



INTRODUCTION

The **LATCH R** is a proximity reader, keypad, and wireless entry access control system. The R can operate as an entire standalone access control system or as a proximity reader for integrating into existing systems.

The R has an NO relay that can handle locks and devices up to 1.5A at 24VDC. The system has 3 flexible IOs which can be configured to interface with inputs (such as request-to-exit switches, motion detectors, open-door detectors, and admin switches), or outputs (such as audible alarms, small locks < 350mA, light indicators, alarm-panel signals, and tamper signals).

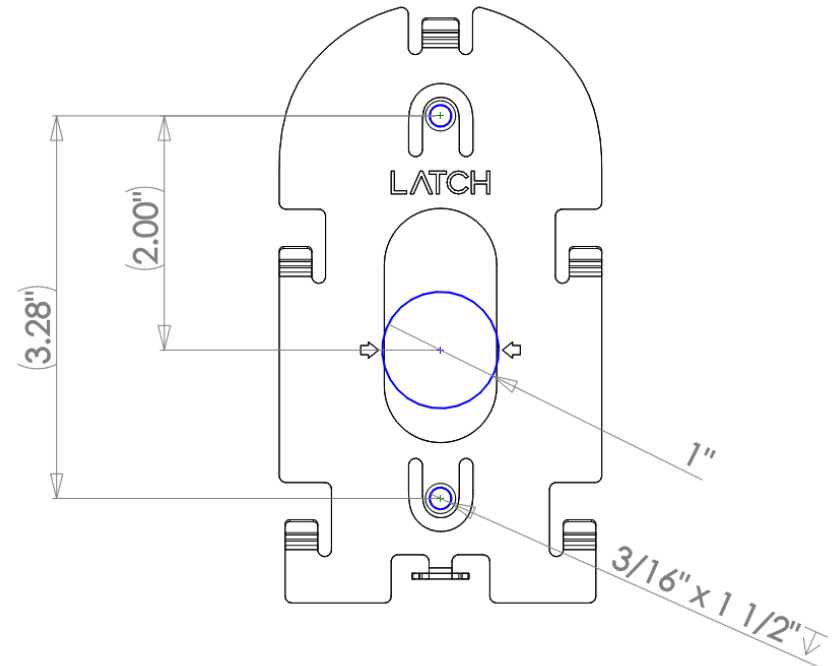
Tamper is detected using a 3 axis accelerometer, and the signal can be configured as an IO output or sent via ethernet. A heartbeat event can also be sent with critical telemetry via wifi or ethernet.

The R communicates with existing panels using 26/32-bit Wiegand Communications via Wiegand are electrically isolated from processor circuitry.

There are 2 cables routed out the back of the product: an 8 conductor and 10 conductor. The 8 conductor cable is 4 sets of 24 AWG twisted pair used for ethernet communications. The 10 conductor houses 22 AWG wires for power, communications, IO, and relay connections.

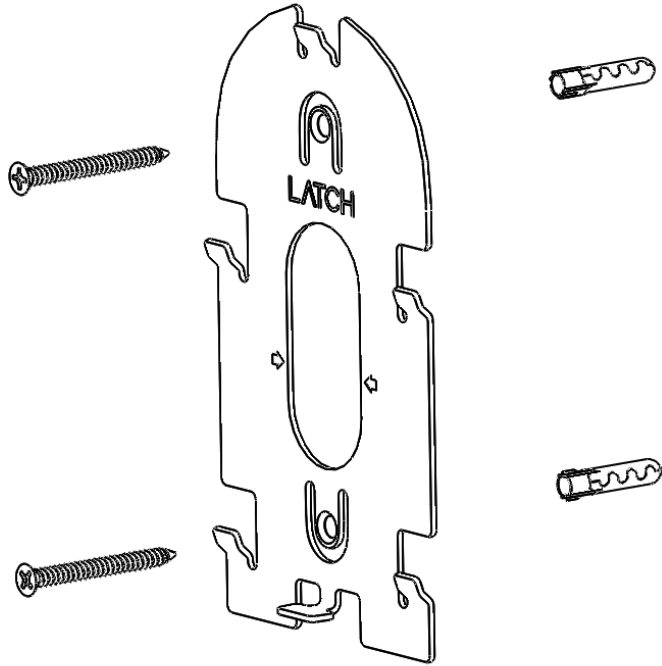
Wi-Fi, Ethernet, or Bluetooth can be used to sync new user credentials to device memory. Credentialing and operational management are managed using the Latch Manager Website and iOS App. Device setup is done using the Latch Manager App.

<b>MECHANICAL</b>	Dimensions: H x W x D
<b>WIRELESS COMMUNICATION</b>	<p>Wireless Communications Types: Near Field Communication (NFC), Bluetooth Low Energy (BLE), Wifi</p> <p>Card Frequency: 13.56MHz ISO 14443 – MIFARE Classic</p> <p>Card Read Range: up to 1.0" (2.5cm)</p> <p>Bluetooth: 4.0 BLE (iOS and Android compatible)</p> <p>Bluetooth Range: 80ft (24.4m)</p> <p>Wi-Fi: 13Mbps 802.11 b/g/n – 100ft from AP</p>
<b>WIRED COMMUNICATION</b>	<p>Ethernet: 10/100Mbps Ethernet – 200ft from switch</p> <p>Serial: 1Mbps RS-485, 5VDC drive – 1000ft from panel</p> <p>Wiegand (26-bit/32-bit/etc.): Data0, Data1, 5VDC 25mA source each – 200ft from panel</p>
<b>POWER</b>	<p>Class 2 Isolated, UL Listed Power Supply</p> <p>Supply Voltage: 12VDC to 24VDC</p> <p>Operating Power: 4.8W (0.4A @ 12V, 0.2A @ 24V)</p>
<b>TAMPER</b>	<p>Tilt &amp; movement detection</p> <p>Heartbeat telemetry to server</p> <p>Optional tamper output signal to panel</p>
<b>INTERFACE</b>	<p>1 × Lock Relay: Configurable NO 1 Form A Solid-State Relay (1.5A @ 24VDC)</p> <p>3 × Configurable IO</p> <p>Input: active low – internal pull-up (0-24VDC)</p> <p>Output: open collector (24VDC 300mA max sink)</p>
<b>CAMERA</b>	172 degree wide capture
<b>ENVIRONMENTAL</b>	<p>Temperature: Operating / Storage -30°C to 70°C</p> <p>Operating Humidity: 95%, non-condensing</p> <p>Environmental: IP65</p>
<b>COMPLIANCE</b>	Certification: FCC Certification (US), IC Certification (Canada), UL294, RoHS
<b>WARRANTY</b>	1-year limited warranty on electronics, 5-year limited warranty on mechanics

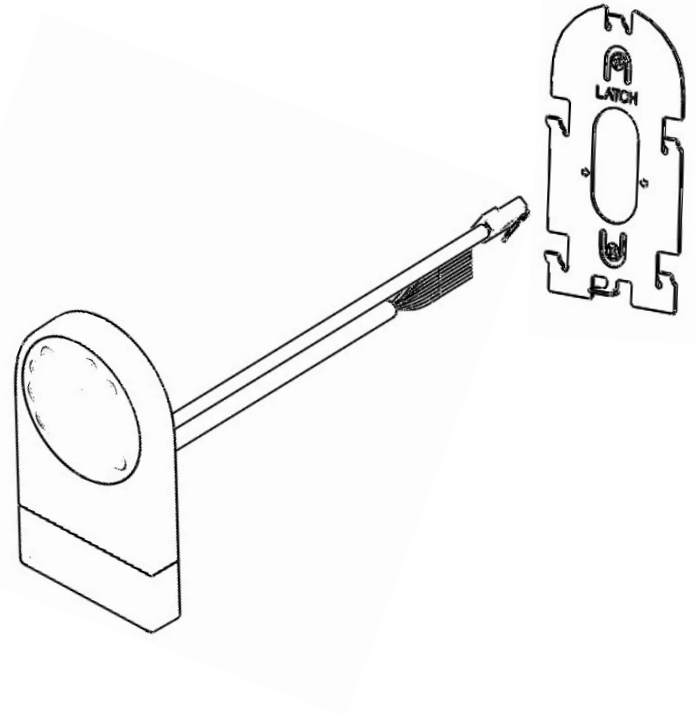


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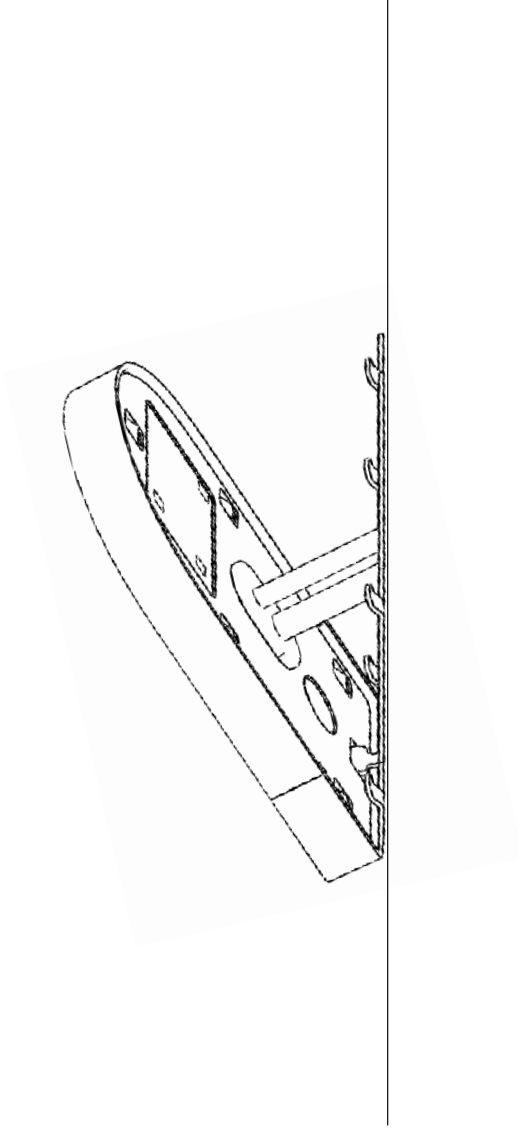
Hole prep using backplate as a template and drill.



**2** Screw backplate in.

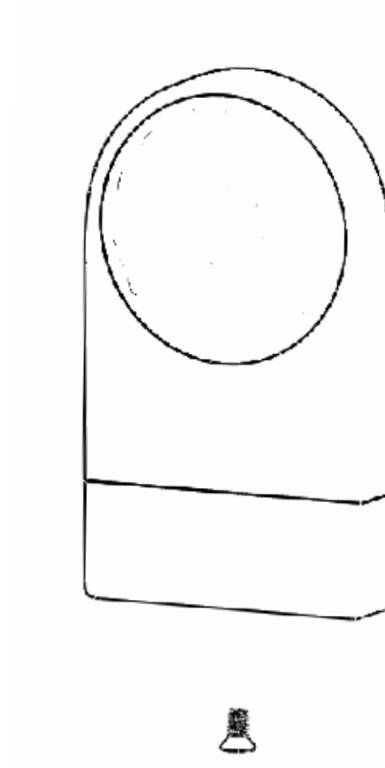


**3** Connect and feed excess cable through the plate. **Wiring examples on page 11.**



**4**

Insert bottom tab first, place flat on the wall and press downwards.



**5**

Screw the bottom screw.

STANDARD READER CONNECTIONS

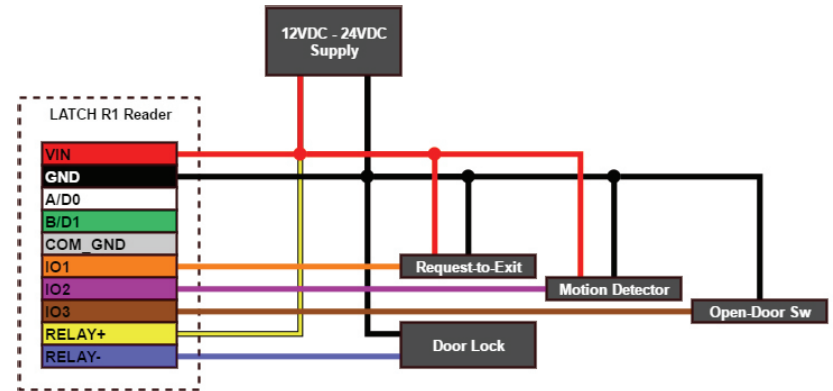
	Wire Color	Name	Description	Rating
1	WHITE	B/D1	RS-485 B, Wiegand DATA1	25mA max drive, 5VDC
2	GREEN	A/D0	RS-485 A, Wiegand DATA0	25mA max drive, 5VDC
3	GRAY	COM_GND	Return for com wires 3&4	5VDC
4	BLUE	RELAY-	-V side of load	1.5A, 24VDC Max
5	YELLOW	RELAY+	+V side of load	1.5A, 24VDC Max
6	ORANGE	IO1	Flexible IO1 - input or output	0.35A, 24VDC Max
7	PURPLE	IO2	Flexible IO2 - input or output	0.35A, 24VDC Max
8	BROWN	IO3	Flexible IO3 - input or output	0.35A, 24VDC Max
9	RED	VIN	Return for power input	0.4A @12VDC, 0.2A @24VDC
10	BLACK	GND	12VDC to 24VDC power input	0.4A @12VDC, 0.2A @24VDC

ETHERNET CONNECTIONS

11	GREEN/WHITE	TX+		
12	GREEN	TX-		
13	ORANGE/WHITE	RX+		
14	BLUE	SPR1		
15	BLUE/WHITE	SPR2		
16	ORANGE	RX-		
17	BROWN/WHITE	SPR3		
18	BROWN	SPR4		

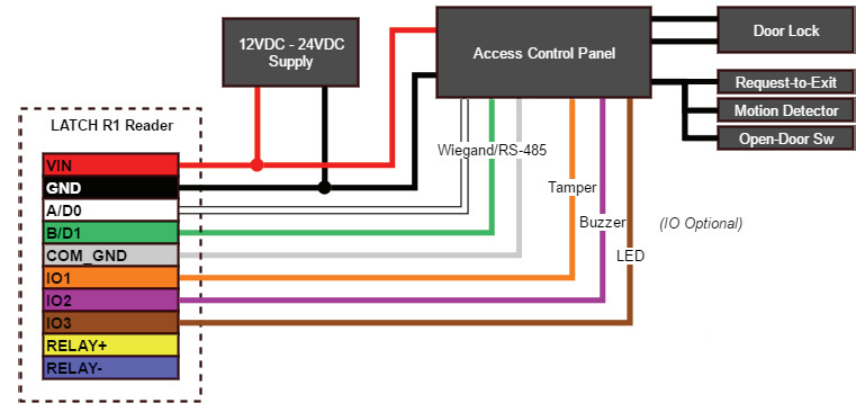
EXAMPLE 1

Stand-Alone Operation – No Panel – Wi-Fi/BLE/Ethernet Credential Sync.



EXAMPLE 2

Reader Function Only – RS-485 or Wiegand Panel Comms – WiFi/BLE/Ethernet Credential Sync.



**R** needs to be configured by the iOS Latch Manager App before use. Download the Latch Manager App, login with the credentials provided by Latch, and follow the on-screen instructions.

**IMPORTANT**

- Mag-lock's require a separate power supply to fail secure (stay normally closed) in the event of power failure to R.
- Electric strikes also require a separate power supply to fail secure if power is required to unlock the strike.
- We recommend using a voltage protector for electric strikes and mag locks.

Note: If you would like your door to have scheduled opening hours, please contact Latch for more information.

**REGULATORY COMPLIANCE****Federal Communications Commission (FCC) Compliance Statement**

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:

(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B 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

**Industry Canada (IC) Compliance Statement**

Operation is subject of 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.

To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 centimeters from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

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.

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