ROSSLARE
SECURITY PRODUCTS

INSTRUCTION MANUAL

Models: AY-H20/J20/K20/M20/L20

MULTI FORMAT PROXIMITY CARD READERS

The AY-X20 Series Prox Readers are RFID proximity card readers to be installed for use with access control systems. This instruction manual contains information regarding the features, mounting, wiring, operating instructions and warranty details for the AY-X20 series readers.

AY-H20 **AY-J20** **AY-K20** **AY-L20** **AY-M20**

GENERAL FEATURES

- Selectable Wiegand, Clock&Data, or Serial RS232 Output
- Reads 26-Bit EM or Rosslare Format Cards
- Waterproof
- Green LED control line
- Red LED control line
- Buzzer control line
- Hold control line
- Optical tamper sensor
- Tamper output line
- UV Protected (F2 Rated) polycarbonate housing
- Available in a family of five shapes for various mounting applications:

AY-H20	US Single Gang Box
AY-J20	Mullion
AY-K20	Mullion
AY-L20	Mullion
AY-M20	UK Gang Box

- Mounting template for quick installation
- Limited Lifetime Warranty

MOUNTING INSTRUCTIONS

Figure 1 shows the front view of the Prox Readers. When mounting, the cover screw, and the snap-off cover must be removed to access the mounting holes.

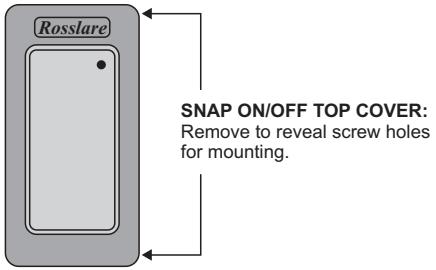

Figure 1

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

To mount the Reader, perform the following:

1) Determine an appropriate mounting position for the Reader.
2) Peel off the back of the self-stick mounting label template included with the unit and place 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.
4) Drill a 7/16" (10mm) hole for the cable. If mounting on metal, place a grommet or electrical tape around the edge of the hole.
5) Route the interface cable from the Reader to the Controller. A linear type power supply is recommended.

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

Card Readers are to be used with control panels whose power supply is UL Listed Class 2 or equivalent.

WIRING INSTRUCTIONS

The Prox Reader is supplied with an 18-inch pigtail, having a 6-conductor cable. To connect the Reader to the Controller, perform the following steps:

1) Prepare the Reader cable by cutting the cable jacket back 1 1/4 inches and strip the wires ½ inch.
2) Prepare the Controller cable by cutting the cable jacket back 1 1/4 inches and strip the wires ½ inch.
3) Splice the Reader pigtail wires to the corresponding Controller wires and cover each connection (see Figure 2).
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.

Figure 2 on the next page shows how you should wire the reader to the controller

WIRE COLOR	WIEGAND OUTPUT MODE	CLOCK & DATA OUTPUT MODE	SERIAL (RS232) OUTPUT MODE
Red	+DC	+DC	+DC
Black	Ground	Ground	Ground
Green	Data 0	Data	RS232
White	Data 1	Clock	-
Orange	Green LED	Green LED	Green LED
Brown	Red LED	Red LED	Red LED
Yellow	Buzzer	Buzzer	Buzzer
Blue	Hold	Hold	Hold
Purple	Tamper	Tamper	Tamper
Grey	Open Input	Connect to GND	Connect to +DC

Figure 2

OPERATION INSTRUCTIONS

TESTING THE READER AND CARD READING

The Reader should be tested after wiring it to a power supply and the Controller. Do this by performing the following steps:

1) Power up the Reader. The LED and Beeper will activate one time. This indicates that the Reader is working properly.
2) Present the appropriate type of proximity card to the Reader. The LED will momentarily flash green and a short beep will be emitted. This indicates that the card was read properly by the Prox Reader..
3) 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.

OUTPUT SELECTION

For Wiegand operation the grey wire should be an open circuit, for Clock & Data operation the grey wire should be held to ground, for Serial RS232 operation the grey wire should be held to +DC (VIN).

LED CONTROL

If the LED control wires (orange and brown) are not used (open) the reader LED will remain red continuously and when successfully reading a card the reader will flash the LED green momentarily.

The Bi-Color LED color can be controlled using the orange and brown wires. When the orange wire is held to ground the LED will be green; when the brown wire is held to ground the LED will be red; when both the brown and orange wires are held to ground the LED will be amber.

BUZZER CONTROL

If the buzzer control wire (yellow) is not used (open) the buzzer will beep only when a card is read successfully. The buzzer can also be controlled using the yellow wire. When the yellow wire is held to ground the buzzer will sound.

HOLD CONTROL

The reading of cards can be disabled using the hold wire (blue). If the blue wire is held to ground the reader will ignore all cards placed in its field. If the blue wire is open the reader will read cards normally.

TAMPER OUTPUT

This reader has an optical tamper sensor; when the sensor detects light the tamper output is held to ground; when the sensor does not detect light the tamper out put is held high open collector.

READ RANGE

The read ranges provided below are measured using Rosslare proximity cads (P/N AT-11/14) or equivalent. Range also depends on electrical environment and/or proximity to metal.

Model Number	Read Range (Max.)
AY-H20	12 cm
AY-J20	10 cm
AY-K20	8 cm
AY-L20	12 cm
AY-M20	10 cm

Table 1

SPECIFICATIONS

Electrical Characteristics:		
Power Supply Type	Linear type recommended	
Operating Voltage Range	5 - 16 VDC	
Maximum Input Current	AY-K20 AY-J20 AY-H20 AY-L20 AY-M20	Standby : 65 mA Read : 100 mA
Tamper Output	Open collector, active low, max. sink current is 16 mA	
Maximum Cable Distance to Controller	150 meters (500 ft.)	
RF Modulation	ASK, 125KHz	
Card Read Distance:	See Table 1	
Operating Temp. Range:	-31°C to 63°C (-25°F to 145°F)	
Operating Humidity:	0 to 95% (non condensing)	
Dimensions (mm):		
AY-H20	109.91 x 74.91 x 15.00	
AY-J20	119.95 x 41.95 x 14.00	
AY-K20	79.91 x 39.91 x 12.80	
AY-L20	144.91 x 42.91 x 20.00	
AY-M20	88.91 x 88.91 x 15.00	

LIMITED LIFETIME WARRANTY

ROSSLARE ENTERPRISES LIMITED'S (Rosslare) LIMITED LIFETIME WARRANTY is applicable worldwide. This warranty supersedes any other warranty. Rosslare's LIMITED LIFETIME WARRANTY is subject to the following conditions:

WARRANTY

Warranty of Rosslare's products extends to the original purchaser of the Rosslare product and is not transferable.

WARRANTY DURATION

Rosslare warrants this product against defects in material and/or workmanship for the life of the product from the date of original purchase to the original purchaser.

WARRANTY COVERAGE

Rosslare will repair or replace, at its option, any product which under normal conditions of use and service proves to be defective in material or workmanship. No charge will be made for labor or parts with respect to defects covered by this warranty, provided that the work is done by Rosslare or a Rosslare authorized service center. This warranty does not cover expenses incurred in the transportation, removal or reinstallation of the product, whether or not proven defective. Replacement or repairs furnished under this warranty are subject to the same terms and conditions of the original warranty.

EXCLUSIONS AND LIMITATIONS

Specifically excluded from this warranty are failures caused by abuse, neglect, misuse, improper operation, normal wear, accident, improper maintenance or modification. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate. In no event shall Rosslare be liable for incidental or consequential damages.

LIMITED LIFETIME WARRANTY TERMS

The terms of this warranty may not be varied by any person, whether or not purporting to represent or act on behalf of Rosslare. **This warranty represents the full extent of Rosslare's responsibility. Repair, replacement, or refund of the original purchase price, of the product is the exclusive remedy. This limited lifetime warranty is provided in lieu of all other warranties. All other warranties expressed or implied, including without limitation, implied warranties of merchantability and fitness for a particular purpose, are specifically excluded. In no event shall Rosslare be liable for damages in excess of the purchase price of the product, or for any other incidental, consequential or special damages, including but not limited to loss of use, loss of time, commercial loss, inconvenience, and loss of profits, arising out of the installation, use, or inability to use such product, to the fullest extent that any such loss or damage may be disclaimed by law.** This warranty shall become null and void in the event of a violation of the provisions of this limited warranty.

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