Mullion Reader Installation

This installation guide applies to the following types of readers:

- ET10 – Mullion Reader

Included:

- Reader, Backplate, and Wall Plate
- (2) #6 Screws
- (1) #4-40 Phillips, (1) #4-40 pin-in-torx (T8)

The Following tools will be needed to install a Mullion reader:

- Phillips Screwdriver
- 6-32 Tap (if installing on metal)
- 1" (25mm), 1/8" drill bits
- T8 Security Torx Bit (optional for increased tamper detection)

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1   Mounting Holes for Wall Plate

Drill two mounting holes at a minimum of 1.7" apart. Drill a ½" hole in the center for the pigtail wire to pass through. Use the wall plate as a guide for drilling.

Mounting hole distance is adjustable, use the provided #6 screws

½" Hole for Pigtail

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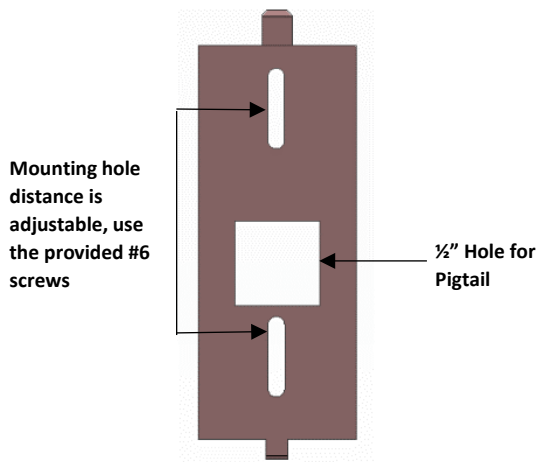
2   Install Metal Wall Plate

Once the holes are prepared, screw the wall plate in using the provided #6 screws.

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3   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

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**
106	144

*these wires are only used in Wiegand readers.
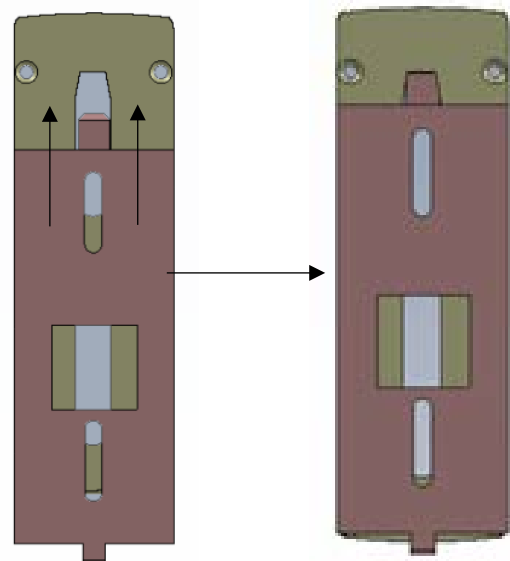
** All wiring methods used shall be in accordance with the National Electrical Code, ANSI/NFPA 70

Readers must be powered by a compatible UL Listed, power limited, access control panel rated 5 – 16 VDC.

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4   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.

5	**Install the Reader Screw**

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

Screw or pin-in-torx

6	**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 reader 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 Ethos® 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.		
BLE	**HF**	**Prox**
Beeper Silent, Red LED on for 500 milliseconds	Beeper Silent, Green LED on for 500 milliseconds	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	**OSDP**	**Auto-Detect**
Beep and Blink Red LED once for 200 milliseconds	Beep and Blink Green LED twice for 200 milliseconds each	Beep and Blink Green LED 4 times for 200 milliseconds each

Performance Levels
- Destructive Attack: I
- Line Security: I
- Endurance: IV (125 kHz, 13.56 MHz), I (BLE)
- Standby Power: I

Approvals
EN302291, EN301489, EN300330, IP55, UL294

Patents - US9558377, & US9747738B1
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.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.