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Red Reader | Single-Gang & Keypad User Manual

3 years ago · Updated

This installation guide applies to the following types of readers:

ngle-Gang Reader High-Security (13.56MHz)

Support ngle-Gang Reader High-Security + Prox (125 kHz)

- RGB — Single-Gang Reader High-Security + Mobile
- RGPB — Single-Gang Reader High-Security + Prox + Mobile
- RK — Keypad Reader High-Security (13.56MHz)
- RKP — Keypad Reader High-Security + Prox (125 kHz)
- RKB — Keypad Reader High-Security + Mobile
- RKPB — Keypad Reader High-Security + Prox + Mobile
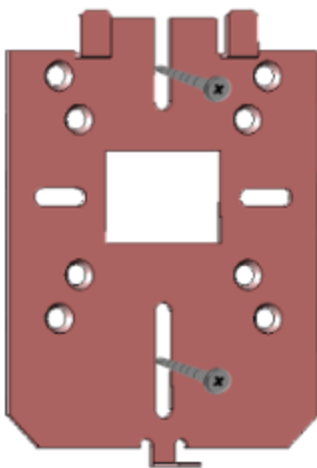
Package Contents

- (2) #6 screws
- Reader, backplate, and wall plate
- (1) #4–40, (1) pin-in-torx
- (4) #4 screws

You need the following tools for installation:

- Phillips-head screwdriver
- 1" (25 mm), 1/8" drill bits
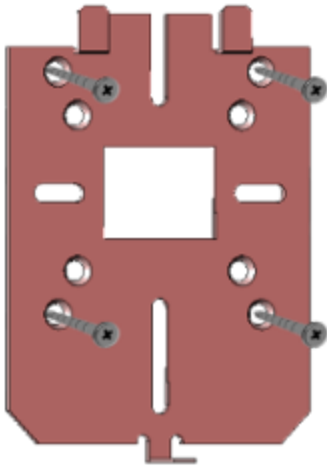- T8 security torx bit (optional for increased tamper detection)

1. Install Metal Wall Plate to Single-Gang Box

Connect the wall plate to the single gang box using the provided #6 screws. Alternatively, the reader can be mounted using the provided #4 screws in the four outer holes for other installation requirements. Drywall installations will require molly bolts.

Standard single-gang box installation

Alternative for situations outside of a single gang box installation

2. Wire the Cable to the Control Panel

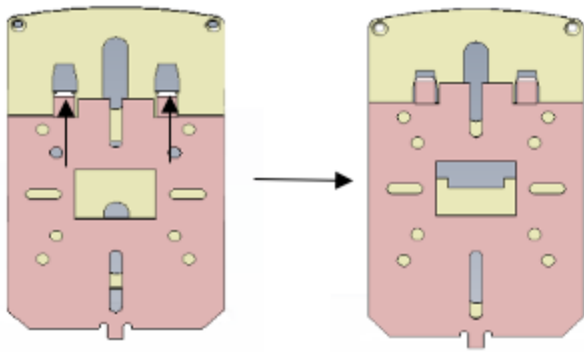| Common Cable Connections	
Red	Power In
Black	Ground
Shield	Shield Ground
Brown*	Tamper Out
Green	Wiegand Data 0 / RS 485A
White	Wiegand Data 1 / RS 485B
Yellow*	Beeper Control
Blue*	Green LED Control
Orange*	Red LED Control

*these wires are only used in Wiegand readers.

** All wiring methods used shall be in accordance with the National Electrical Code, ANSI/NFPA 70

Max Length to Panel	
Wiegand	
Length	**AWG**
200' (60 m)	22
300'	20
500'	18
OSDP 9600 Baud Power 12 VDC	
1000'	22 AWG Twisted Pair
Current @ 12 V and 25 C	
Avg. mA	**Max. mA**
ET20: 118	ET20: 169
ET25: 143	ET25: 193

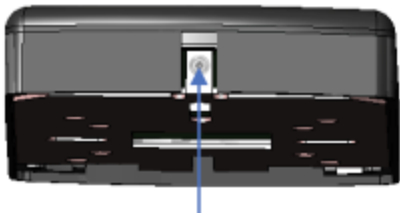# 3. Attach the Reader to the Wall Plate

Align the reader so that the tabs of the base plate slide into the slots on the wall plate and slide the reader into position.

4. Install the Reader Screw

Install the #4-40 screw or pin-in-torx at the bottom of the reader.

Screw or pin-in-torx

5. Test the Reader

Power the reader and wait for the power up LED beep sequence to complete (see page 2 for sequence description). Present a valid credential to the reader and the light-bar will turn green. If the test fails, check the wiring.

Installation Tips

- When connecting the reader to a Wiegand panel, connect the green wire to Data 0 and the white wire to Data 1
- When connecting the reader to an OSDP panel, connect the green wire to RS485A, and the white wire to RS485B.
- For an OSDP system, verify that the panel is successfully communicating with the reader prior to reading a badge or pressing a key.

Wiegand/OSDP Tips

- By default, the reader will transmit credential and keypad data in Wiegand communication mode.
- Upon each power up, and before the reader reads a credential or a key is pressed, the re
  will be listening for an incoming OSDP message. If a message is received during this period,

the reader will automatically switch to OSDP-only communication mode.

- To return to OSDP auto-detect mode (default mode), tilt the reader 45 degrees to simulate tamper and cycle power in this state. The power up sequence should indicate OSDP auto-detect with 4 beeps.

Reader Startup Sequence

Upon a power reset, the Red Readers provide a reset sequence using the LED indicator and the beeper, to provide information about the reader type and its communication mode. The first sequence (sequence A) describes the credential technologies built in the reader. First, a silent LED sequence will indicate the supported RF protocols. Both LEDs turn off for 250 milliseconds.

HF

Beeper silent, green LED on for 500 milliseconds

Prox

Beeper silent, amber LED on for 500 milliseconds

After the above AV sequence identifies the supported RF protocols, the reader will then indicate the supported host communication using beep/flash sequences. Then beeper and both LEDs turn off for 250 milliseconds.

Wiegand

Beep and blink red LED once for 200 milliseconds

OSDP

Beep and blink green LED twice for 200 milliseconds each

Auto-Detect

Beep and blink green LED 4 times for 200 milliseconds each

Keypad Mode Setup

Within one minute of reader reset, enter the keypad config code: *88889999. The reader will beep three times, and LED will flash amber for each beep. Within 2 seconds of entering the keypad config code, press the corresponding key code below for the desired format. The reader then beeps three times, LED flashes amber for each beep.

4-Bit Format

*4

8-Bit Format

*8

26-Bit Format

#077

Note:
• All wiring methods used shall be in accordance with the National Electrical Code, ANSI/NFPA 70
• Readers must be powered by a compatible UL Listed, power limited, access control panel rated 5 – 16 VDC.
Performance Levels
• Destructive Attack: I
• Line Security: I
• Endurance: IV (125 kHz, 13.56 MHz), I (BLE)
• Standby Power: I

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.

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