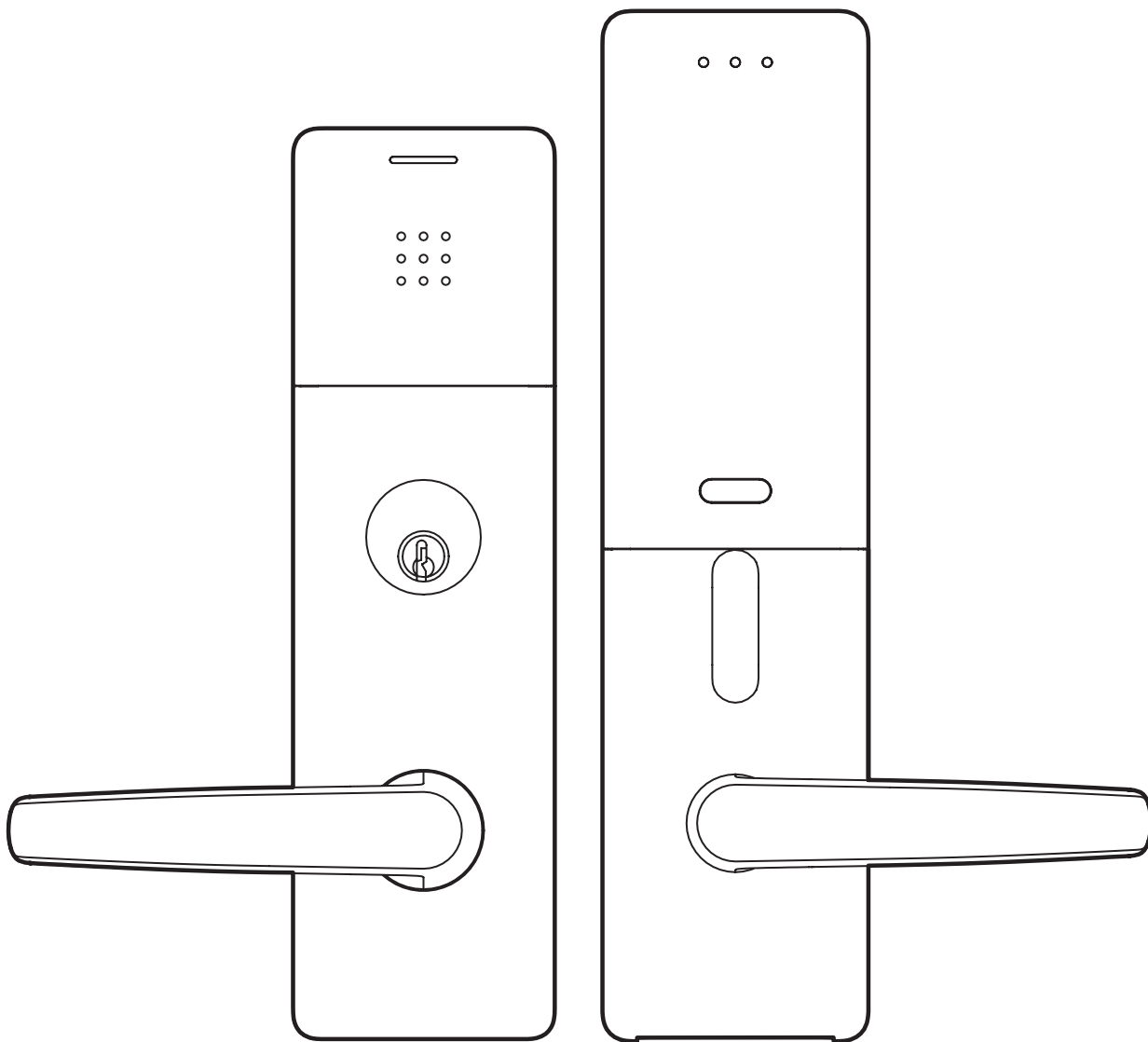




AL54-MS

Mortise Wireless Lock

Install Guide



Resources



Scan the QR code to access additional resources

- Installation Video
- Verkada Product Integration
- Troubleshooting Instructions



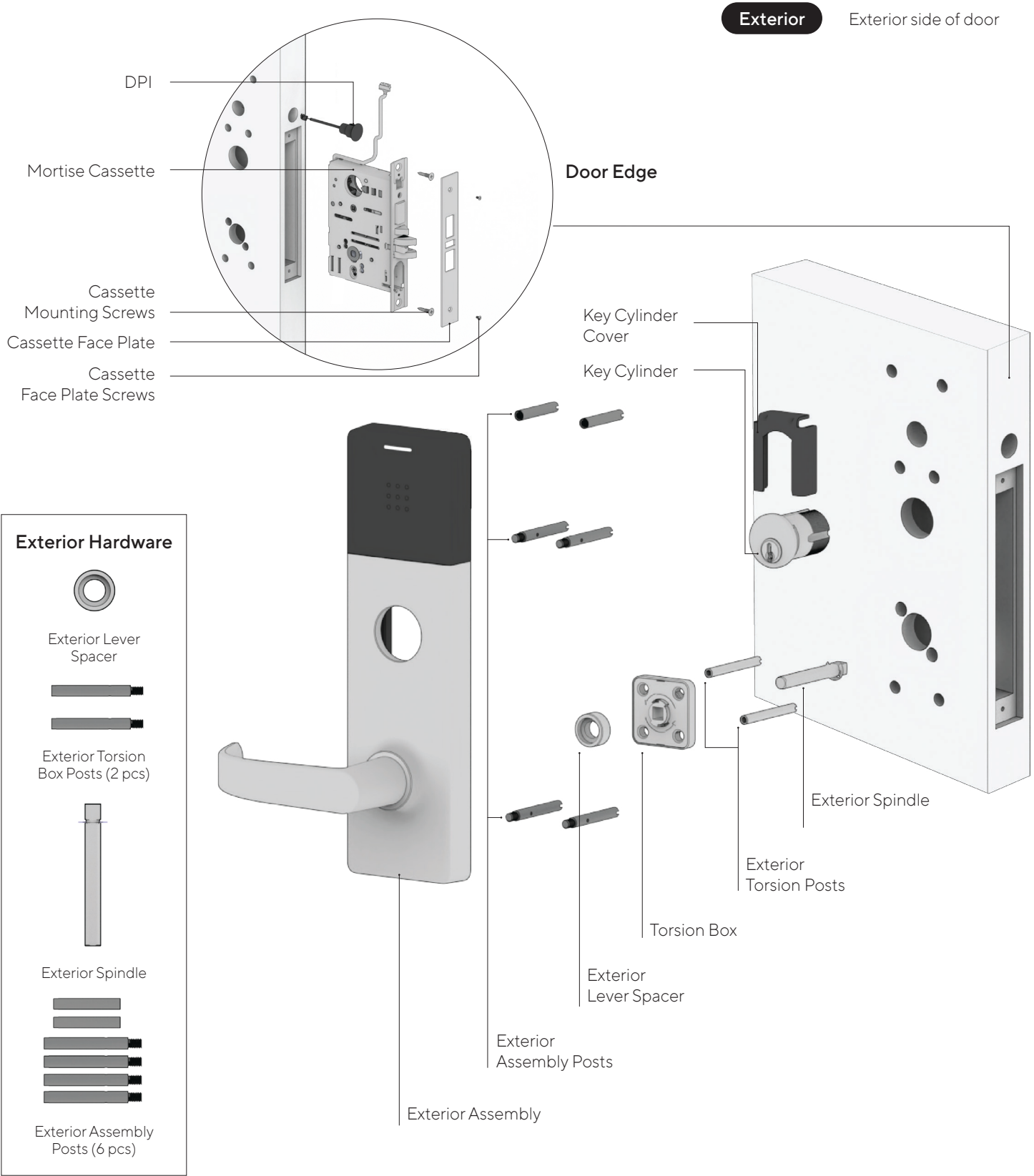
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AL54-MS Technical Specifications

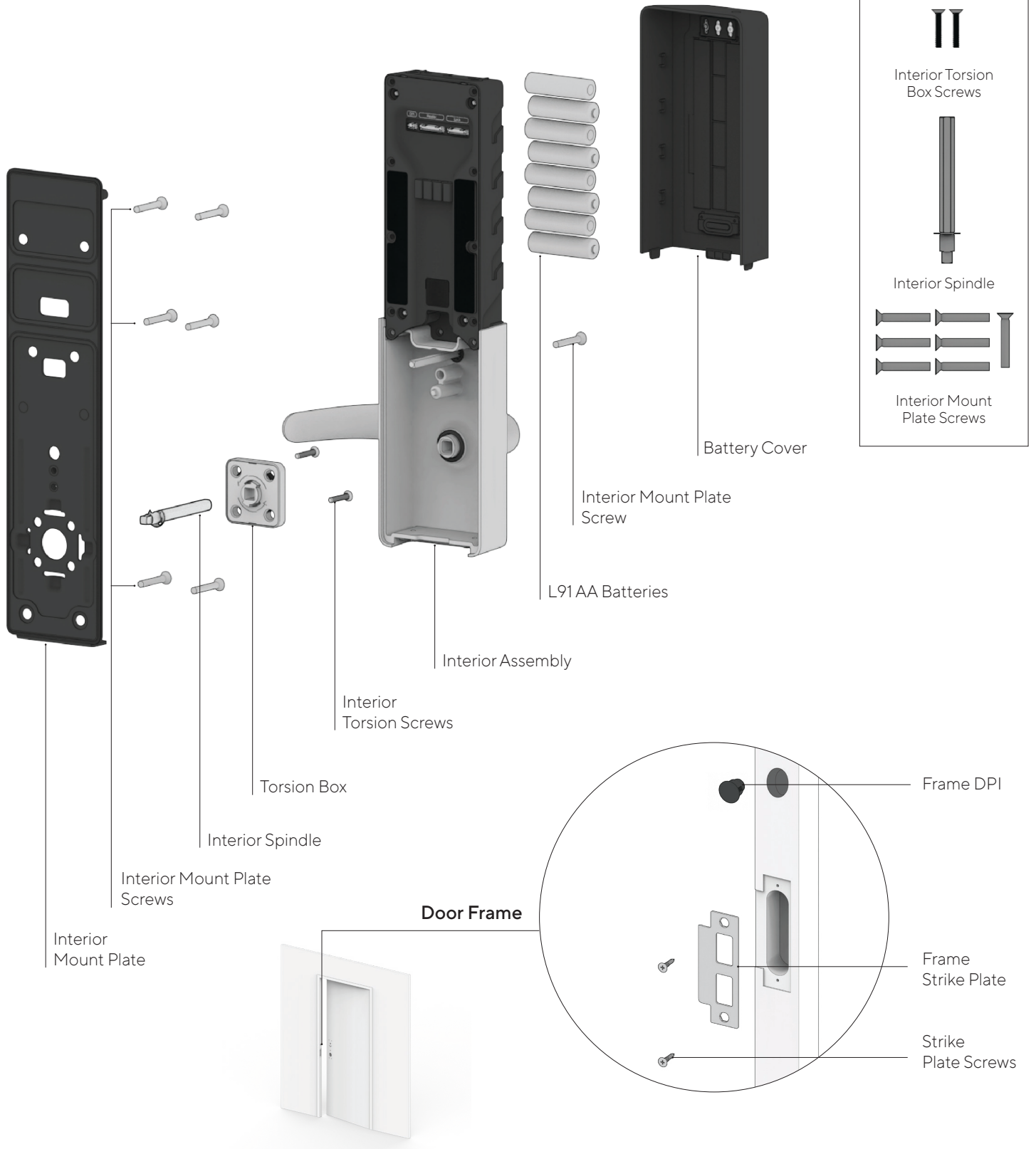
Dimensions (without Lever)	Exterior Assembly: 286.3 x 82.3 x 35.2 mm Interior Assembly: 323.8 x 83.6 x 52.8 mm
Dimensions (with Lever)	Exterior Assembly: 286.3 x 171.7 x 87.1 mm Interior Assembly: 323.8 x 172.4 x 88.0 mm
Key Cylinder Compatibility	Conventional Core: 6 Pin [conventional core provided 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]

Overview

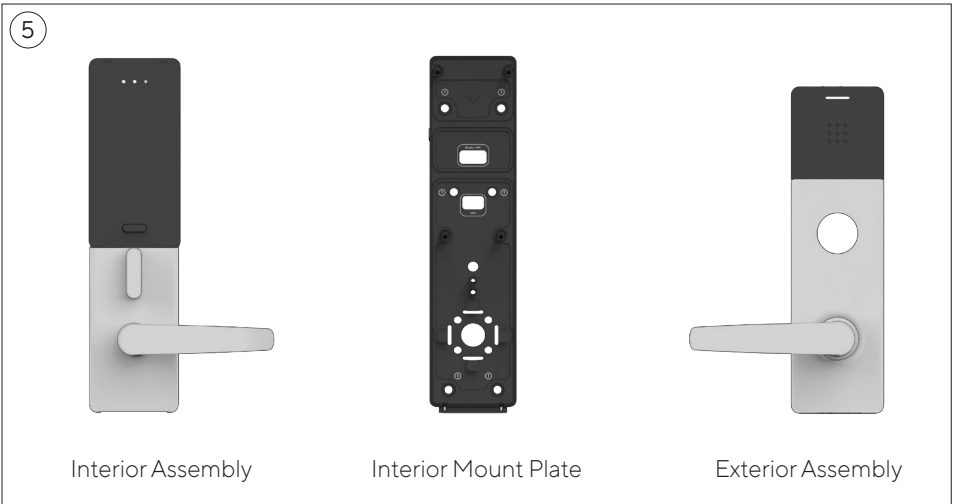
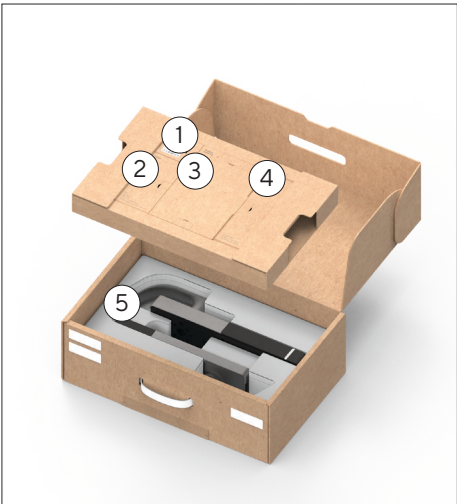


Interior

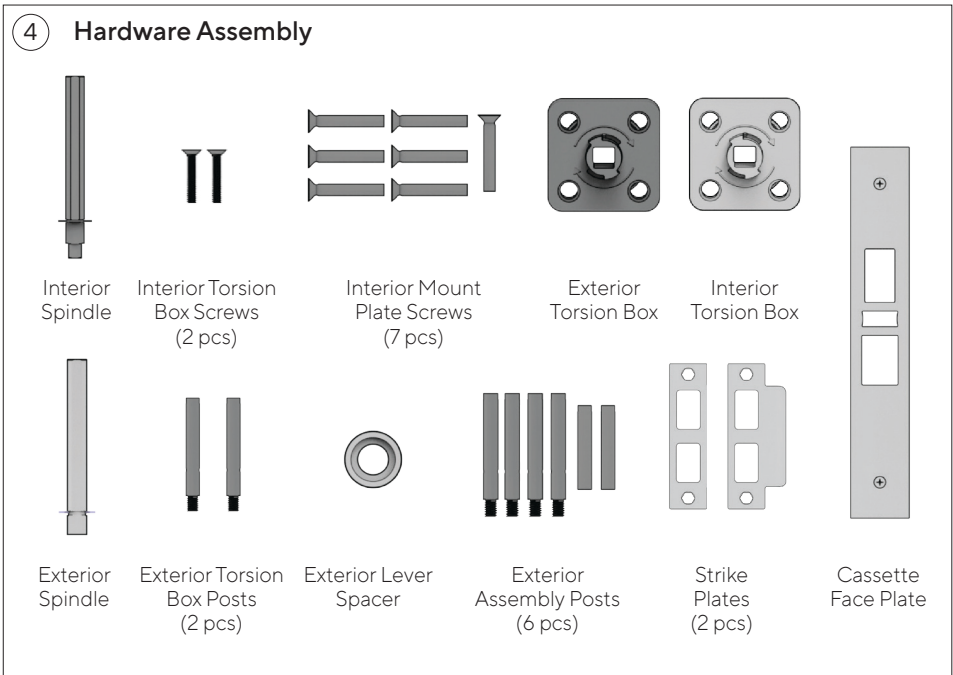
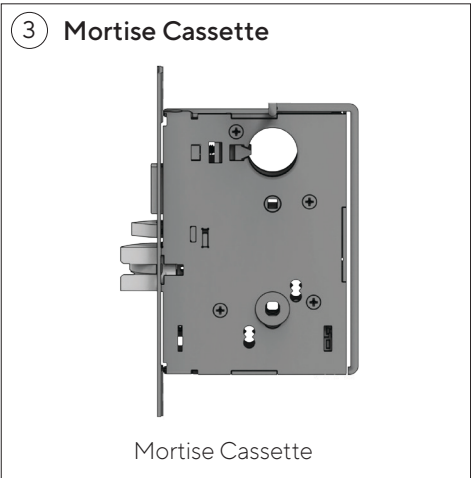
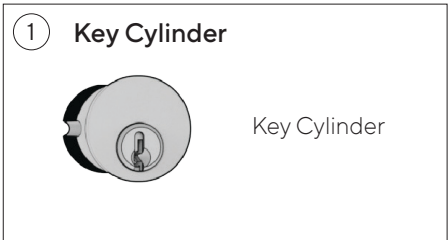
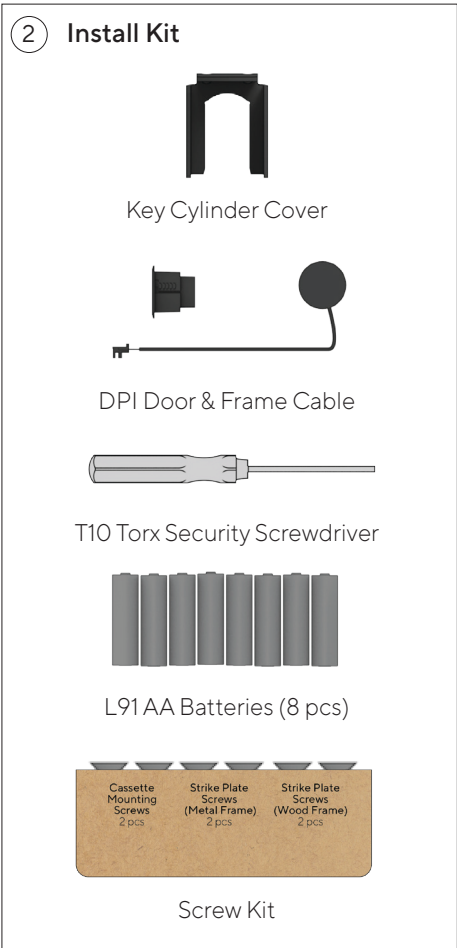
Interior side of door



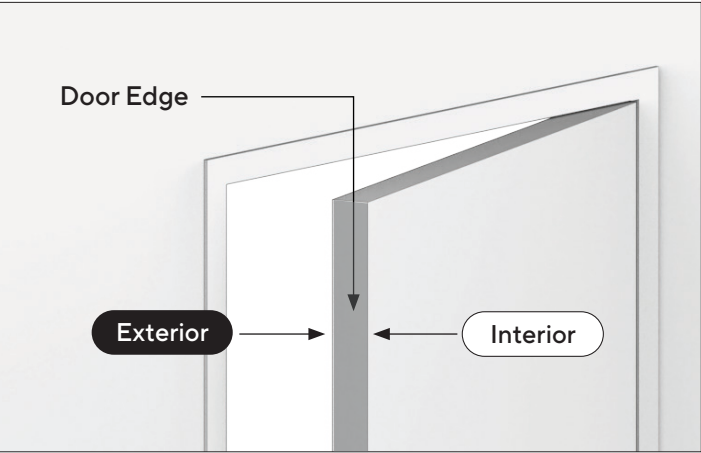
What's in the Box



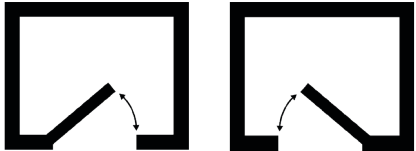
- What you'll need** (Not included)
- General purpose tape
 - Phillips Head #2 Screwdriver
 - Electric Drill
 - 3/8" Drill Bit
 - 3/4" Drill Bit
 - 1/2" Drill Bit
 - 7/16" Drill Bit
 - 1-3/4" Forstner Drill Bit or Hole Saw
 - 2-1/8" Drill Bit or Hole Saw



Door Compatibility



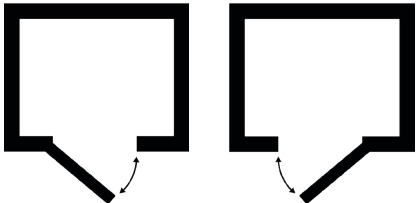
In-Swing Door



Left Hand

Right Hand

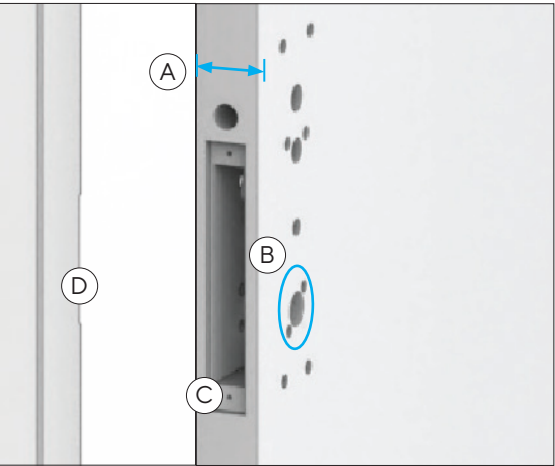
Out-Swing Door



Left Hand

Right Hand

Door Frame Door Edge



A Door Thickness

Measure the door thickness to help select the appropriate template.



B Handing Orientation

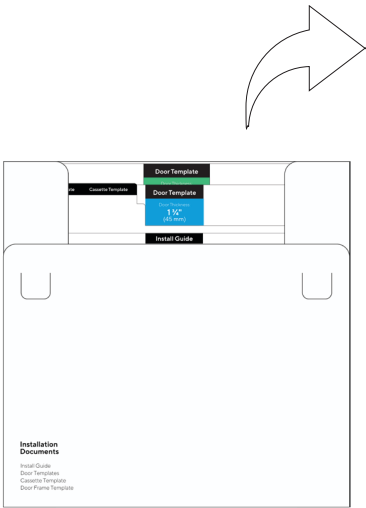
Identify the exterior side of the door and determine if it will be right-handed or left-handed.

C Cassette Pocket

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

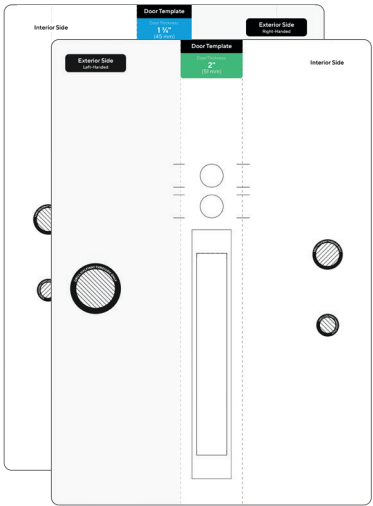
D Door Frame

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

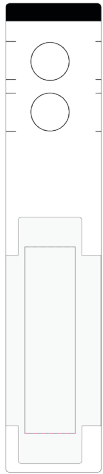


Envelope

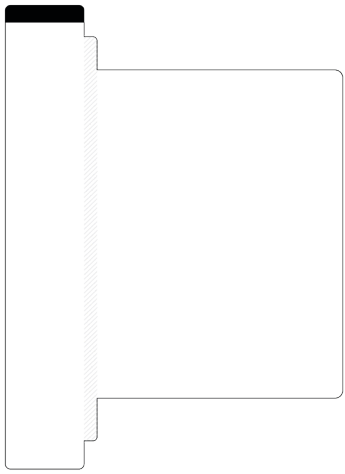
Templates



Door Templates (2 pcs)

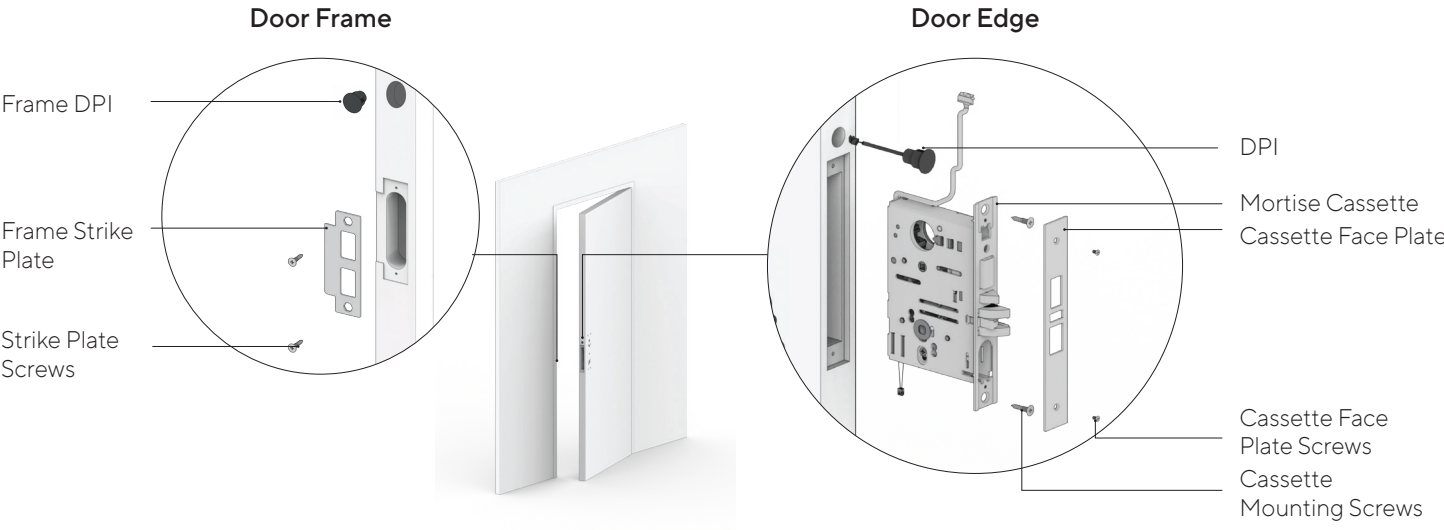


Door Frame Template



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.



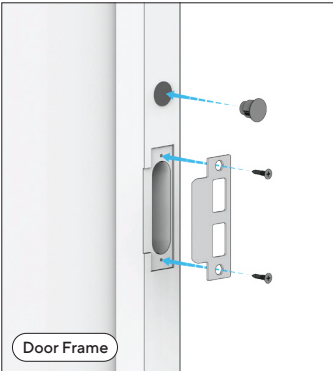
Reference the Door Template and draw the backset center line on both sides of the door.



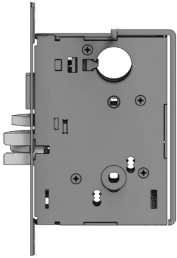
Reference the backset center line to place the appropriate Door Template onto the door. Push in tabs to align with cassette pocket.



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.

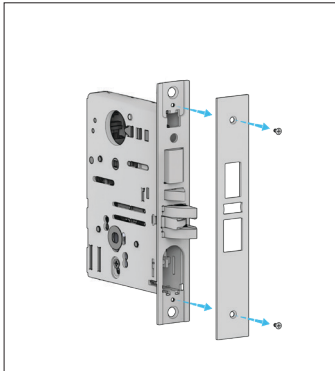


Install the Frame DPI and Strike Plate to the Door Frame.



Mortise Cassette

Retrieve the Mortise Cassette from its box.

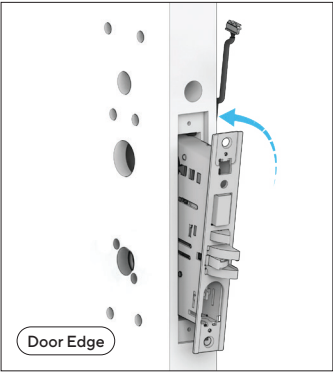


Remove the Cassette Face Plate by undoing the screws. Set the screws aside for later.

Checkpoint

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

Door Frame and Door Edge Installation (cont.)



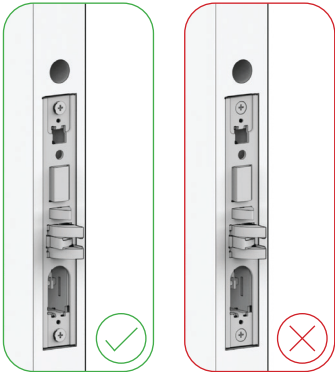
Insert the Cassette into the cassette pocket of the door.



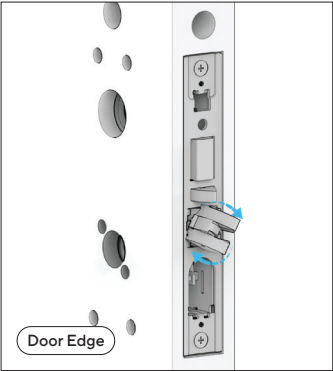
Route the Cassette Cable through the lock cable hole on the interior side.



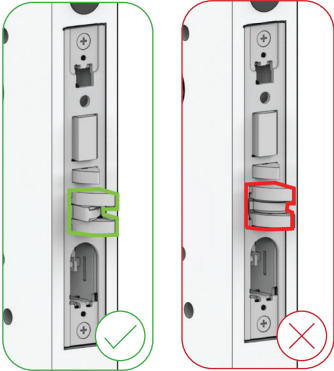
Use the Cassette Mounting Screws from the Screw Holder, in the Install Kit, to fasten the Cassette.



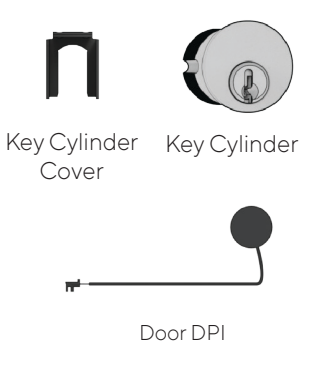
Keep screws loose.



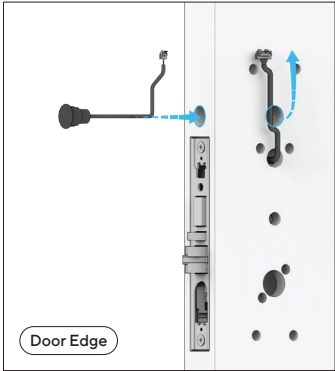
Adjust the latch direction depending on the swing direction of the door.



Make sure the prongs alternate.



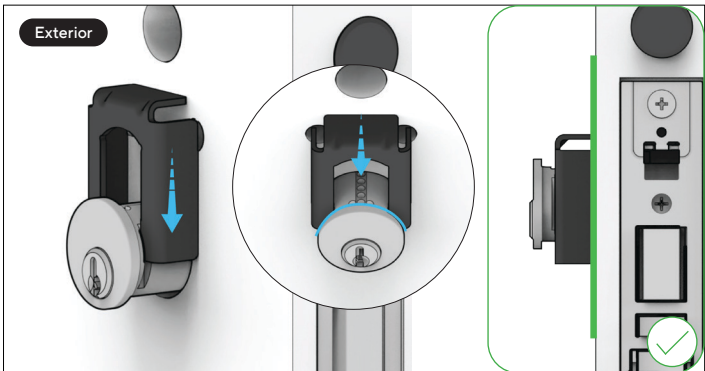
Retrieve the following items from the Key Cylinder and Install Kit.



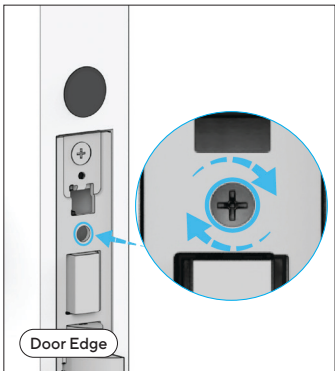
Route the DPI Cable through the DPI hole, with the cable routing into the interior side.



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

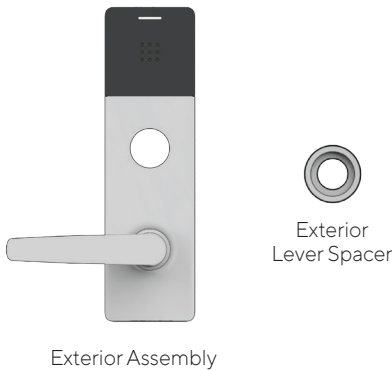
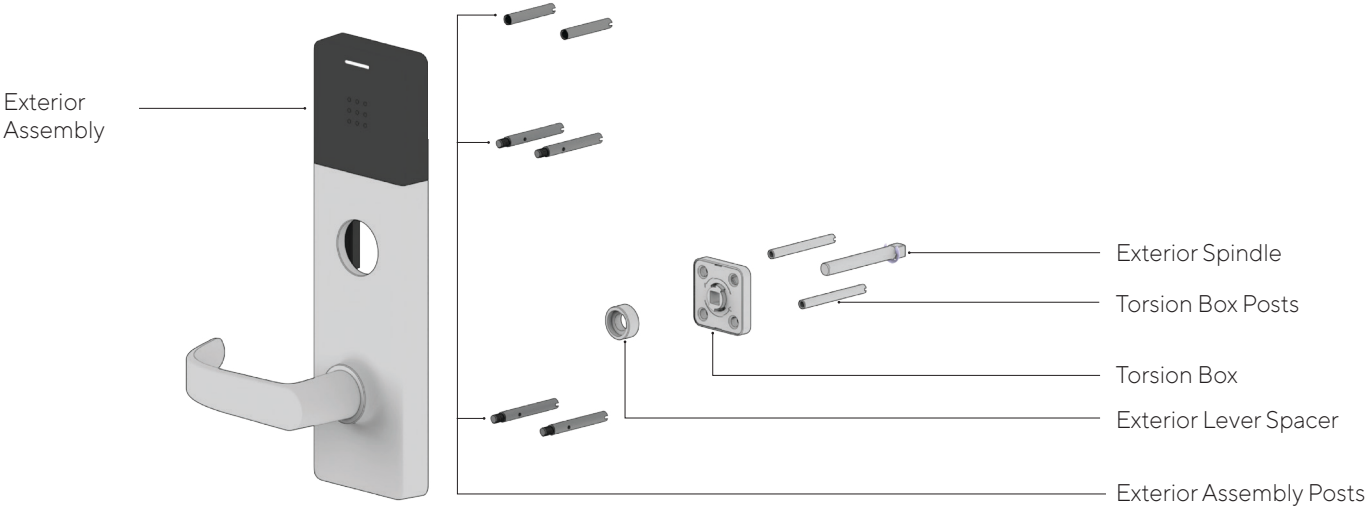


Make sure the set screw is loose. Slide the Key Cylinder Cover into the Key Cylinder grooves. Turn the Key Cylinder assembly until it is flush with the door.

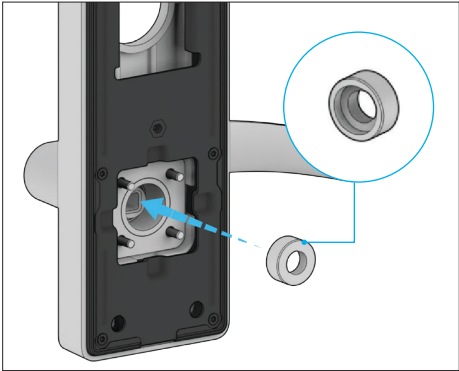
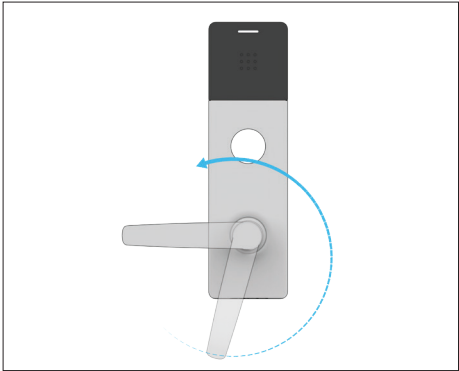


Tighten the set screw in the Cassette, using a Phillips Head Screwdriver, to secure the Key Cylinder.

Exterior Installation



Retrieve the following items from the Assembly Kit.



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.

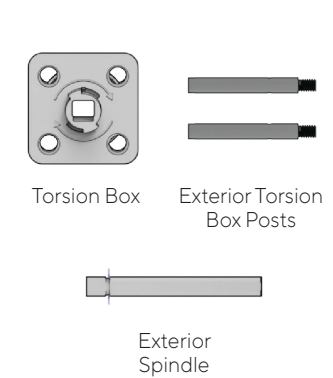
Left Handed, Exterior



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 .



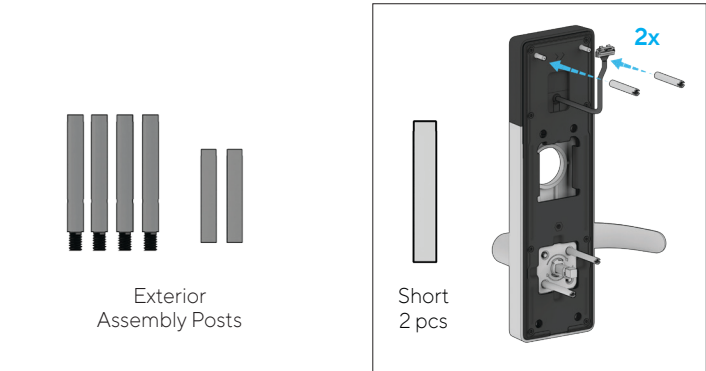
Hand-tighten the Exterior Torsion Box Posts onto the Torsion Box in the appropriate formation. Refer to Checkpoint ② .



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

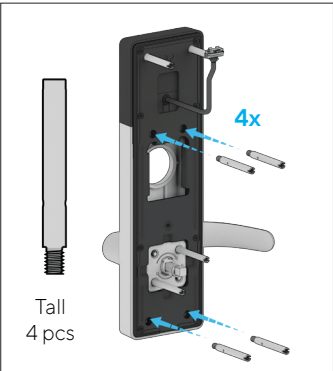
Checkpoint

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

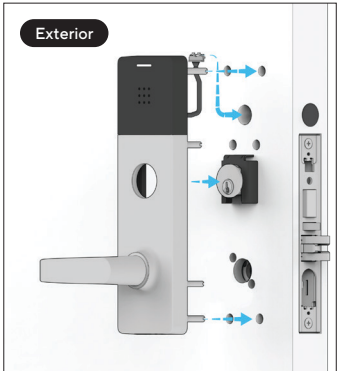


Retrieve the following items from the Assembly Kit.

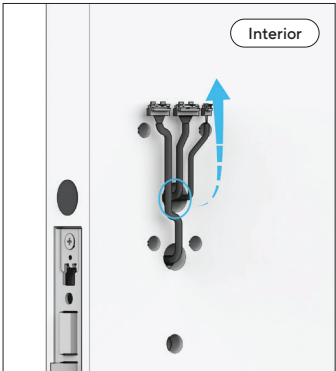
Hand-tighten the short Exterior Assembly Posts on the top two bolts on the Assembly.



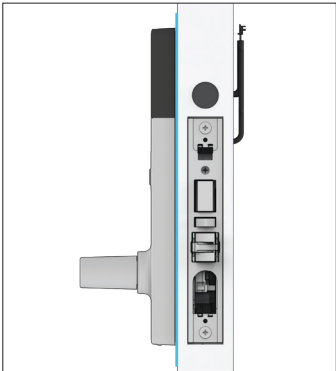
Hand tighten the tall Exterior Assembly Posts on the bottom four bolts on the Assembly.



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

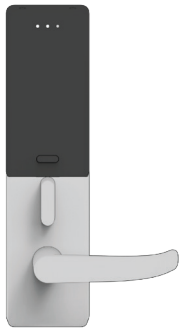
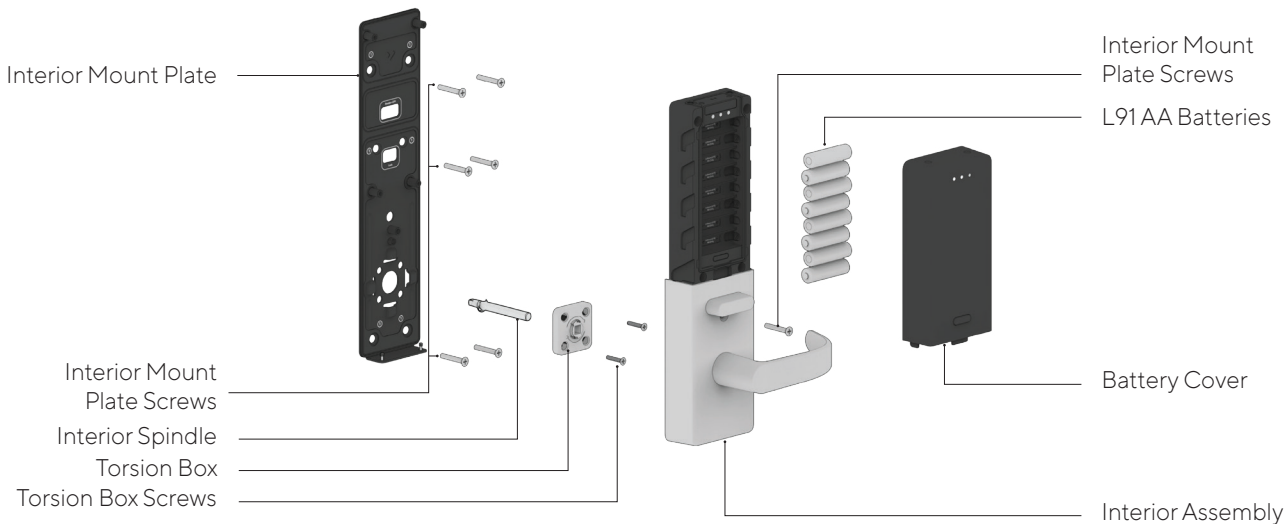


Make sure the cable is routed through the door, to the interior side.



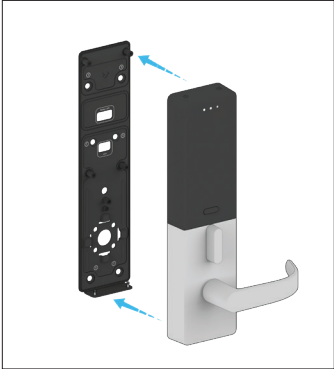
The Exterior Assembly should be flush against the door.

Interior Installation

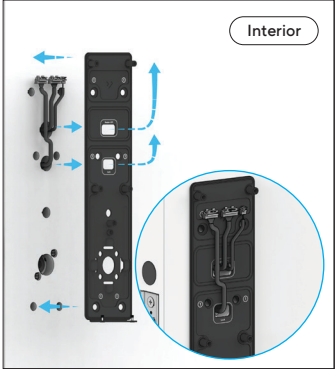


Interior Assembly

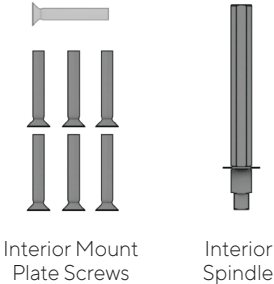
Retrieve the Interior Assembly from the box.



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.



Interior Mount Plate Screws

Interior Spindle

Retrieve the following items from the Assembly Kit. **There will be one Interior Mount Plate Screw remaining for the last step of the install.**

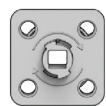


Screw in six Interior Mount Plate Screws into the ① locations on the Mount Plate. **There will be one screw remaining for the last step of the install.**



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

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



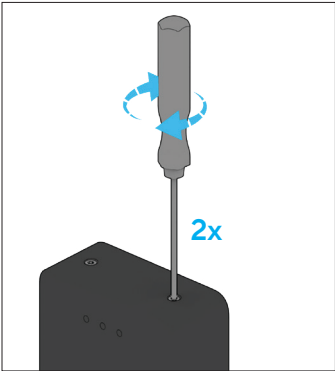
Place the Torsion Box on the Interior Spindle, matching the desired lever rotation direction.



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.



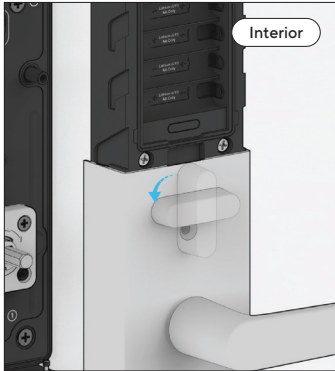
Using the T10 Torx Security Screwdriver, loosen the two captive screws on the top of the battery cover.



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.

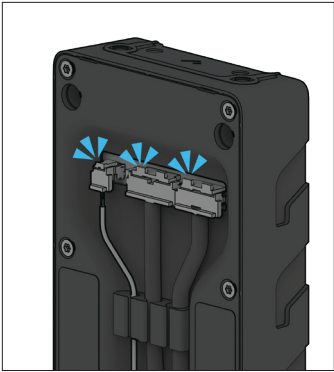
Checkpoint
Thumbturn must be either in a fully horizontal or vertical position. If thumbturn is angled, the Interior Assembly will not be able to be placed on the Interior Mount Plate.

Thumbturn cannot be angled in other ways.

Interior Installation (cont.)



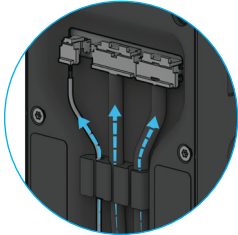
Bring the Interior Assembly closer to the Interior Mount Plate to begin connecting the connectors.



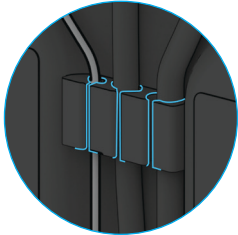
Plug the connectors to their respective ports on the rear of the Interior Assembly and press cables into the grommets.

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.

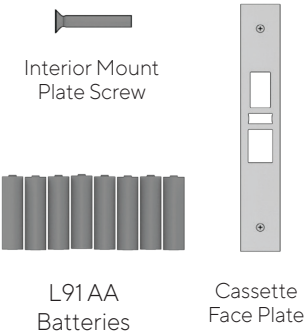
Checkpoint

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

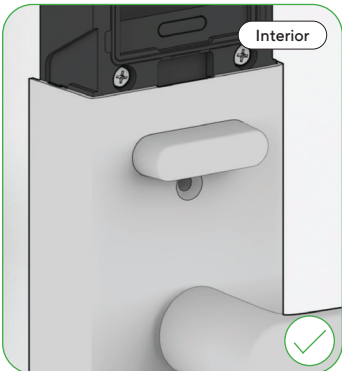




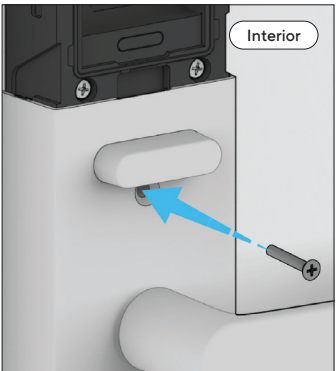
Tighten the four captive screws on the Interior Assembly with a Phillips Head Screwdriver. It is recommended to tighten them evenly.



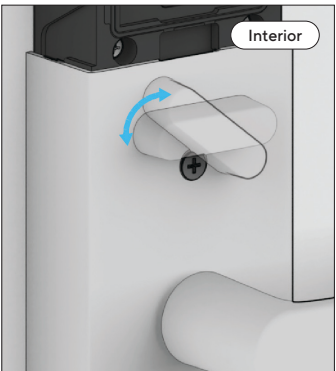
Retrieve the remaining Interior Mount Plate Screw.



Make sure thumbturn is in the horizontal position.



Insert the remaining Interior Mount Plate Screw and tighten it to the Interior Assembly.

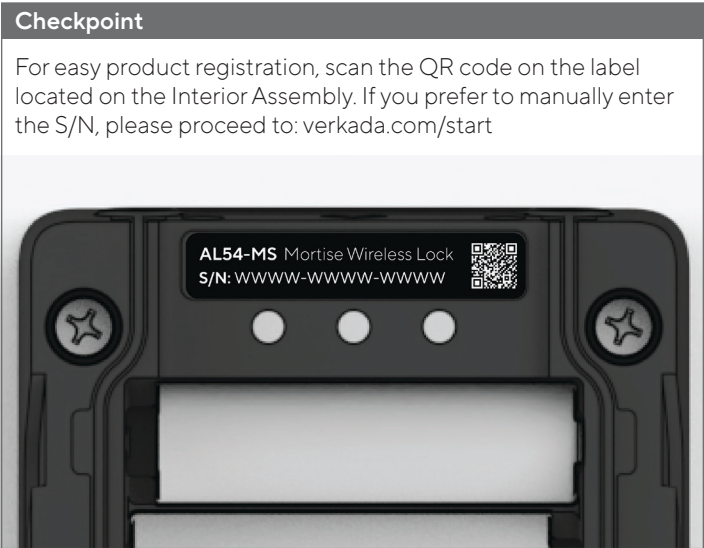


If the deadbolt is extended, retract it by turning the thumbturn.

Interior Installation (cont.)



Install the eight L91AA batteries included in the Install Kit. The device LEDs should begin to cycle.



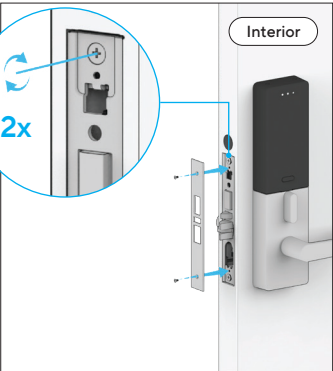
Attach the Battery Cover by following the grooves on the side of the Interior Assembly.



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



The installation is complete. Follow the Checkpoints to ensure product is completely functional.

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

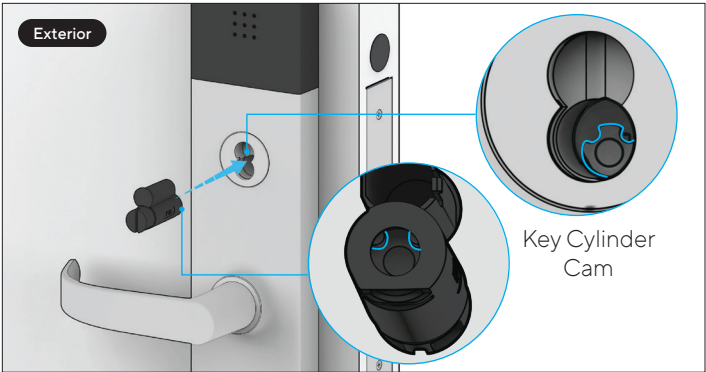


SFIC

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.

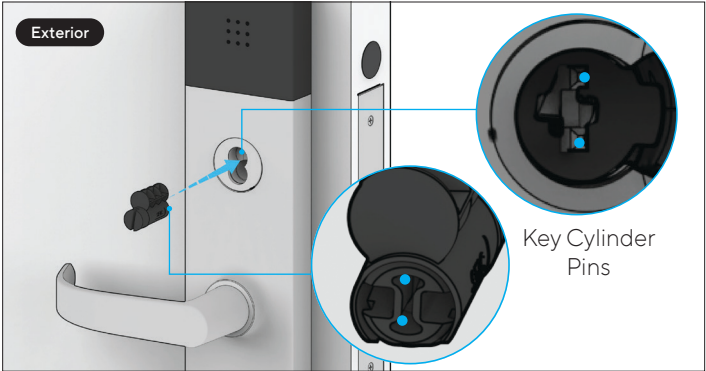


A subtle click will indicate that the Temporary Key Core is installed.

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

Notes

[illegible]

Notes

[illegible]

