AY-W6x50 Family

MIFARE® Contactless Smart Card / PIN Readers

Installation and Programming Manual

Models:

AY-W6250

AY-W6350

AY-W6250

AY-W6350

ROSSLARE
SECURITY PRODUCTS

Copyright © 2014 by Rosslare. All rights reserved.

This manual and the information contained herein are proprietary to ROSSLARE ENTERPRISES LIMITED and/or its related companies and/or subsidiaries' (hereafter: "ROSSLARE"). Only ROSSLARE and its customers have the right to use the information.

No part of this manual may be re-produced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of ROSSLARE.

ROSSLARE owns patents and patent applications, trademarks, copyrights, or other intellectual property rights covering the subject matter in this manual.

TEXTS, IMAGES, AND ILLUSTRATIONS INCLUDING THEIR ARRANGEMENT IN THIS DOCUMENT ARE SUBJECT TO THE PROTECTION OF COPYRIGHT LAWS AND OTHER LEGAL RIGHTS WORLDWIDE. THEIR USE, REPRODUCTION, AND TRANSMITTAL TO THIRD PARTIES WITHOUT EXPRESS WRITTEN PERMISSION MAY RESULT IN LEGAL PROCEEDINGS.

The furnishing of this manual to any party does not give that party or any third party any license to these patents, trademarks, copyrights or other intellectual property rights, except as expressly provided in any written agreement of ROSSLARE.

ROSSLARE reserves the right to revise and change this document at any time, without being obliged to announce such revisions or changes beforehand or after the fact.

Table of Contents

List of Figures

List of Tables

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, and/or software 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.
- The text, images and graphics contained in the manual are for the purpose of illustration and reference only.
- All data contained herein subject to change without prior notice.
- In no event shall manufacturer be liable for any special, direct, indirect, incidental, consequential, exemplary or punitive damages (including, without limitation, any and all damages from business interruption, loss of profits or revenue, cost of capital or loss of use of any property or capital or injury).
- 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-W6250 and AY-W6350 series are metallic MIFARE® contactless smart card/PIN readers for indoor and outdoor use. The units read the MIFARE card serial number (CSN) and transmit in Wiegand, Clock & Data or Wiegand Card + PIN formats.

In addition, the AY-W6350 comes with a backlit keypad that can be programmed to output eight different data formats. The AY-W6350 supports MIFARE cards that allow multiple card and keypad transmission formats, thus providing a high level of compatibility and connectivity with host controllers.

1.1 Main Features

- Built-in 13.56 MHz ISO1443A-3 smart card reader
- Programmable card transmission formats:
  - Wiegand 26- to 40-Bit
  - Clock & Data
  - Wiegand Card + PIN
- Programmable keypad transmission formats (AY-W6350)
- Built-in backlit keypad (AY-W6350)
- Built-in, optical back tamper
- Tamper output
- LED control input serves as either LED or buzzer control, selected by factory only
- Programmable Facility code
- Internal buzzer provides audible interface feedback
- Water-resistant – suitable for outdoor use
- Single, tri-colored LED
- Comes with an installation kit

1.2 Supported RFID Transponders

The AY-W6250 and AY-W6350 read the following transponders:

- MIFARE Ultralight 512-bit EEPROM
- MIFARE Classic 1K bytes memory
- MIFARE Classic 4K bytes memory

MIFARE Ultralight 512-bit EEPROM is only partly supported; only 32 bits out of the 64 bits can be transmitted.

1.3 Box Content

Before beginning, verify that all of the following is in the box; if anything is missing, please contact your nearest Rosslare office.

- One AY-W6x50 reader
- Installation kit including:
  - One drilling template (label/sticker)
  - One security spline key
  - One security hex screw
  - Two mounting screws and wall plugs
- Installation and Programming Manual

2. Technical Specifications

Electrical Characteristics	
Power Supply Type	Linear type (recommended)
Input Voltage	5–16 VDC
Absolute Maximum Voltage (non-operating)	18 VDC
Maximum Input Current	AY-W6250: Standby: 110 mA, Read: 165 mA
	AY-W6350: Standby: 180 mA, Read: 235 mA
LED Control Input	Dry Contact N.O.
Tamper Output	Open collector, active low, max. sink current 32 mA
Max. Controller Cable Distance	150 m (500 ft)
Max. Proximity Read Range*	AY-W6250: 65 mm (2.6 in.)
	AY-W6350: 70 mm (2.8 in.)
Frequency	13.56 MHz
Transmission Formats	Wiegand and Clock & Data
Card Compatibility	MIFARE and all ISO1443A-3 cards
Environmental Characteristics	
Operating Temp. Range	-31°C to 63°C (-25°F to 145°F)
Operating Humidity	0 to 95% (non-condensing) Suitable for outdoor use (meets IP65)
Dimensions	
Height x Width x Depth	125 x 83 x 29.5 mm (4.9 x 3.3 x 1.2 in.)
Weight	230 g (8.1 oz)

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

3. Installation

Note

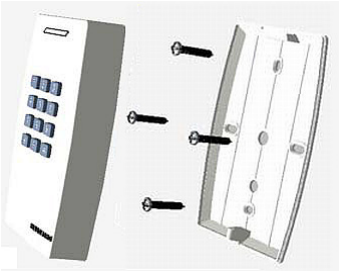
Installation of an RFID reader adjacent to metallic surfaces might alter the reader's specifications. To diminish this interference, use a plastic spacer when mounting the reader.

The AY-W6250 and AY-W6350 packs include everything needed to install and operate the smart card sector readers. Mount the reader on the required surface and connect it to the access control system.

3.1 Mounting Instructions

1. Determine an approximate location for the installation of the reader.
2. Remove the cover using the security spline key to access the screw holes on the back plate (Figure 1).

Figure 1: Removing Back Cover



3. Peel off the back of the self-adhesive installation label template and locate it at the required location.
4. Using the template as a guide, drill four holes (the size of which are indicated in the template) to install the reader onto the surface.
5. Drill a 10-mm ($^{7}/_{16}$") hole for the cable. In the event that you are installing the reader 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.

   The AY-W6350 fits US and UK gang boxes for easy installment.

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

7. Wire the unit as explained in Section 3.2.
8. Once wired, replace the unit's back onto its back plate and secure using the tamper-proof screw and the special tool supplied with the hardware.

3.2 Wiring Instructions

The AY-W6x50 is supplied with an 18" pigtail, comprising six wires.

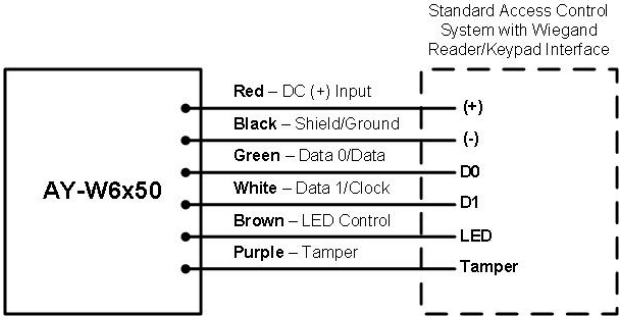
To connect the reader to the controller:

1. Prepare the unit's cable by cutting the cable jacket back 3.2 cm (1¼") and stripping the wire 1.3 cm (½").
2. Prepare the controller cable by cutting the cable jacket back 3.2 cm (1¼") and stripping the wire 1.3 cm (½").
3. Splice the reader's pigtail wires to the corresponding controller wires (as listed in Table 1 and shown in Figure 2) and cover each joint with insulating tape.

Table 1: Wiring Colors

Reader	Color	Function
5~16 VDC	Red	+DC input
Shield/Ground	Black	Ground
Data 1	White	Data 1
Data 0	Green	Data 0
LEDCTL	Brown	LED/buzzer control
Tamper	Purple	Tamper

Figure 2: Connecting the Reader to an Access Control System



4. If the tamper output is being utilized, connect the purple wire to the correct input on the controller.
5. Trim and cover all unused conductors.

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 a power supply end of the cable. This configuration is best for shielding the reader cable from external interference.

4. How to Use the Reader

After the reader has been mounted, connected to an access control system, and configured, it is ready for use.

4.1 Normal Operation

The reader's normal operation is in CSN mode, in which it scans every card and sends each card's serial number to the access control system. This CSN is unique for each card. A short beep is emitted and the LED momentarily turns green, and then returns to red.

If the card serial number is not fully transmitted, only the LSB portion of the serial number is transmitted. This depends on the reader transmit format of the selected reader and the length of the card serial number. For example, when the Wiegand 26-bit transmit format is selected; the MSB byte of the MIFARE 1K card's serial number is not transmitted.

4.2 Optical Back Tamper

The AY-W6250 and AY-W6350 include an optical back tampering mechanism which detects all attempts to dismantle the unit or remove it from the wall.

The status of the tamper mechanism is indicated by the purple Tamper control wire.

When the back tamper optical sensor is in "darkness" status, the internal tamper output transistor is pulled to low.

When the back tamper optical sensor is in its "lit" status, the internal tamper output transistor's collector is open. A tamper signal is detected by the host control panel.

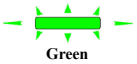
5. Keypad Programming Instructions (AY-W6350)

5.1 Transmit Mode

When the AY-W6350 is in Transmit mode, it is ready to read MIFARE CSN or entered PIN code data.

When the reader is in Transmit mode, the Transmit LED is red.

When a card or PIN entry is being transmitted, the Transmit LED flashes green.



Keyboard data can be sent via one of several different keypad transmission formats. See Section 5.6 for more information on selecting keypad transmission formats.

MIFARE cards presented to the reader are always sent in Wiegand, Clock & Data, or Card + PIN Wiegand format. See Section 5.7.8 for more information on selecting card transmission formats.

5.2 LED Control

To cause the LED to remain green continuously, pull the LED control wire (brown) to ground (black wire). If the LED control wire (brown) is left open, the LED behaves as described above.

Connecting the LED control input to the access control unit's LED control output allows control of the LED color; for example, it may turn it green then back to red on access granted by valid card.

5.3 Programming Menu

Programming the AY-W6350 is done via the unit's keypad driven programming menu system. To reach the programming menu system, the AY-W6350 must first be placed into Programming mode (see Section 5.3).

Table 2 shows the names of all the programming menus. Default factory settings are marked by an asterisk (*).

Table 2: Programming Menu

	Menu Description	Default
1	**Selecting Keypad Transmission Format** 1 – Single Key, Wiegand 6-Bit (Rosslare Format, Default) 2 – Single Key, Wiegand 6-Bit with Nibble + Parity Bits 3 – Single Key, Wiegand 8-Bit, Nibbles Complemented 4 – 4 Keys Binary + Facility Code, Wiegand 26-Bit 5 – 1 to 5 Keys + Facility Code, Wiegand 26-Bit 6 – 6 Keys BCD and Parity Bits, Wiegand 26-Bit 7 – Single Key, 3x4 Matrix Keypad 8 – 1 to 8 Keys BCD, Clock & Data Single Key	*
2	**Selecting MIFARE Card Transmission Format** 1 – Wiegand 26-Bit (default) 2 – Clock & Data 3 – Wiegand Card + PIN 4 – Wiegand 26-Bit with Facility Code Output 5 – Wiegand 32-Bit 6 – Wiegand 32-Bit Reverse Output 7 – Wiegand 34-Bit 8 – Wiegand 40-Bit	*
3	**Changing the Programming Code**	1234
4	**Changing the Facility Code**	001
0	**Return to Factory Default Settings**	

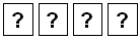
5.4 Entering Programming Mode

To enter Programming mode:

1. Press **#** four times.

   The Transmit LED flashes orange.

2. Enter your Programming code.



3. If the Programming code is valid, the program LED turns orange and the AY-W6350 enters Programming mode.

Note

- The factory default Programming code is 1234.
- If a Programming code is not entered within 30 seconds, the AY-W6350 returns to Transmit mode.

5.5 Exiting Programming Mode

To exit Programming mode (at anytime):

1. Press **#**.

   You hear a long beep and the Transmit LED turns red.

   This indicates that the AY-W6350 has returned to Transmit mode.

   While in Programming mode, if no key is pressed for 30 seconds, the AY-W6350 exits Programming mode and returns to Transmit mode.

5.6 Selecting Keypad Transmission Format

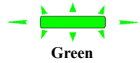
The AY-W6350 has eight different keypad transmission selectable formats (see Section 5.7).

To select the keypad transmission format:

1. Enter Programming mode.

2. Press **1** to enter Menu 1.

   The Transmit LED flashes green.



3. Enter the appropriate option number for the keypad transmission format that you wish.

   Three beeps are emitted on success.

   When selecting Option 8, the Program LED turns green and awaits additional key input selecting the number of keys.

   You hear three beeps.

   The system returns to Transmit mode.

   If an incorrect option number is entered, a long beep is sounded, the reader returns to Transmit mode and the keypad transmission format remains unchanged.

Only one keypad transmission format can be active at any one time.

5.7 Keypad Transmission Format Option Number

See Table 3 to determine the option number for the keypad transmission format you wish to select.

Table 3: Keypad Transmission Formats

Keypad Transmission Format	Option Number
Single Key, Wiegand 6-Bit (Rosslare Format)	1*
Single Key, Wiegand 6-Bit with Nibble + Parity Bits	2
Single Key, Wiegand 8-Bit, Nibbles Complemented	3
4 Keys Binary + Facility Code, Wiegand 26-Bit	4
1 to 5 Keys + Facility Code, Wiegand 26-Bit	5
6 Keys BCD and Parity Bits, Wiegand 26-Bit	6
Single Key, 3x4 Matrix Keypad	7
1 to 8 Keys BCD, Clock & Data Single Key	8

* Option 1 is the default factory setting.

More information on each of the different keypad transmission formats is available in the following subsections.

5.7.1 Single Key, Wiegand 6-Bit (Rosslare Format)

Each key press immediately sends 4 bits with 2 parity bits added – even parity for the first 3 bits and odd parity for the last 3 bits.

0 = 1 1010 0 6 = 1 0110 0
1 = 0 0001 0 7 = 1 0111 1
2 = 0 0010 0 8 = 1 1000 1
3 = 0 0011 1 9 = 1 1001 0
4 = 1 0100 1 * = 1 1011 1 = "B" in Hexadecimal
5 = 1 0101 0 # = 0 1100 1 = "C" in Hexadecimal

5.7.2 Single Key, Wiegand 6-Bit, Nibble & Parities

Each key press immediately sends 4 bits with 2 parity bits added – even parity for the first 3 bits and odd parity for the last 3 bits.

0 = 0 0000 1 6 = 1 0110 0
1 = 0 0001 0 7 = 1 0111 1
2 = 0 0010 0 8 = 1 1000 1
3 = 0 0011 1 9 = 1 1001 0
4 = 1 0100 1 * = 1 1010 0 = "A" in Hexadecimal
5 = 1 0101 0 # = 1 1011 1 = "B" in Hexadecimal

5.7.3 Single Key, Wiegand 8-Bit, Nibbles Complemented

This options inverts the most significant bits in the message leaving the least 4 significant bits as BCD representation of the key. The host system receives an 8-bit message.

0 = 11110000 6 = 10010110
1 = 11100001 7 = 10000111
2 = 11010010 8 = 01111000
3 = 11000011 9 = 01101001
4 = 10110100 *= 01011010 = "A" in Hexadecimal
5 = 10100101 # = 01001011 = "B" in Hexadecimal

5.7.4 4 Keys Binary + Facility Code, Wiegand 26-Bit

This option buffers 4 keys and outputs keypad data with a 3-digit facility code like a standard 26-bit card output.

The Facility code is set in Programming Menu 4 four and can be in the range 000 to 255. The factory default setting for the facility code is 001 (see Section 5.11 for more information).

The keypad PIN code must be 4 digits in length and can range between 0000 and 9999. On the fourth key press of the 4-digit PIN code, the data is sent across the Wiegand Data lines as binary data in the same format as a 26-Bit card.

If ***** or **#** is pressed during PIN code entry, the keypad clears the PIN code entry buffer, generates a beep and is ready to receive a new 4-digit keypad PIN code.

If the entry of the 4-digit keypad PIN code is disrupted and no number key is pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a beep and is ready to receive a new 4-digit keypad PIN code.

(EP) FFFF FFFF AAAA AAAA AAAA AAAA (OP)

Where: EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

F = 8-Bit Facility code

A = 24-Bit code generated from keyboard

5.7.5 1 to 5 Keys + Facility Code, Wiegand 26-Bit

This option buffers up to 5 keys and outputs keypad data with a facility code like a 26-bit card output.

The Facility code is set in Programming Menu 4 and can be in the range 000 to 255. The factory default setting for the Facility code is 001 (see Section 5.11).

The keypad PIN code can be one to five digits in length and can range between 0 and 65,535. When entering a keypad PIN code that is less than 5 digits in length, **#** must be pressed to signify the end of PIN code entry. For keypad PIN codes that are 5 digits in length, on the fifth key press of the 5-digit PIN code, the data is sent across the Wiegand Data lines as binary data in the same format as a 26-bit card.

If ***** is pressed during PIN code entry or a PIN code greater than 65,535 is entered, the keypad clears the PIN code entry buffer, generates a beep and is ready to receive a new 4-digit keypad PIN code.

If the entry of the 1- to 5-digit keypad PIN code is disrupted and no number key is pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep and is ready to receive a new 1- to 5-digit keypad PIN code.

(EP) FFFF FFFF AAAA AAAA AAAA AAAA (OP)

Where: EP = Even parity for first 12 bits

OP = Odd parity for last 12 bits

F = 8-Bit Facility code

A = 24-Bit code generated from keyboard

5.7.6 6 Keys BCD and Parity Bits, Wiegand 26-Bit

This option sends a buffer of 6 keys, adds parity, and sends a 26-bit BCD message. Each key is a four bit equivalent of the decimal number.

The keypad PIN code must be 6 key presses long. On the sixth key press of the 6-digit PIN code, (**#** and ***** keys are valid), the data is sent across the Wiegand Data lines as a BCD message.

If the entry of the 6-digit keypad PIN code is disrupted and no number key is pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep and is ready to receive a new 6-digit keypad PIN code.

(EP) AAAA BBBB CCCC DDDD EEEE FFFF (OP)

Where:

A = The first key entered D = Fourth key entered

B = Second key entered E = Fifth key entered

C = Third key entered F = Sixth key entered

5.7.7 Single Key, 3x4 Matrix Keypad (MD-P64)

Each key press immediately sends 4 bits data, no parity bits added.

0 = 0000	6 = 0110
1 = 0001	7 = 0111
2 = 0010	8 = 1000
3 = 0011	9 = 1001
4 = 0100	* = 1010 = "A" in Hexadecimal
5 = 0101	# = 1011 = "B" in Hexadecimal

5.7.8 1 to 8 Keys BCD, Clock & Data

This option buffers up to 8 keys and outputs keypad data, much like standard Clock and Data card output.

The keypad PIN code can be one to eight digits in length. The PIN code length is selected while programming the reader for Option 8. The reader transmits the data when it receives the last key press of the PIN code. The data is sent across the two data output lines as binary data in Clock & Data format.

If ***** or **#** is pressed during PIN code entry, the keypad clears the PIN code entry buffer, generates a beep, and is ready to receive a new keypad PIN code.

If the entry of the digit keypad PIN code is disrupted and a number key or # is not pressed within 5 seconds, the keypad clears the PIN code entry buffer, generates a medium length beep and is ready to receive a new keypad PIN code.

5.8 Selecting the Proximity Card Transmission Format

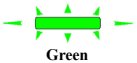
The AY-W6350 has different selectable card transmission formats (see Section 5.9).

To select the proximity card transmission format:

1. Enter Programming mode.

2. Press **2** to enter Menu 2.

   The Transmit LED flashes green.



3. Enter the appropriate option number for the card transmission format you want.

   You hear three beeps.

   The system returns to Transmit mode.

If an incorrect option number is entered, the reader returns to Transmit mode and the keypad transmission format remains unchanged.

5.9 Card Transmission Format Option Number

Keypad Transmission Format	Option Number
Wiegand 26-Bit (default)	1
Clock & Data	2
Wiegand Card and PIN	3
Wiegand 26-Bit with Facility Code Output	4
Wiegand 32-Bit	5
Wiegand 32-Bit Reverse Output	6
Wiegand 34-Bit	7
Wiegand 40-Bit	8

5.9.1 Wiegand 26-Bit

In this mode, 3 bytes of card serial number are transmitted in Wiegand 26-Bit format. Two parity bits are added. An even parity bit is sent first, followed by three bytes card data than followed by odd parity bit.

The fourth byte of the cards serial number is not transmitted.

(EP) AAAA AAAA AAAA AAAA AAAA AAAA (OP)

Where: EP = Even parity for first 12 bits
OP = Odd parity for last 12 bits
A = 3 bytes code generated from card data

5.9.2 Clock and Data

In this mode, 4 bytes of card serial number are transmitted in Clock&Data format.

5.9.3 Wiegand Card + PIN Transmission Format

This unique mode is intended to let host controllers get card and keypad data simultaneously. This option overrules the selected Keypad Transmission Format and sends the keypad data as described below.

The AY-W6350 output data turns into a virtual Wiegand 52-bit – 26-bit card data followed by a 26-bit keypad data.

After a card is presented to the AY-W6350, the Transmit LED starts to flash red to indicate that the AY-W6350 is waiting for the PIN code.

The entered PIN code is buffered up to 5 keys and outputs keypad data with a Facility code much like Option 5 (1 to 5 Keys + Facility Code, Wiegand 26-Bit) (see Section 5.7.5).

5.9.4 Wiegand 26-Bit and Facility Code

In this mode, 1 byte Facility code followed by 2 bytes of the card's serial number are transmitted in Wiegand 26-Bit format. Two parity bits are added. An even parity bit is sent first, followed by one facility code byte then followed by two bytes card serial number ending with an odd parity bit.

(EP) FFFF FFFF AAAA AAAA AAAA AAAA (OP)

Where: EP = Even parity for first 12 bits
OP = Odd parity for last 12 bits
F = 1 byte Facility code
A = 2 bytes code generated from card serial number.

The third and fourth bytes of the cards serial number is not transmitted.

5.9.5 Wiegand 32-Bit

In this mode, 4 bytes of card serial number are transmitted in Wiegand 32-bit format. No parity bits are added.

AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD

Where: A = 4th (MSB) byte of card serial number
B = 3rd byte of card serial number
C = 2nd byte of card serial number
D = 1st (LSB) byte of card serial number

5.9.6 Wiegand 32-Bit Reversed

In this mode, 4 bytes of card serial number are transmitted in Wiegand 32-bit format. Bytes are sent in reversed order. LSB part of card serial number is sent first and MSB byte is sent last. No parity bits are added.

DDDD DDDD BBBB BBBB CCCC CCCC AAAA AAAA

Where: D = 1st (LSB) byte of card serial number
C = 2nd byte of card serial number
B = 3rd byte of card serial number
A = 4th (MSB) byte of card serial number

5.9.7 Wiegand 34-Bit

In this mode, 4 bytes of card serial number are transmitted in Wiegand 34-bit format. Bytes are sent in reversed order. LSB part of card serial number is sent first and MSB byte is sent last. An even parity is sent first, followed by 32 bits data followed by odd parity bit.

(EP) AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD (OP)

Where: EP = Even parity for first 16 data bits
OP = Odd parity for last 16 data bits
A = 4th (MSB) byte of card serial number
B = 3rd byte of card serial number
C = 2nd byte of card serial number
D = 1st (LSB) byte of card serial number

5.9.8 Wiegand 40-Bit and Checksum

In this mode, 4 bytes of card serial number are transmitted in Wiegand 40-Bit format. Bytes are sent in reversed order. LSB part of card serial number is sent first. Last byte sent is Checksum byte generated by adding 4 data bytes and discarding remainder beyond 8 bytes.

AAAA AAAA BBBB BBBB CCCC CCCC DDDD DDDD (CSUM)

Where: A = 4th (MSB) byte of card serial number
B = 3rd byte of card serial number
C = 2nd byte of card serial number
D = 1st (LSB) byte of card serial number
CSUM = Checksum value, 1 byte (A+B+C+D)

5.10 Changing the Programming Code

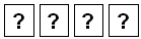
To change the Programming code:

1. Enter Programming mode.

2. Press **3** to enter Menu 3.

The Transmit LED flashes green.

3. Enter the new code you wish to set as the Programming code.



You hear three beeps.

The system returns to Transmit mode.

Note
- The Default Programming code is 1234.
- The Programming code cannot be erased, meaning the code 0000 is not valid and does not erase the Programming code

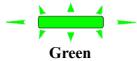
5.11 Changing the Facility Code

To change the Facility code:

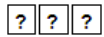
1. Enter Programming mode.

2. Press **4** to enter Menu 4.

The Transmit LED flashes green.



3. Enter the new 3-digit code you wish to set as the Facility code.



You hear three beeps.

The system returns to Transmit mode.

Note
- The default Facility code is 001.
- Facility codes can be in the range between 000 and 255.

5.12 Return to Factory Default Settings

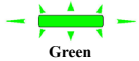
> Caution: You must be very careful before using this command! Doing so erases the entire memory that includes all user and special codes, and returns all codes to their factory default settings.

To return to factory default settings:

1. Enter Programming mode.

2. Press **0** to enter Menu 0.

   The Transmit LED flashes green.



3. Enter your Programming code.

   If the Programming code is valid, all memory is erased. You hear three beeps and the controller returns to Transmit mode.

   If the Programming code is invalid you hear a long beep and the controller returns to Transmit mode without erasing the memory of the controller.

5.13 Replacing a lost Programming Code

In the event that the Programming code is forgotten, the AY-W6350 may be reprogrammed in the field using the following instructions:

1. Remove power from the reader.
2. Activate tamper by removing the reader from the wall or removing the reader's case.
3. Apply power to the reader.
4. You now have 10 seconds to enter Programming mode using the factory default Programming code 1234.

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.

Asia Pacific, Middle East, Africa

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

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

India

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

ROSSLARE
SECURITY PRODUCTS
www.rosslaresecurity.com

0706-0960469+02