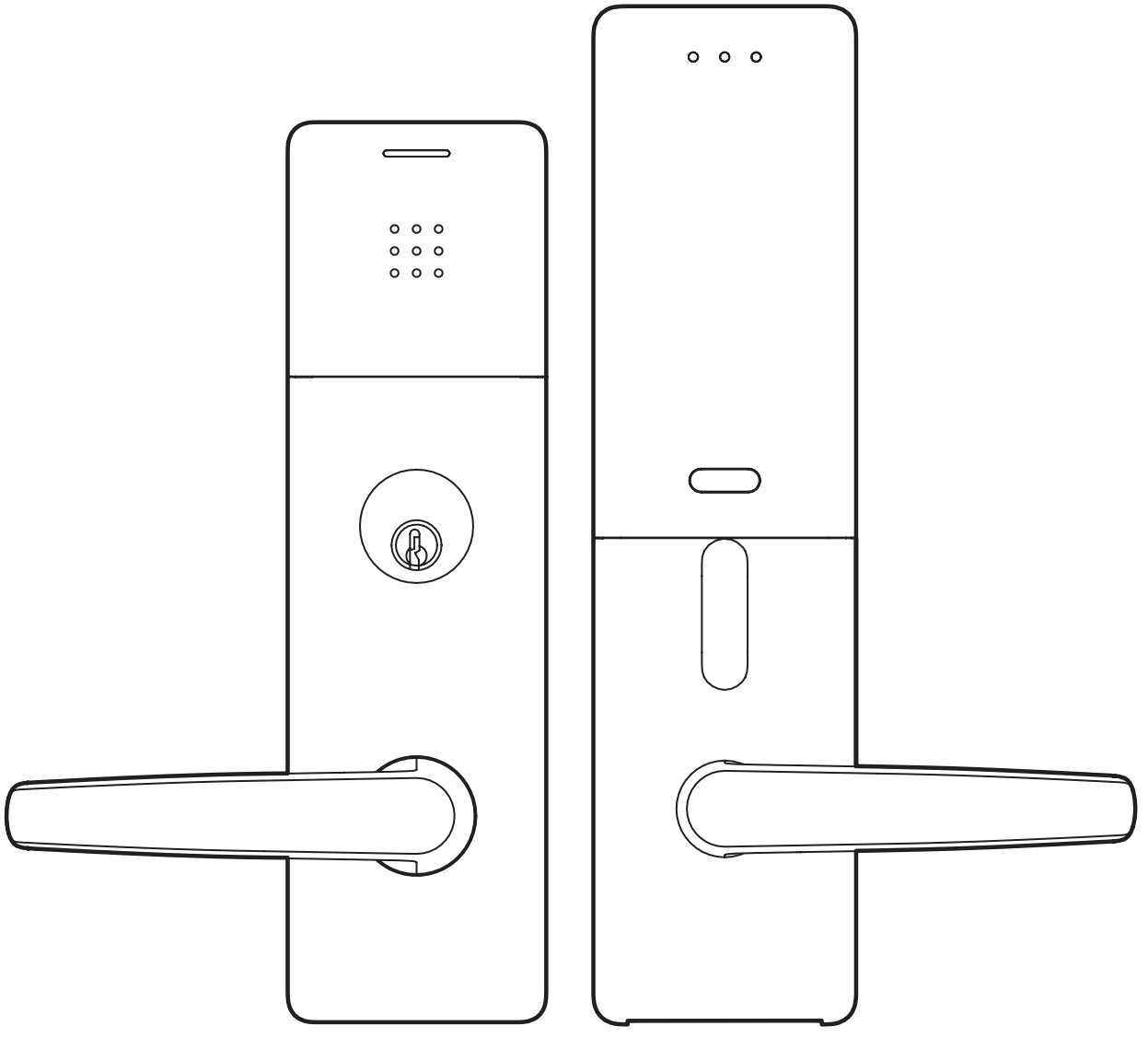
Verkada

AL54-MS

Mortise Wireless Lock

Install Guide



Resources

Scan the QR code to access additional resources

- Installation Video
- Verkada Product Integration
- Troubleshooting Instructions

AL54-MS Technical Specifications

Dimensions (without Lever)	Exterior Assembly: 286.3 x 82.3 x 35.2 mm Interior Assembly: 323.8 x 83.6 x 52.8 mm
Dimensions (with Lever)	Exterior Assembly: 286.3 x 171.7 x 87.1 mm Interior Assembly: 323.8 x 172.4 x 88.0 mm
Key Cylinder Compatibility	Conventional Core: 6 Pin [conventional core provided with cylinder] Schlage FSIC: 6 Pin, 7 Pin [key core not provided for FSIC] SFIC: 6 Pin, 7 Pin [key core not provided for SFIC]
Weight	6.8kg
Supported Credential Technologies	Low Frequency (125 KHz) High Frequency (13.56 MHz) Mobile NFC (13.56MHz) Bluetooth Low Energy (2.4GHz)
Ratings	IP65, IK08
Wireless Communication Frequency	915 MHz
Wireless Communication Range	Range up to 150 ft with obstructions (normal building installation), up to 300 ft clear line of site
Wireless Communication RF Specifications	Minimum Signal Strength RSSI: -65 dBm Maximum ambient RF noise level RSSI: -75 dBm
Operating Temperature	-35° to 55°C (–31° to 131°F) 5-90% RH non-condensing
System Interface	Requires WH32 (for wireless communication) and AC12 access controller (connected via RS-485 to WH32)
Power Supply	Compatible only with 8 × AA lithium batteries (nominal voltage ≥ 1.5V). For optimal performance and battery life, use batteries of the same brand and type. Energizer L91 batteries are recommended.
Battery Life	Battery life is based off using L91 AA cells and is dependent on the lock usage, lock polling frequency, and types of credentials used on the lock. Battery can last between 12 to 24 months based on these configurations.
Backup Power	Backup power can be provided via a USB-C cable connected to a 5V power bank to recover the device in the instance the batteries are drained [not evaluated per UL294]

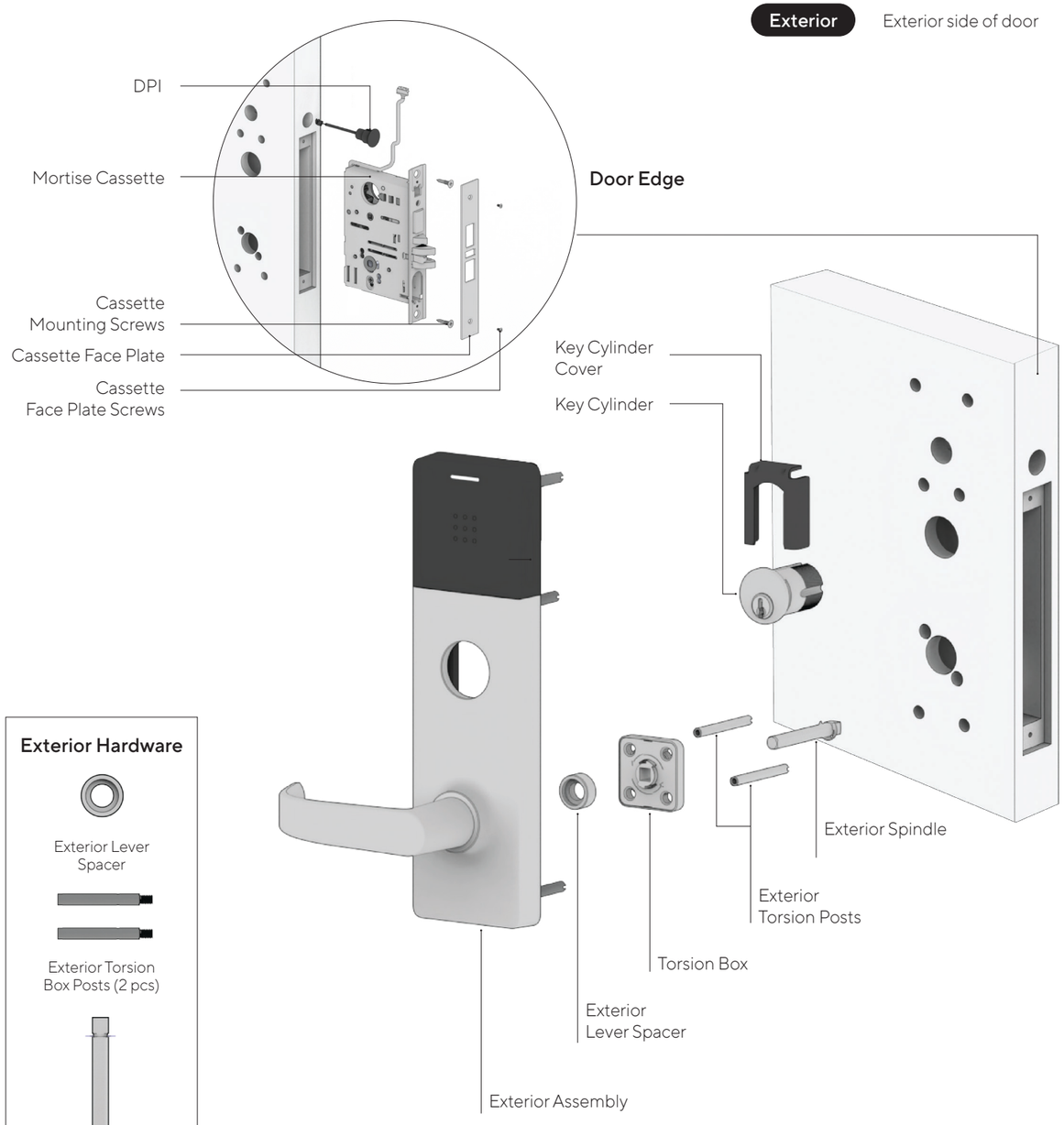
Version
V1.1 published 07/2026
Document ID: AL54-MS Install Guide

Product Models
This install guide pertains to model AL54-MS
- AL54-MS-NK-01-26-HW
- AL54-MS-FC-01-26-HW
- AL54-MS-SC-01-26-HW
- AL54-MS-CC-01-26-HW

Verkada
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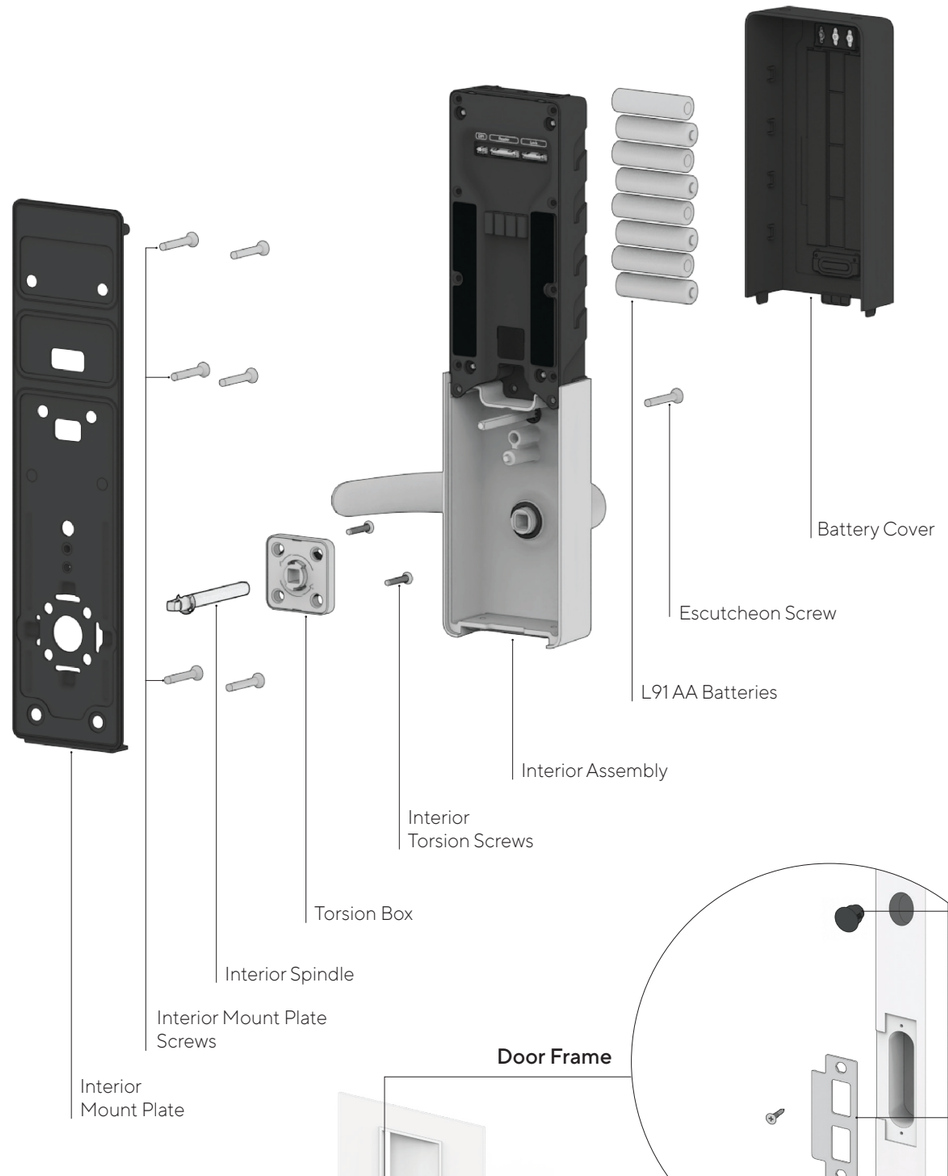
Overview

Exterior Exterior side of door

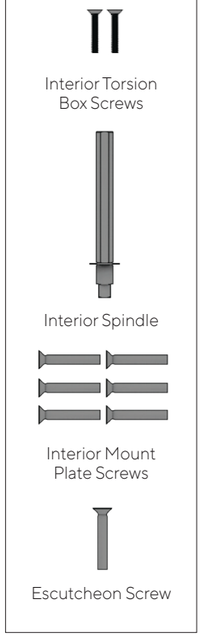


Exterior Hardware

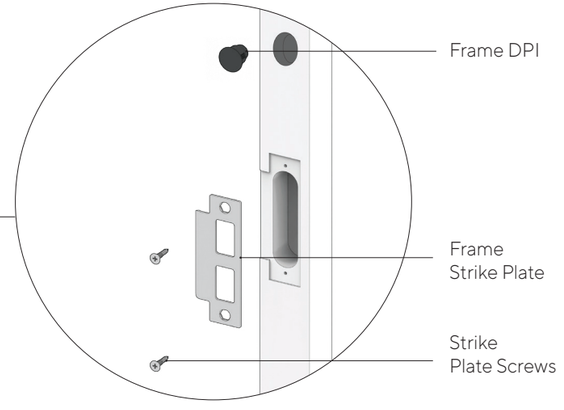
Interior Interior side of door



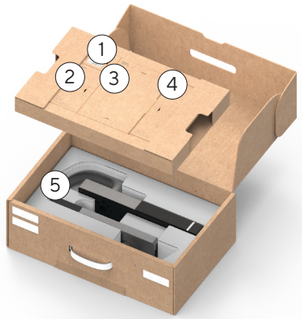
Interior Hardware



Door Frame



What's in the Box



5



Interior Assembly



Interior Mount Plate



Exterior Assembly

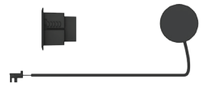
What you'll need (Not included)

- General purpose tape
- Phillips Head #2 Screwdriver
- Electric Drill
  - ⅜″ Drill Bit
  - ¾″ Drill Bit
  - ½″ Drill Bit
  - 7/16″ Drill Bit
- 1-¾″ Forstner Drill Bit or Hole Saw
- 2-⅛″ Drill Bit or Hole Saw

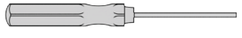
2 Install Kit



Key Cylinder Cover



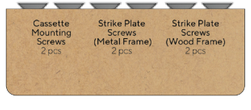
DPI Door & Frame Cable



T10 Torx Security Screwdriver



L91 AA Batteries (8 pcs)



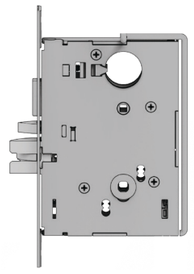
Screw Kit

1 Key Cylinder



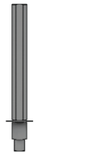
Key Cylinder

3 Mortise Cassette



Mortise Cassette

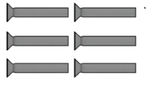
4 Hardware Assembly



Interior Spindle



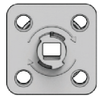
Interior Torsion Box Screws (2 pcs)



Interior Mount Plate Screws (6 pcs)



Escutcheon Screw



Interior Torsion Box



Exterior Spindle



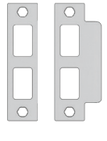
Exterior Torsion Box Posts (2 pcs)



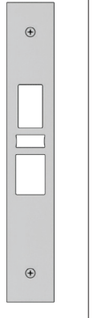
Exterior Lever Spacer



Exterior Torsion Box

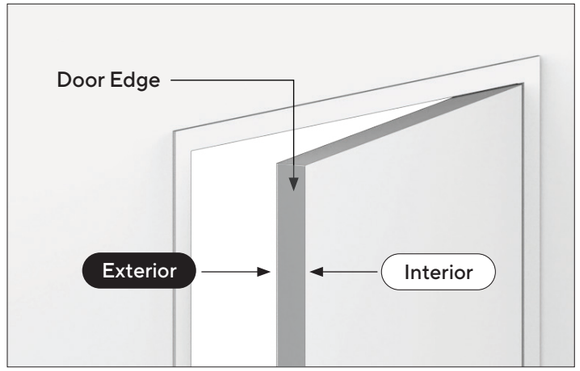


Strike Plates (2 pcs)

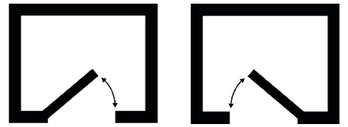


Cassette Face Plate

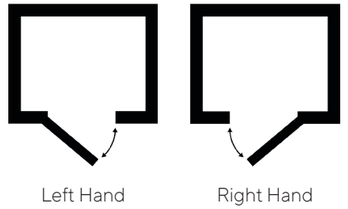
Door Compatibility



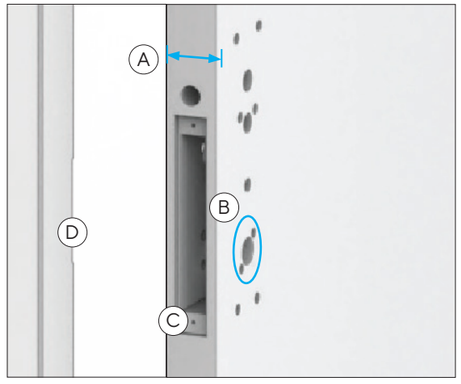
In-Swing Door



Out-Swing Door



Door Frame Door Edge



A Door Thickness

Measure the door thickness to help select the appropriate template.

1 ¾" | 2"

C Cassette Pocket

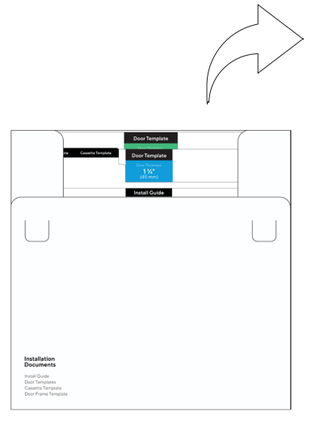
Slot the Cassette Template into the cassette pocket to ensure that there is enough space for the Cassette.

B Handing Orientation

Identify the exterior side of the door and determine if it will be right-handed or left-handed.

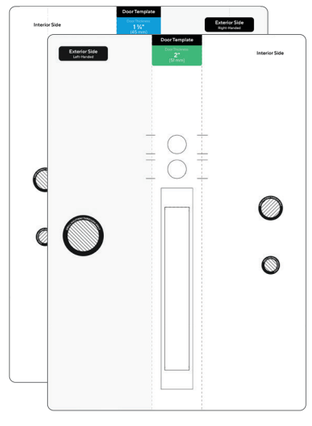
D Door Frame

Use the Door Frame Template to attach the DPI and appropriate Strike Plate.

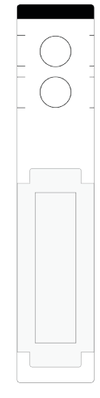


Envelope

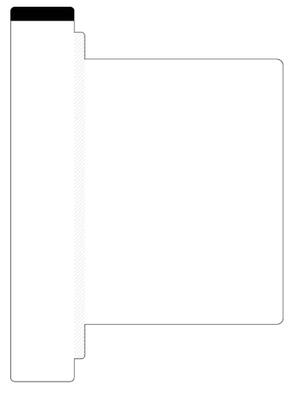
Templates



Door Templates (2 pcs)

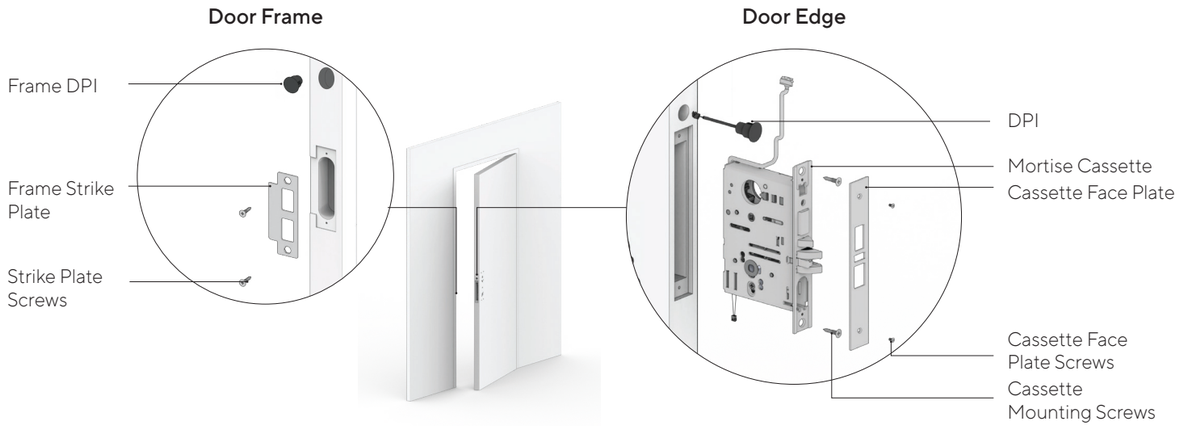


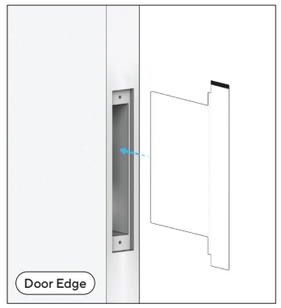
Door Frame Template



Cassette Template

Door Frame and Door Edge Installation





Slot the Cassette Template into the cassette pocket to ensure that there is enough space for the Cassette.



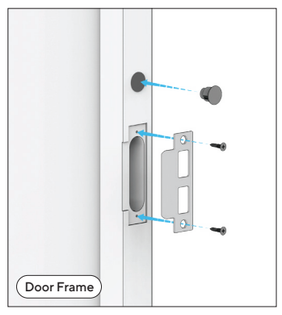
Reference the Door Template and draw the backset center line on both sides of the door.



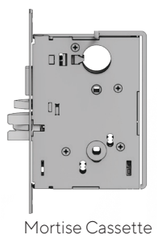
Reference the backset center line to place the appropriate Door Template onto the door. Push in tabs to align with cassette pocket.



Align all necessary templates. Mark holes for drilling. Remove the templates and drill all holes according to the drill bit sizing denoted on the template.

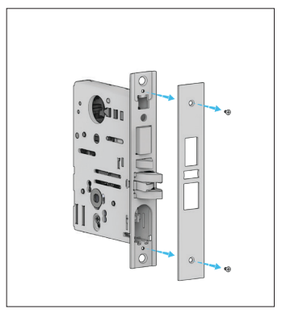


Install the Frame DPI and Strike Plate to the Door Frame.



Mortise Cassette

Retrieve the Mortise Cassette from its box.



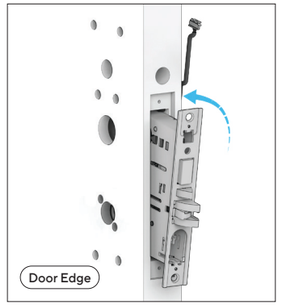
Remove the Cassette Face Plate by undoing the screws. Set the screws aside for later.

Checkpoint

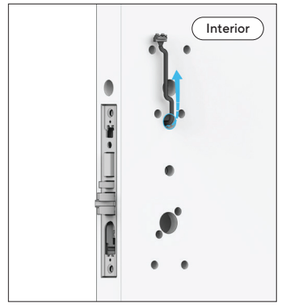
Prop the door open and make sure it does not close until the installation is complete.



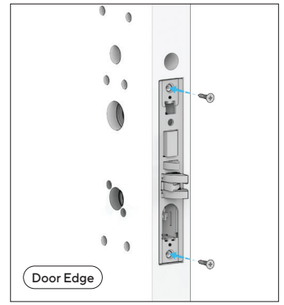
Door Frame and Door Edge Installation (cont.)



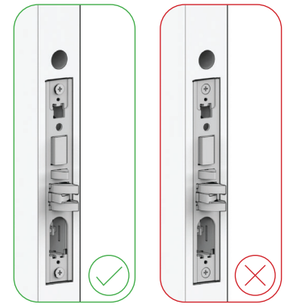
Insert the Cassette into the cassette pocket of the door.



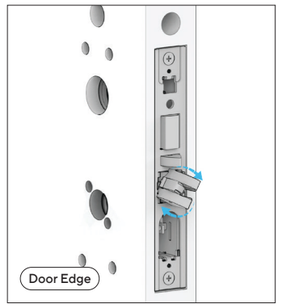
Route the Cassette Cable through the lock cable hole on the interior side.



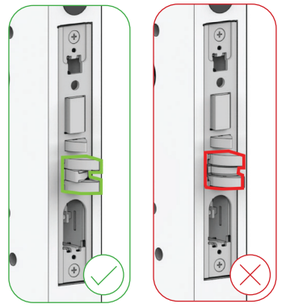
Use the Cassette Mounting Screws from the Screw Holder, in the Install Kit, to fasten the Cassette.



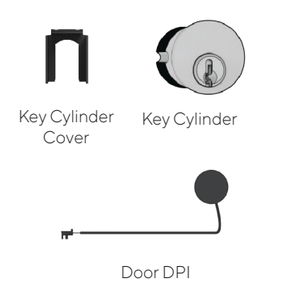
Keep screws loose.



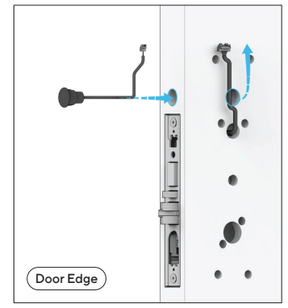
Adjust the latch direction depending on the swing direction of the door.



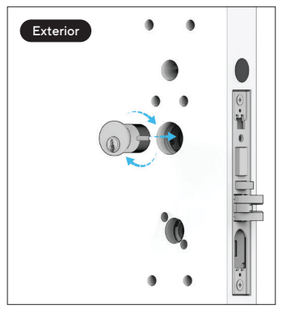
Make sure the prongs alternate.



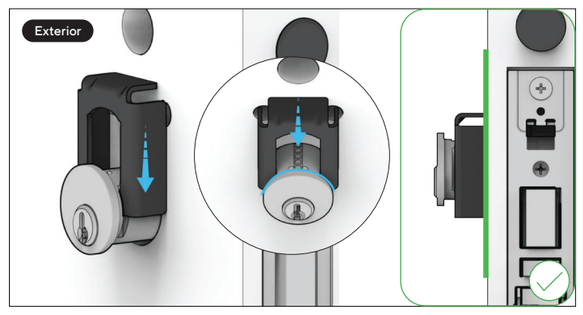
Retrieve the following items from the Key Cylinder and Install Kit.



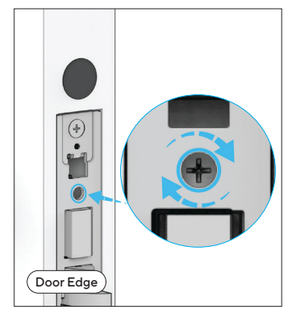
Route the DPI Cable through the DPI hole, with the cable routing into the interior side.



Insert the Key Cylinder and turn it clockwise into the Cassette.

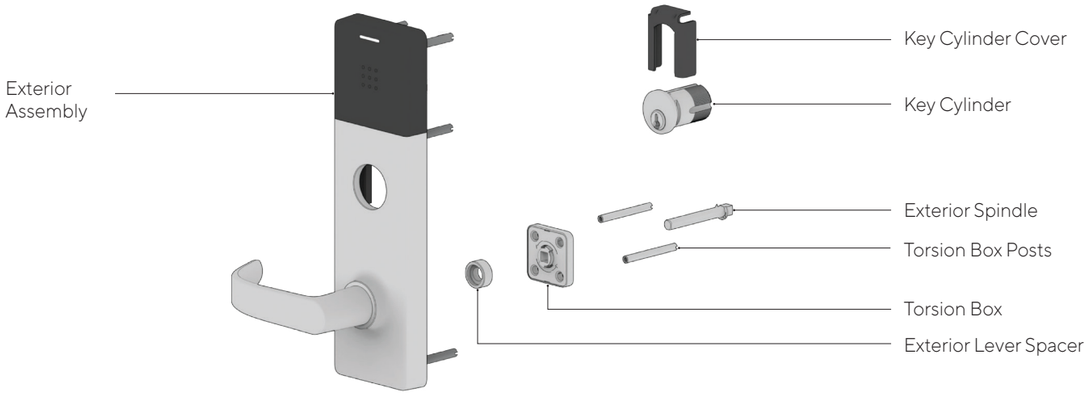


Make sure the set screw is loose. Slide the Key Cylinder Cover into the Key Cylinder grooves. Turn the Key Cylinder assembly until it is flush with the door.



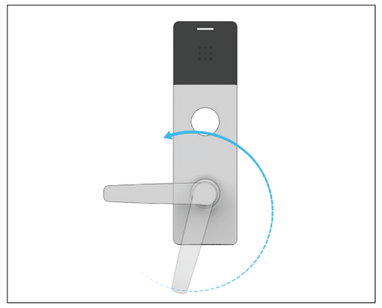
Tighten the set screw in the Cassette, using a Phillips Head Screwdriver, to secure the Key Cylinder.

Exterior Installation

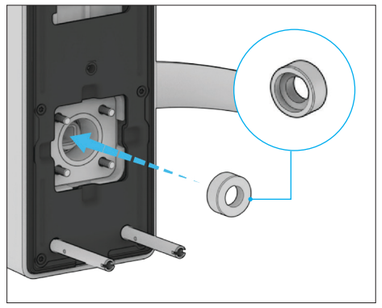




Retrieve the following items from the Assembly Kit.



The Lever will rotate freely.

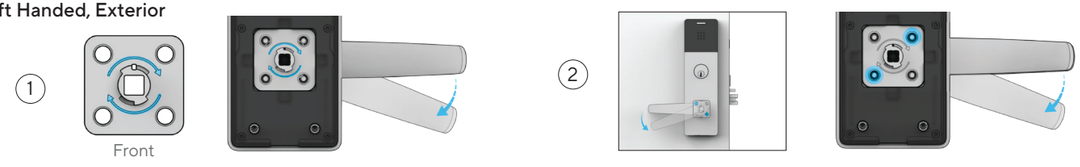


Place the Exterior Lever Spacer into the lever opening. Hollow side facing inwards toward the opening.

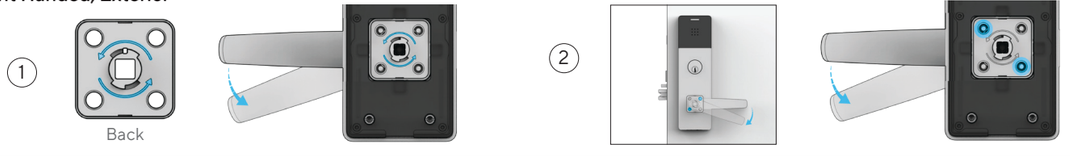
Checkpoint

Determine the correct handing direction of the Lever and hold it. This step will determine the placement of the (1) turn direction on the Torsion Box and (2) the Torsion Box Posts placement.

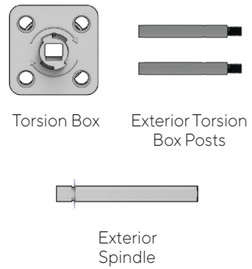
Left Handed, Exterior



Right Handed, Exterior



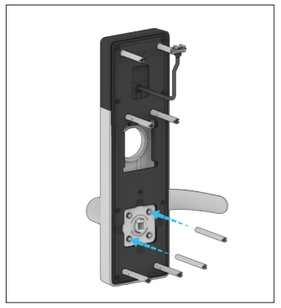
Exterior Installation (cont.)



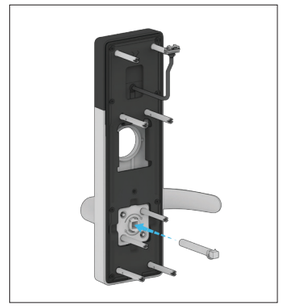
Retrieve the following items from the Assembly Kit.



Place the Torsion Box in the Exterior Assembly in the appropriate direction. Refer to Checkpoint (1).



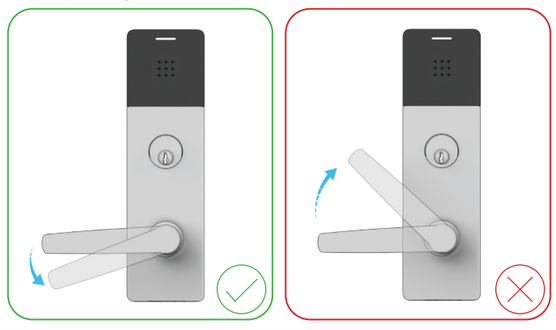
Hand-tighten the Exterior Torsion Posts onto the Torsion Box in the appropriate formation. Refer to Checkpoint (2).



Hold the lever in the desired handing direction and insert Exterior Spindle into the opening in the Torsion Box.

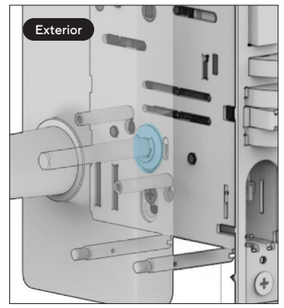
Checkpoint

Ensure that the Lever rotates downward. If the Lever rotates upward, the Torsion Box is reversed. If so, check the previous Checkpoint again.





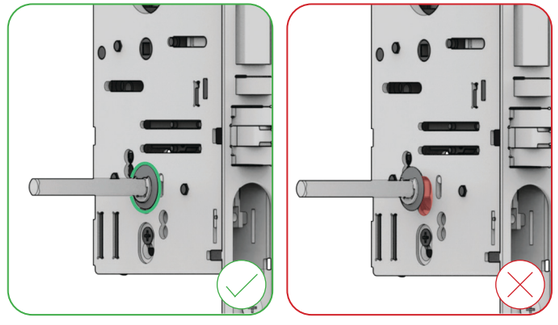
Take the Exterior Assembly and route the cable and posts through their respective holes. Press Assembly onto door.

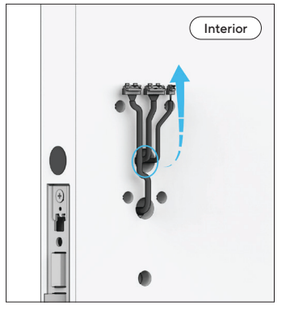


Take special care to ensure the Exterior Spindle is inserted in Cassette body.

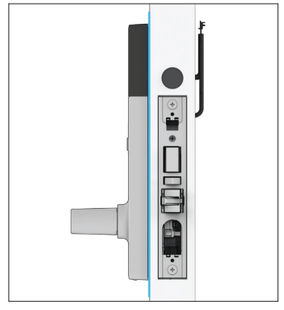
Checkpoint

Turn the handle to check that the Spindle engaging the lock. The Spindle should be seated fully into the Cassette body.



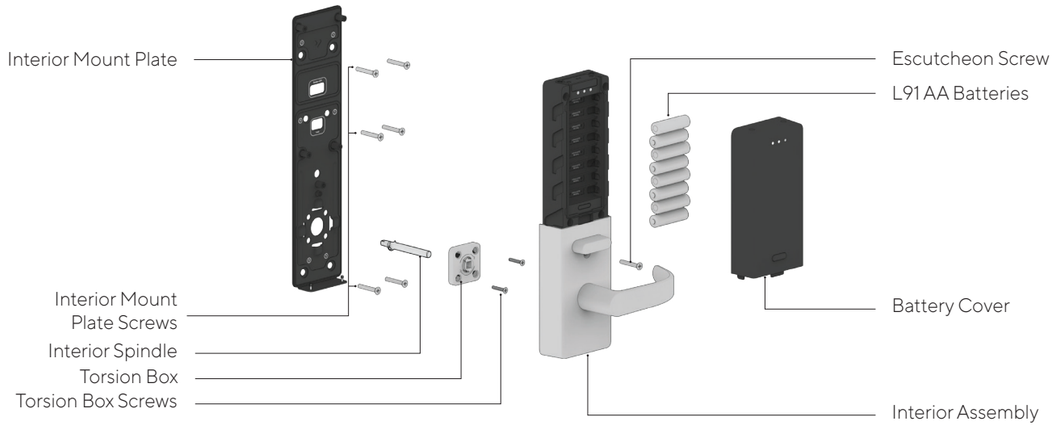


Make sure the cable is routed through the door, to the interior side.



The Exterior Assembly should be flush against the door.

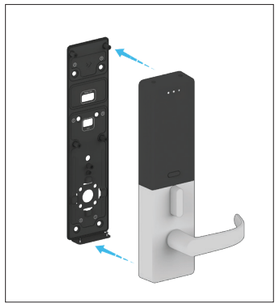
Interior Installation



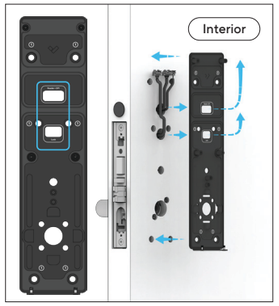


Interior Assembly

Retrieve the Interior Assembly from the box.



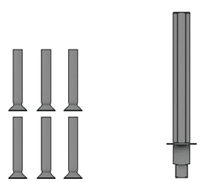
Take the Interior Assembly and separate it from the Interior Mount Plate.



Note the cable openings and route cables through respective openings labeled on the Interior Mount Plate.



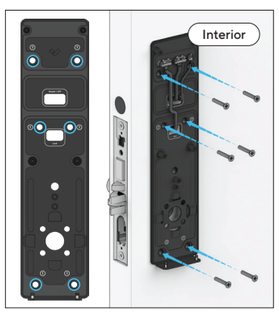
Pull the cables through the appropriate holes.



Interior Mount Plate Screws

Interior Spindle

Retrieve the following items from the Assembly Kit.



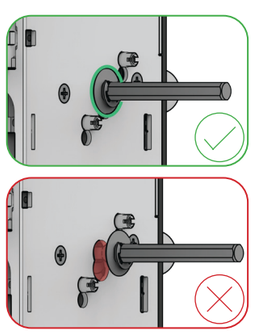
Screw in six Interior Mount Plate Screws into the ① locations on the Mount Plate.



Insert the Interior Spindle through the central hole (short side is facing inwards).

Checkpoint

The Spindle should be seated fully in the Cassette body.



Interior Installation (cont.)



Interior Torsion Box



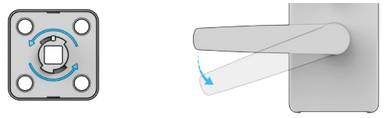
Interior Torsion Box Screws

Retrieve the following items from the Assembly Kit.

Checkpoint

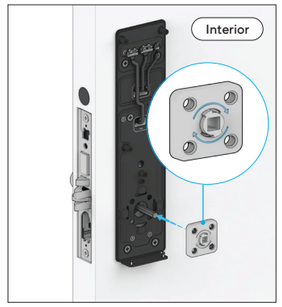
Note the correct handing orientation and follow the direction of the arrow on the Torsion Box.

Left Handed, Interior



Right Handed, Interior

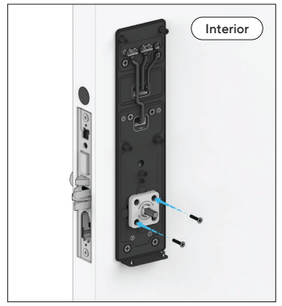




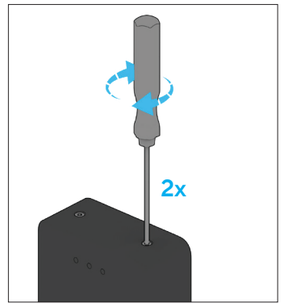
Place the Torsion Box on the Interior Spindle, matching the desired lever rotation direction.



Note the location of the Exterior Torsion Posts when looking through the Interior Torsion Box.



Take the Interior Torsion Box Screws and fasten them onto the posts with a Phillips Head Screwdriver.



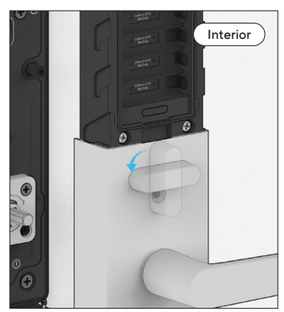
Using the T10 Torx Security Screwdriver, loosen the two captive screws on the top of the battery cover.



Remove the battery cover by lifting up and pulling out.



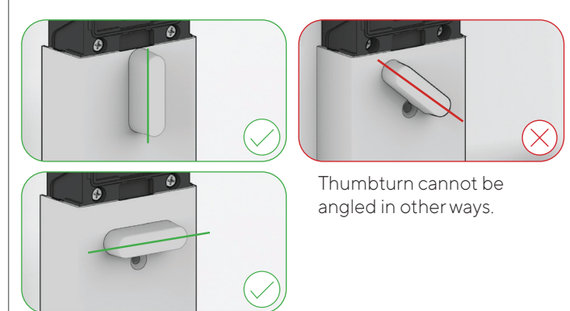
Align the Interior Assembly to the Interior Mount Plate.



Turn the thumbturn into the desired unlock state before sliding it onto the Interior Mount Plate.

Checkpoint

Thumbturn must be either in a fully horizontal or vertical position. If thumbturn is angled, the Interior Assembly will not be able to be placed on the Interior Mount Plate.

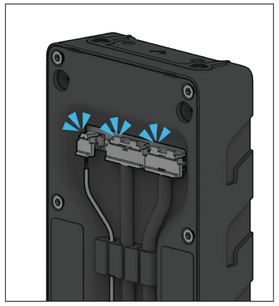


Thumbturn cannot be angled in other ways.

Interior Installation (cont.)



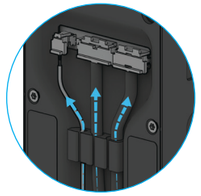
Bring the Interior Assembly closer to the Interior Mount Plate to begin connecting the connectors.



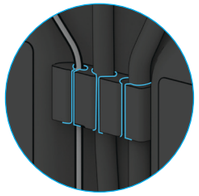
Plug the connectors to their respective ports on the rear of the Interior Assembly and press cables into the grommets.

Checkpoint

Incorrect cable placement can disrupt the installation process. Ensure that the cables are tightly packed into the Interior Assembly by checking:



Cables are routed through their respective grommets.



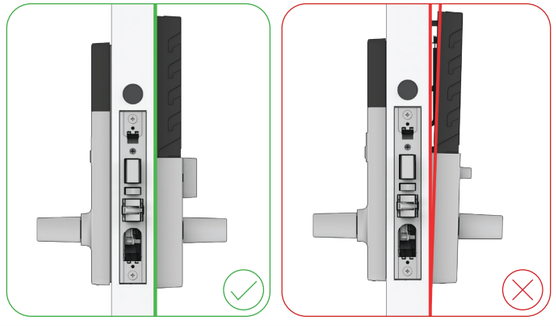
Press the cables into the grommets to ensure no movement.



Place the Interior Assembly onto the Interior Mount Plate.

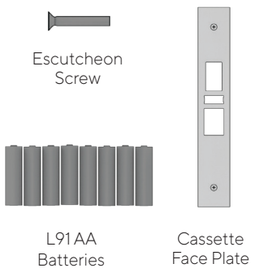
Checkpoint

Ensure that the Interior Assembly is sitting flush along the mount plate. There should be no gaps anywhere and no pinched cables.

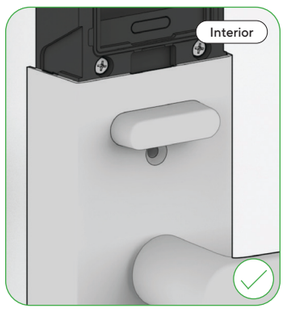




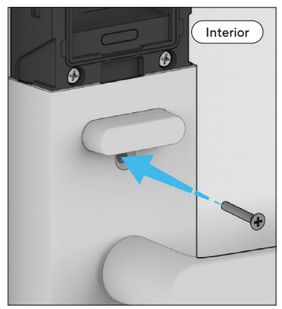
Tighten the four captive screws on the Interior Assembly with a Phillips Head Screwdriver. It is recommended to tighten them evenly.



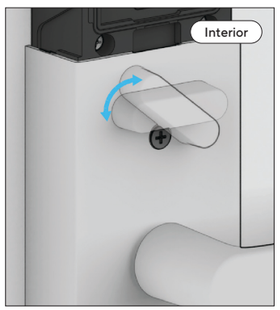
Retrieve the remaining items.



Make sure thumbturn is in the horizontal position.



Insert the Escutcheon Screw and tighten it to the Interior Assembly.



If the deadbolt is extended, retract it by turning the thumbturn.

Interior Installation (cont.)



Install the eight L91 AA batteries included in the Install Kit. The device LEDs should begin to cycle.

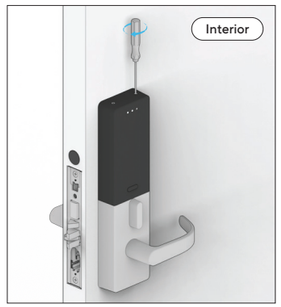
Checkpoint

For easy product registration, scan the QR code on the label located on the Interior Assembly. If you prefer to manually enter the S/N, please proceed to: verkada.com/start

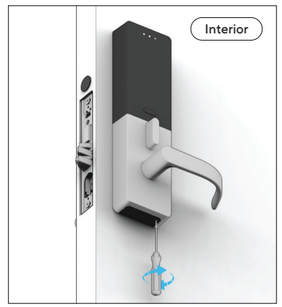




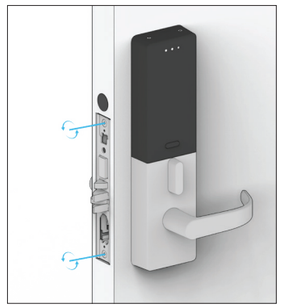
Attach the Battery Cover by following the grooves on the side of the Interior Assembly.



Tighten the two captive screws located on the top of the Battery Cover with the T10 Torx Security Screwdriver.



Tighten the two captive screws located on the bottom of the Interior Assembly.

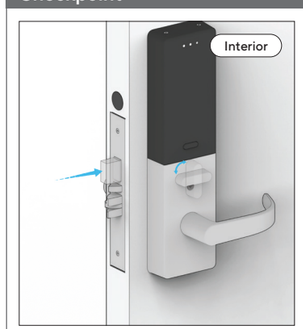


Tighten the two Cassette Screws on the Cassette.

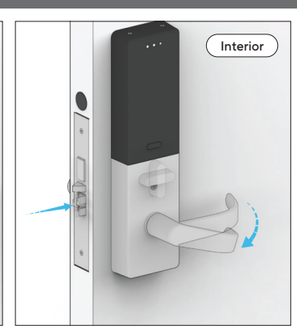


Tighten Cassette Screws before attaching the Cassette Face Plate. Screw the two Face Plate Screws onto the Cassette using a Phillips Head Screwdriver.

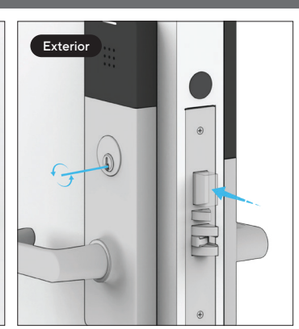
Checkpoint



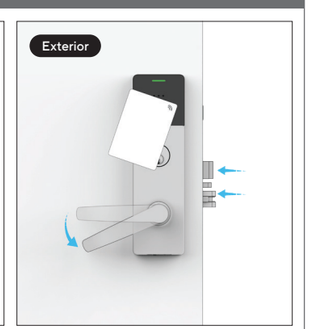
Check that the thumbturn engages the deadbolt.



Make sure that the latch is engaged when the Interior Lever is turned.



Use the Key to turn the lock to ensure that the deadbolt engages (for CC only).



Once device is connected use a credential (i.e. key card, FOB) to test unlock feature.

Key Core Installation

Key Cores



FSIC

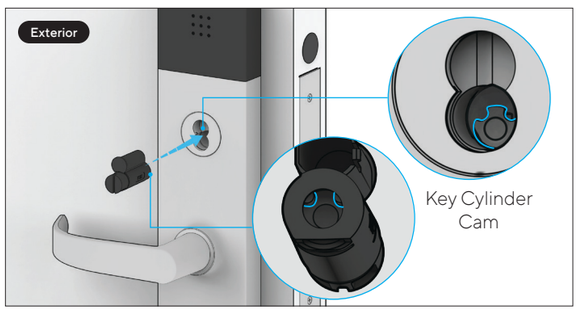


SFIC

Full Size Interchangeable Core (FSIC) Installation



Rotating the cap of the FSIC Temporary Key Core will adjust the back opening orientation. This will engage with the Key Cylinder cam.

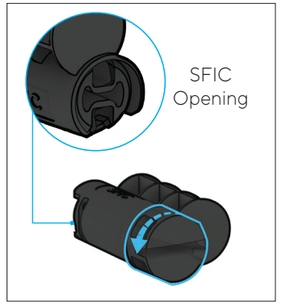


Note the orientation of the cam in the Key Cylinder. Align the opening on the back of the FSIC Temporary Key Core to the Key Cylinder cam and push it into the Key Cylinder.

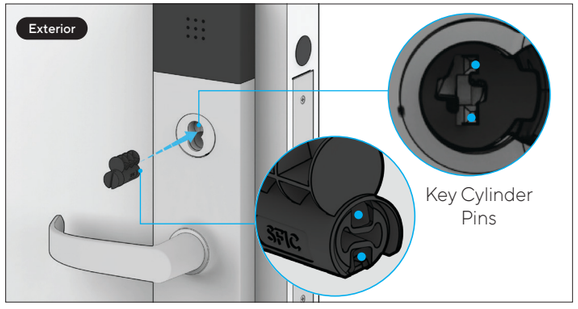


A subtle click will indicate that the Temporary Key Core is installed.

Small Format Interchangeable Core (SFIC) Installation



Rotating the cap of the SFIC Temporary Key Core will adjust the SFIC opening orientation. This will engage with the Key Cylinder pins.



Note the orientation of the pins in the Key Cylinder. Align the opening on the back of the SFIC Temporary Key Core to the Key Cylinder Pins and push it into the Key Cylinder.



A subtle click will indicate that the Temporary Key Core is installed.

Additional Resources

For further instructions, scan here.

Support

Thank you for purchasing this Verkada product. If for any reason you're experiencing issues or need assistance, please contact our 24/7 Technical Support Team immediately.

Sincerely,
The Verkada Team
verkada.com/support

AL54-MS Compliance

FCC Statement	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two 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. 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 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. FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Radiation Exposure Statement: The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.
IC Statement	This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two 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. Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable. Radiation Exposure Statement: The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available. Déclaration d'exposition aux radiations: Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé. Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.
UL 294	Attack Level/Grade: Level I Endurance Level/Grade: Level IV Line Security Level/Grade: Level I Standby Power Level/Grade: Level I Locations and wiring methods shall be in accordance with the National Electrical Code, ANSI/NFPA 70 Article 725.121.
CAN-ULC 60839-11-1	Environmental Level: Outdoor Grade Assignment: Grade 1 Evaluated per firmware version v0.2.14 Locations and wiring methods shall be in accordance with the Canadian Electrical Code CSA C22.2.
UL 1034	Static Strength: 500 pounds-force Dynamic Strength: 33 foot-pounds-force Endurance: 100,000 cycles

Notes