +852-2795-1508
support.apac@rosslaresecurity.com

India
Rosslare Electronics India Pvt Ltd.
Tel/Fax: +91-20-40147830
Mobile: +91-9975768824
sales.in@rosslaresecurity.com

0706-09601166+01

www.rosslaresecurity.com