

Complete Installation Guide

- 01 – In the Box
- 02 – Hardware
- 03 – Entryway Guidelines
- 04 – Mounting Options
- 05 – Wall Mounting
- 06 – Low Profile Wall Mounting
- 07 – Ceiling Mounting (Toggle Anchor)
- 08 – Ceiling Mounting (Mounting Nut)
- 09 – Top of Frame Mounting
- 10 – Bottom of Frame Mounting
- 11 – Glass/Metal Adhesive Mounting
- 12 – Junction Box Mounting

In the Box

01

Product

- DPU (Depth Processing Unit)
- Legal Information Booklet

Wall Mount Kit *(also available for order)*

- Wall Bracket (temporarily installed on DPU)
- Hex Key (1.5mm)
- 2pcs #8 x 1.25in Rounded Head Screws
- 2pcs Toggler Multi-Surface Anchors

Hardware

02

Alternative Mounting

(Available For Order)

- Low Profile Wall Mount Kit (section 6)
- Ceiling Mount Kit (section 7 and 8)
- Door Frame Mount Kit (section 9 and 10)
- Glass/Metal Adhesive Mount Kit (section 11)
- Junction Box Mount Kit (section 12)

Sensors

Depth Sensor utilizing Class 1 Eye Safe Infrared Lasers

Operating Temperature & Humidity

- Temperature: 32° - 95°F (0° - 35°C) with minimum 3in (7.6cm) clearance above the DPU
- Relative humidity: 20% to 80% non-condensing

Indicators

Multi-color status LED

Device Weight

1.3lbs (0.59kg)

Certifications

Certified Class 1 Eye Safe Laser Device

- EN/IEC 60825-1 2014 (2007 USA)

FCC Part 15 Subpart B Class A

- Conducted Emissions (15.107)
- Radiated Emissions (15.109)

CE Certification

RCM Mark (Australia & New Zealand)

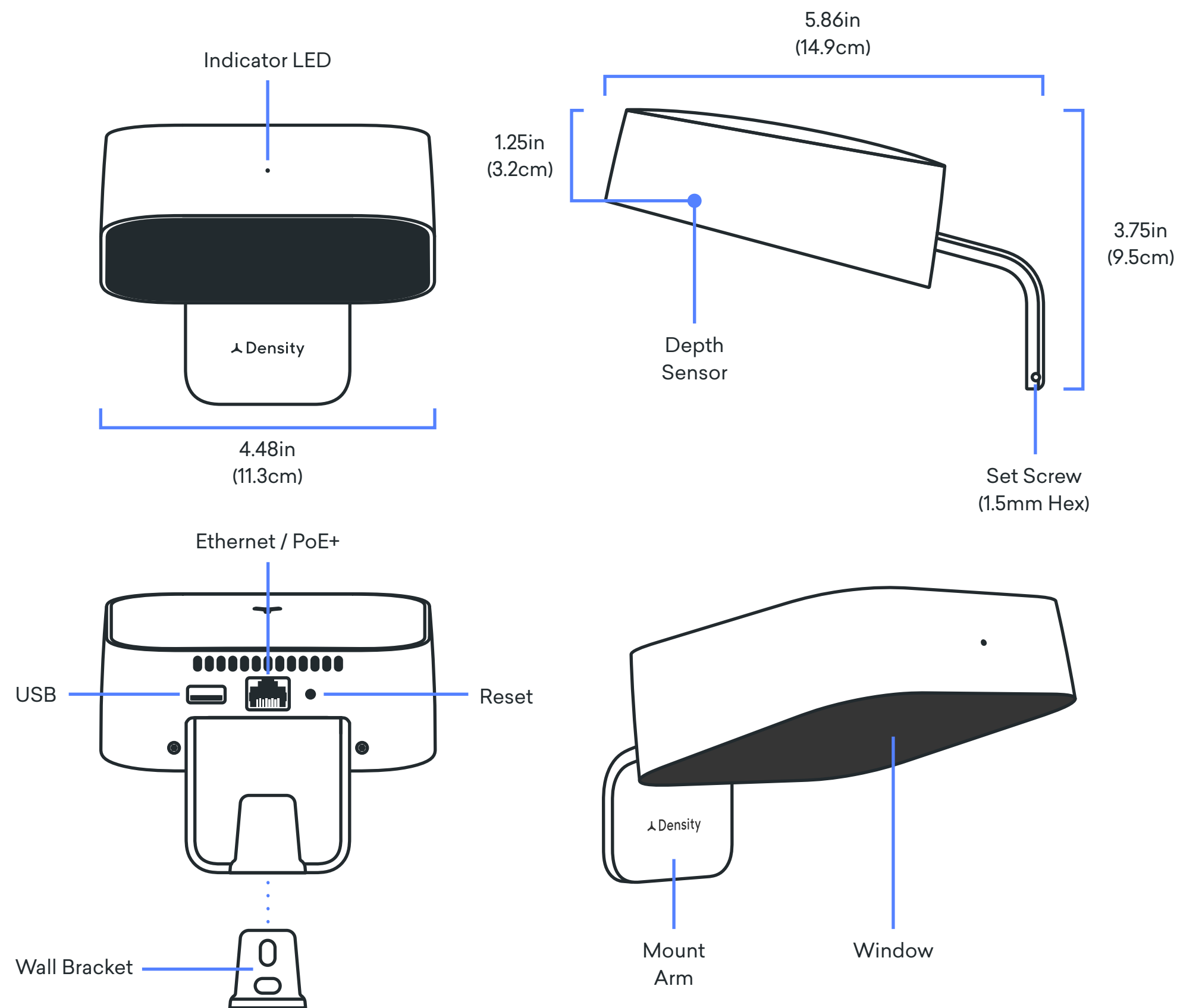
RoHS2 Compliant

DPU Dimensions and Features

- Enclosure Material: Anodized Aluminum
- Window Material: IR PMMA Plastic

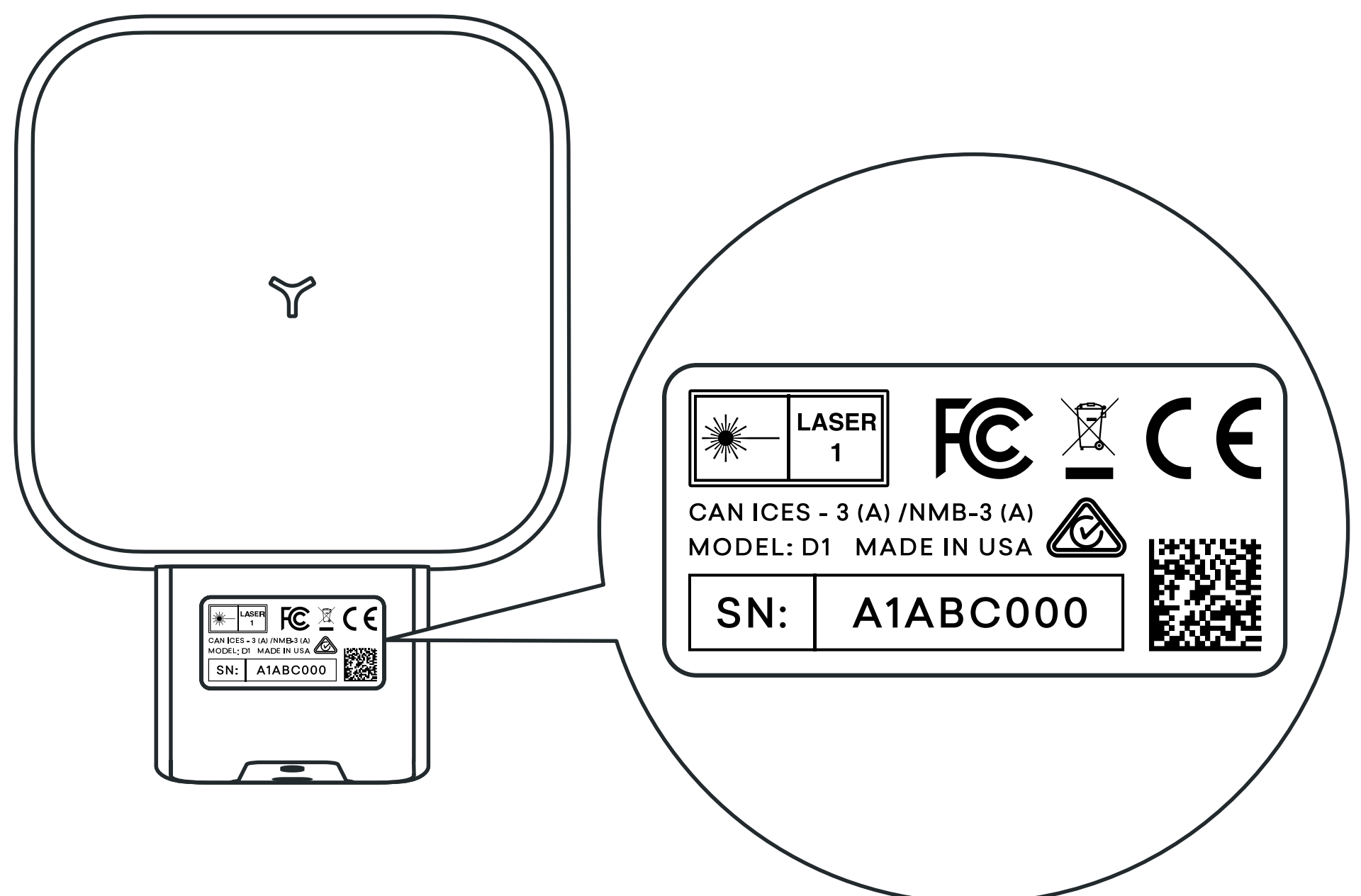
Interface

- 1x 10/100/1000 BaseT RJ45 interface
- 1x USB 2.0 Port for WiFi/Bluetooth dongle
- Reset Button



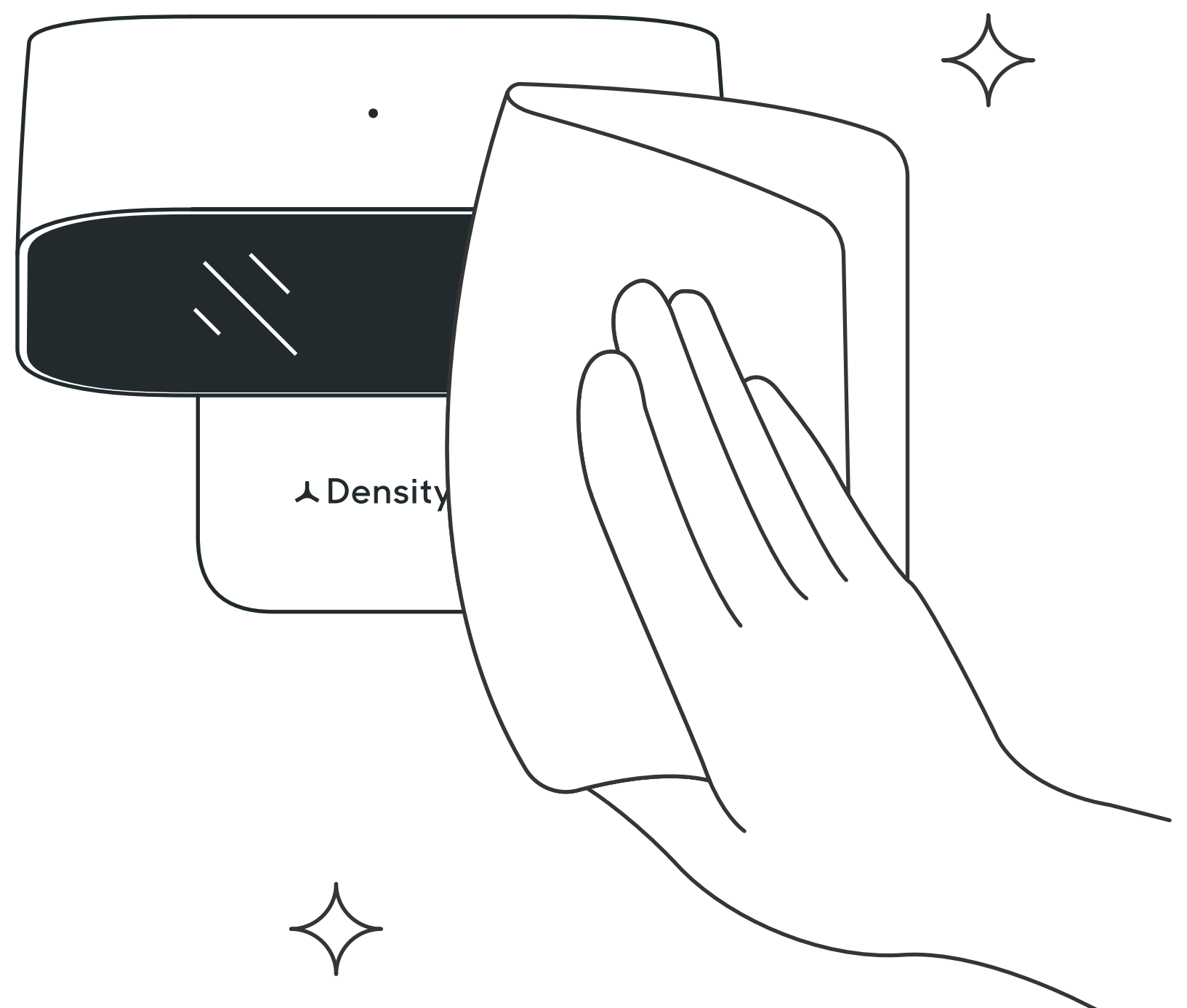
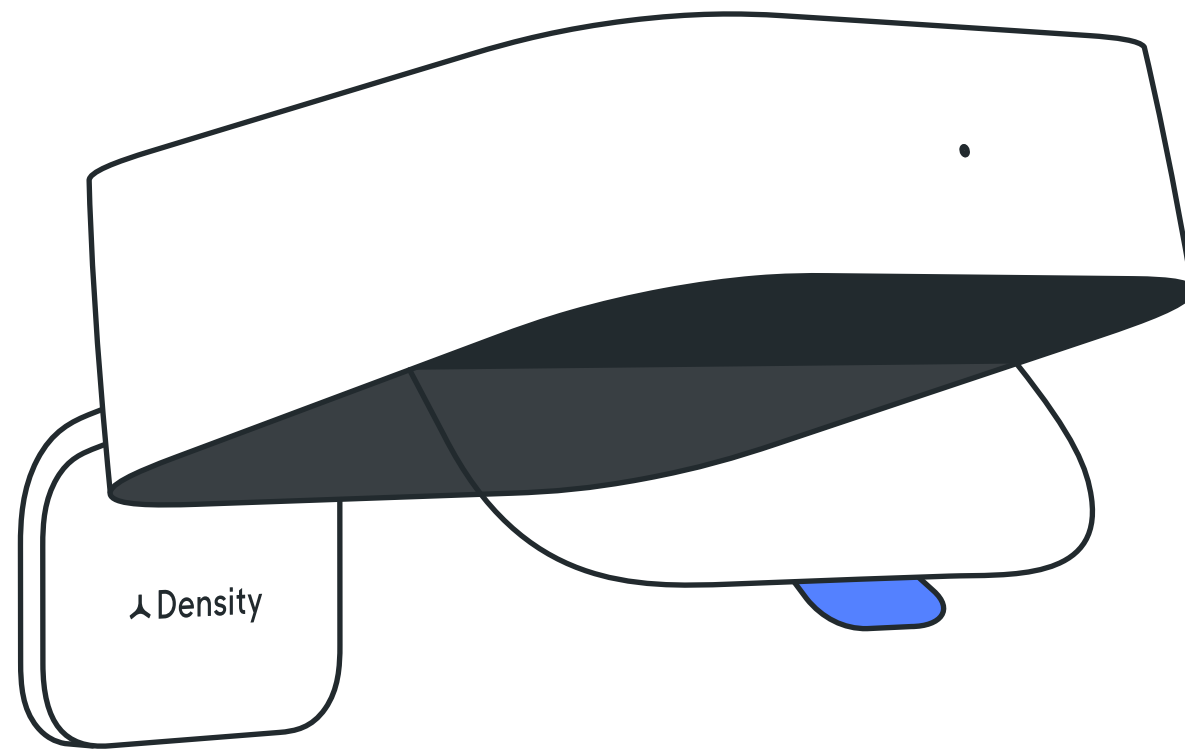
Serial Label

The Serial Label appears on the DPU as shown.



Window Cleanliness

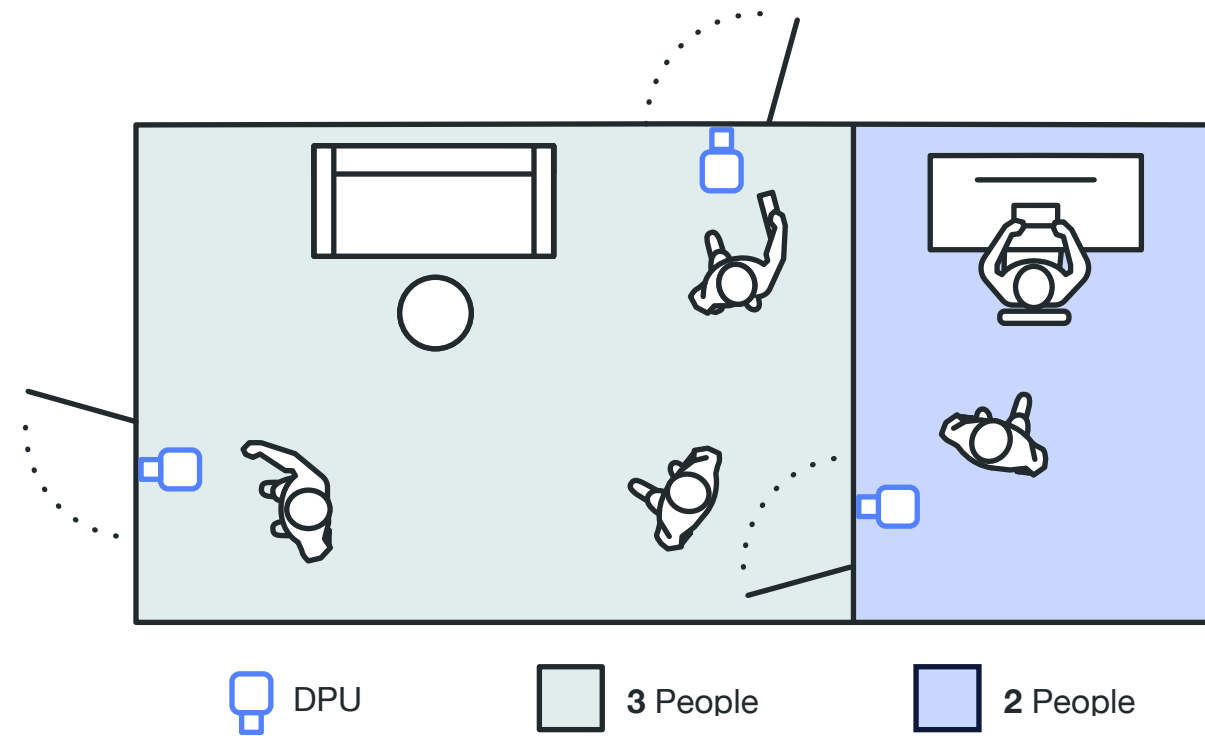
It is very important to keep the sensor window clean on the DPU. Smudges, fingerprints, and excessive dust can effect sensor's ability to detect people. The DPU comes with a protective film that is designed to keep the window clean during the installation process. Remove the protective film after the installation is complete. Check the window for smudges or dust after the installation and wipe clean with a micro fiber cloth if necessary. Make sure to check the sensor window every few months for excessive dust build up and wipe clean if necessary.



Number of Devices

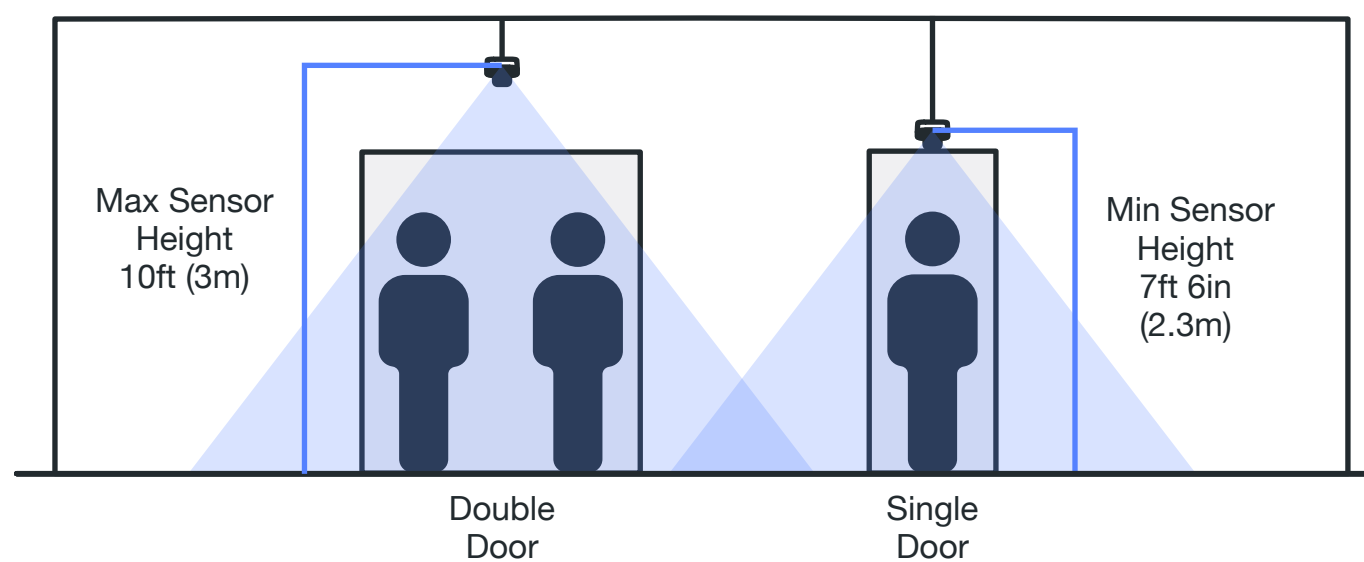
To maintain an accurate count of a space, you need to install a sensor, also known as a DPU (Depth Processing Unit) above every entryway to that space.

The DPU is designed for indoor use only.



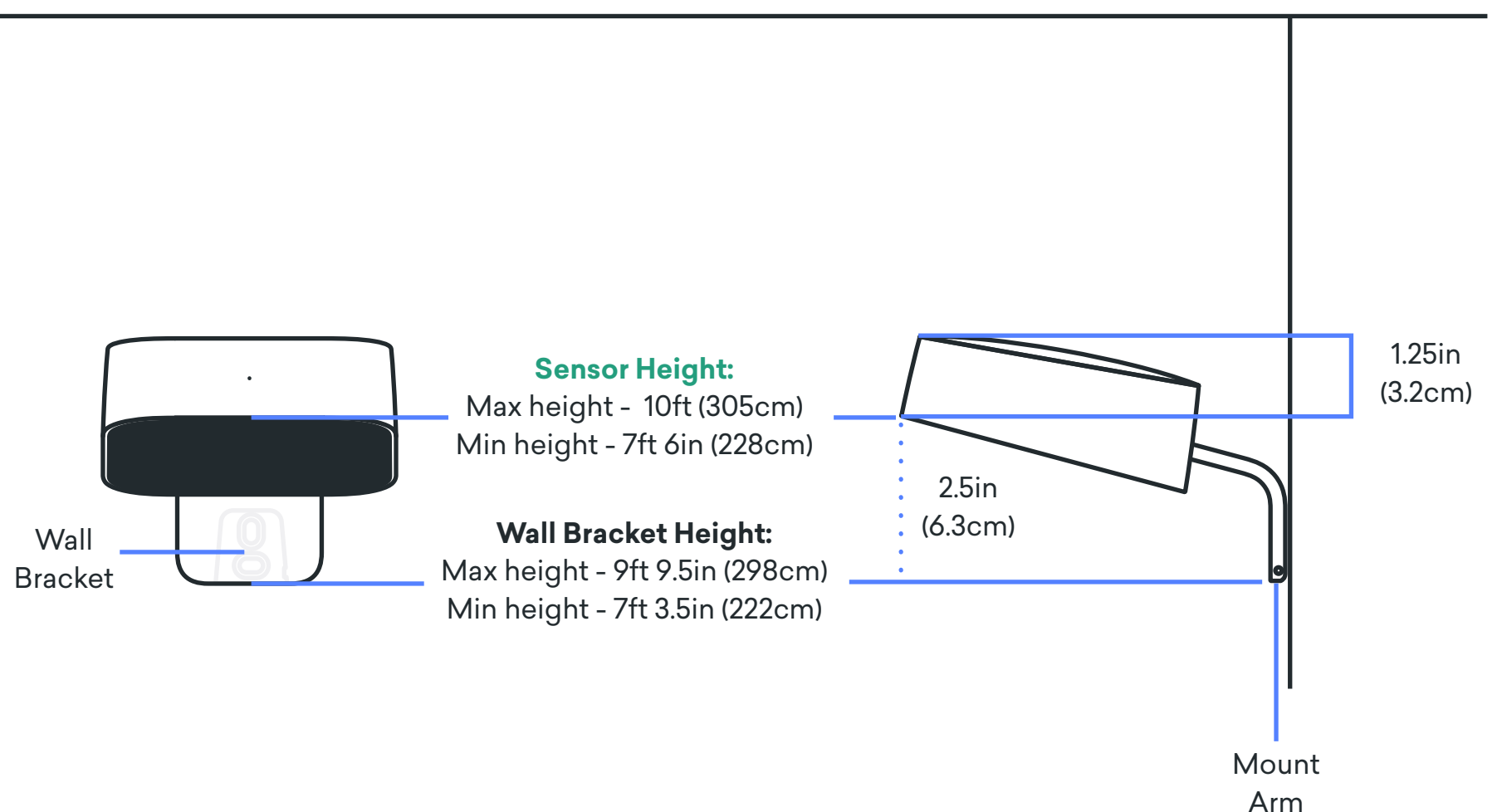
Install Height

The higher the sensor height, the greater the entryway FOV (Field of View) coverage. Install the DPU sensor at its maximum height of 10ft (3m) for optimal entryway coverage. The minimum install height for the DPU sensor is 7ft 6in (2.3m). Refer to the Install Height Chart on pg.5.



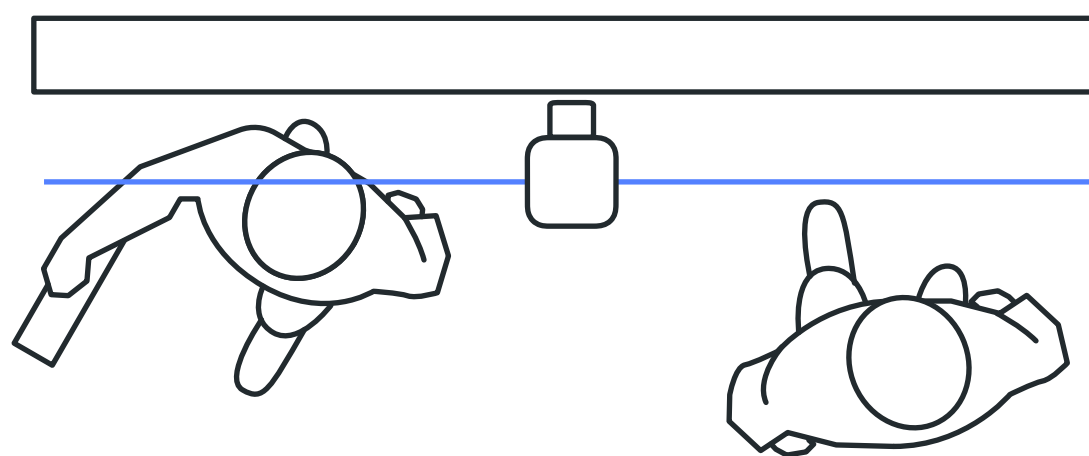
Sensor Height

The sensor height is the distance between the front edge of the DPU and the ground. The sensor height can also be determined by measuring the distance between the bottom of the Mount Arm / Wall Bracket and the ground. To determine the sensor height, take the Mount Arm / Wall Bracket to ground measurement and add 2.5in (6.3cm)



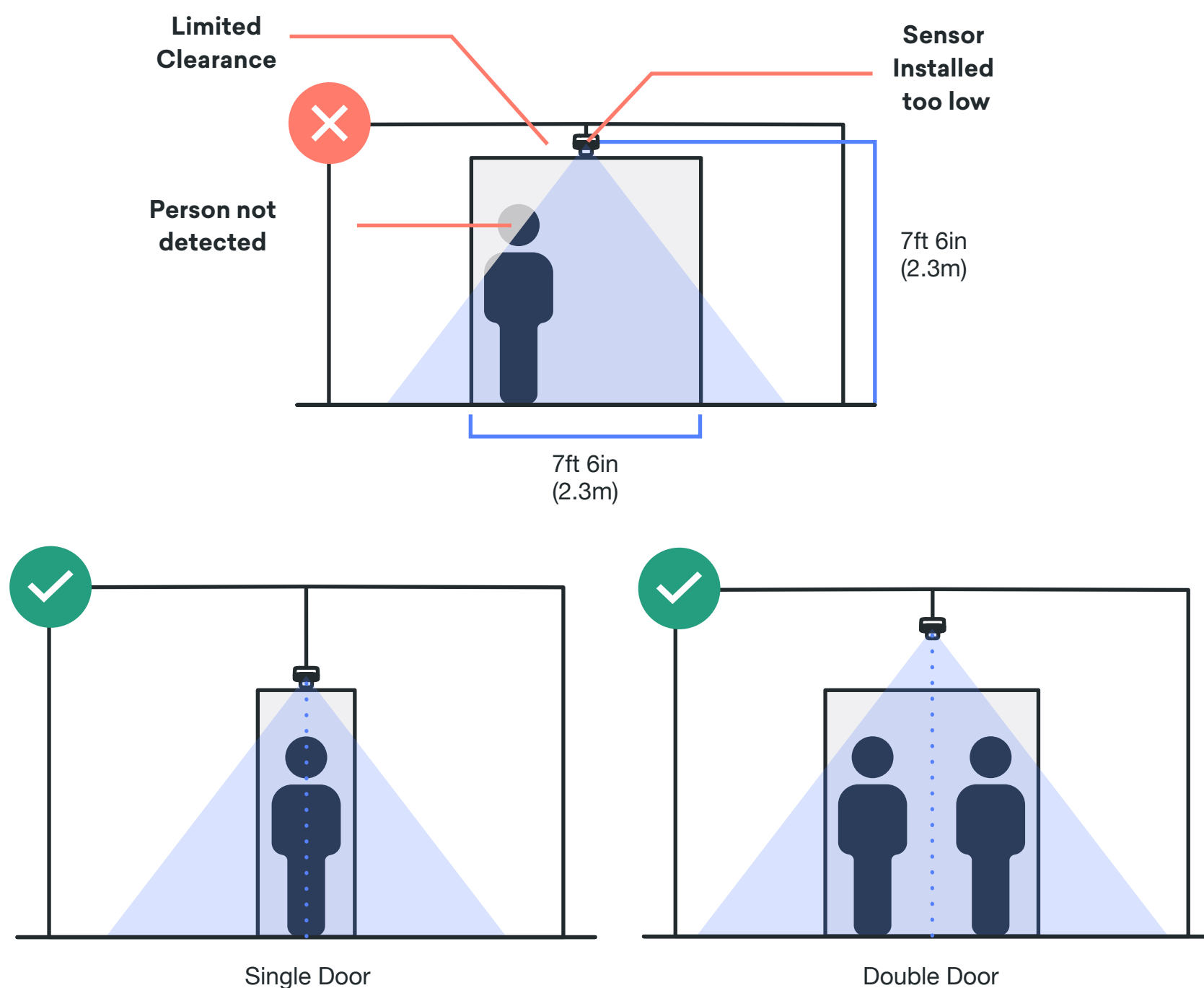
Trigger Line

People are counted as they cross an invisible barrier known as the Trigger Line. The DPU needs to be installed as close to the entryway as possible to ensure people cross this line.



Field of View

The total detection area beneath the sensor is called the FOV (Field of View). The entryway opening needs adequate FOV coverage to count people. Some entryways with obstructions or limited ceiling clearance may prevent the sensor from being installed high enough to cover the width of the entryway. The drawing to the right illustrates this concept. Refer to the Install Height Chart below to determine the minimum sensor height for your entryway.



Install Height Chart - Single DPU

The Install Height Chart lists the minimum sensor height requirements for various entryway widths. If the DPU cannot be mounted high enough to cover the entryway width, please contact your Account Representative

To use the chart, measure the *Threshold Width* (the physical opening that a person can walk through), then look at the chart for the minimum required install height for that width measurement.

Important Note:

- *Maximum entryway width for single DPU is 90in

Standard		Metric	
Entryway Width	Min Sensor Height	Entryway Width	Min Sensor Height
≤ 40in	*90in (7ft 6in)	≤ 101cm	*228cm
≤ 45in	93in	≤ 114cm	236cm
≤ 50in	96in	≤ 127cm	244cm
≤ 55in	99in	≤ 140cm	251cm
≤ 60in	102in	≤ 153cm	259cm
≤ 65in	105in	≤ 166cm	266cm
≤ 70in	108in	≤ 178cm	274cm
≤ 75in	111in	≤ 191cm	282cm
≤ 80in	114in	≤ 203cm	290cm
≤ 85in	117in	≤ 216cm	297cm
≤ 90in (7ft 6in)	*120in (10ft)	≤ 229cm	*305cm
*Minimum sensor height - *90in (7ft 6in) *Maximum sensor height - *120in (10ft)		*Minimum sensor height - 228cm *Maximum sensor height - 305cm	

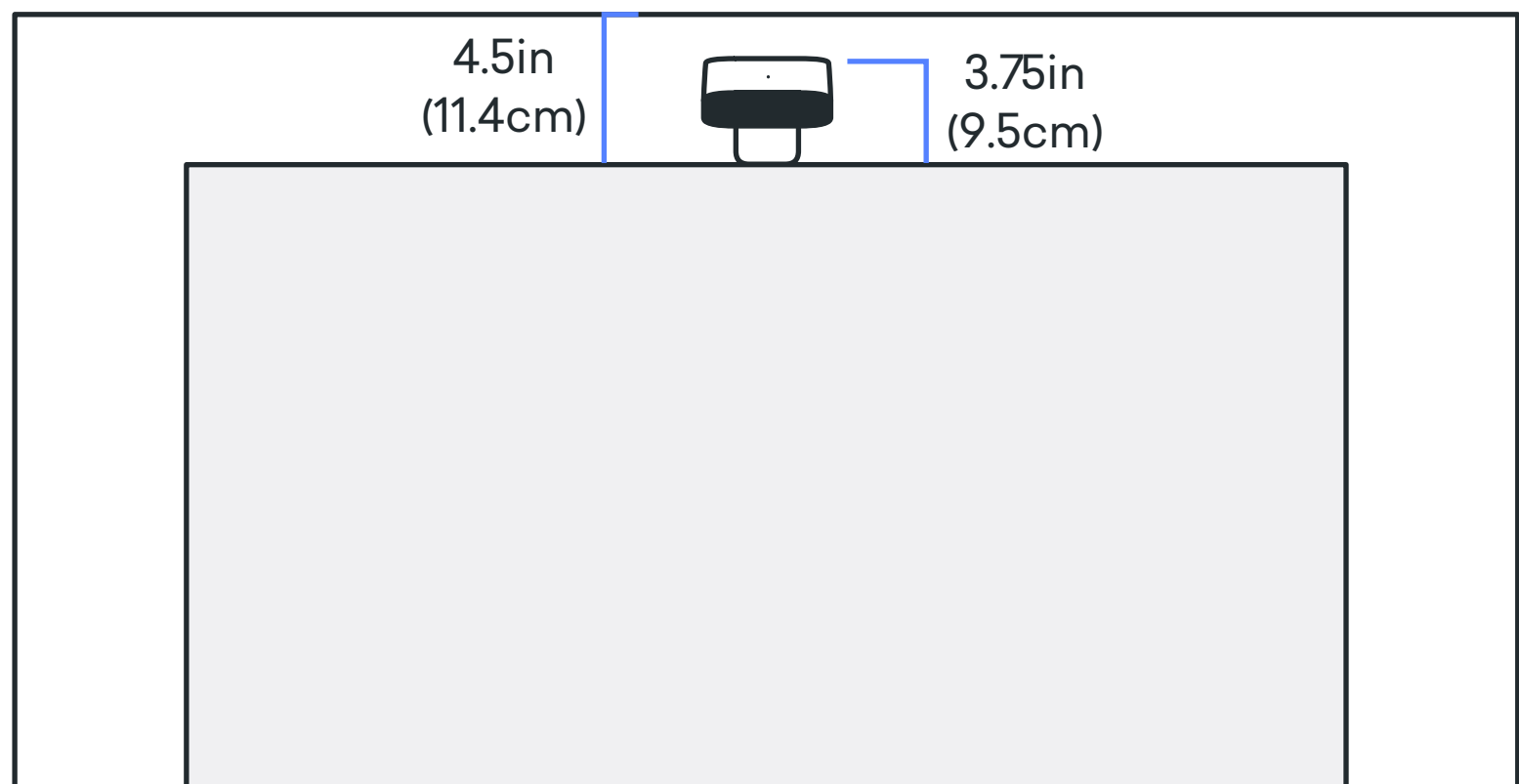
If additional units are needed to cover a single entryway, please reach out to your account representative or support@density.io

Clearance

For standard Wall Mount installations (section 5), a minimum of 4.5in (11.4cm) of unobstructed vertical wall space is required above the entryway. This allows enough clearance for the unit to slide onto the Wall Mount.

If available vertical mount space above the entryway is less than 4.5in (11.4cm), a Low Profile Wall Mount Kit (section 6) or Ceiling Mount Kit (section 7) can be ordered.

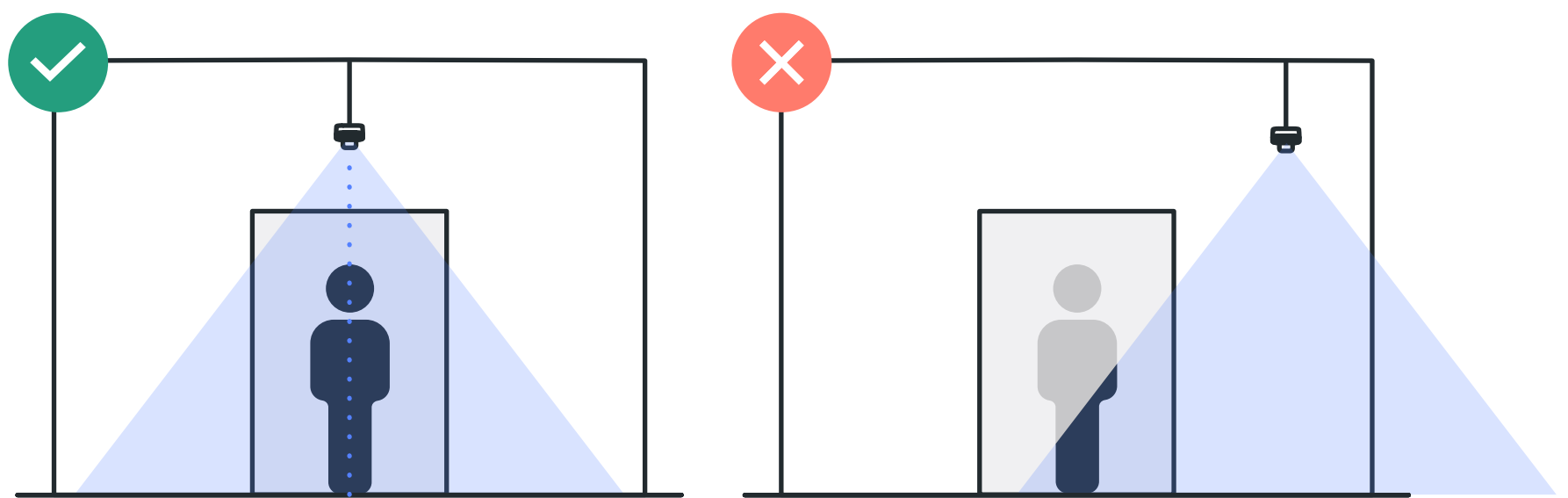
For Ceiling Mount installations, the DPU cannot hang below the entryway if the door swings toward the device, as the door will make contact with the unit.



Placement

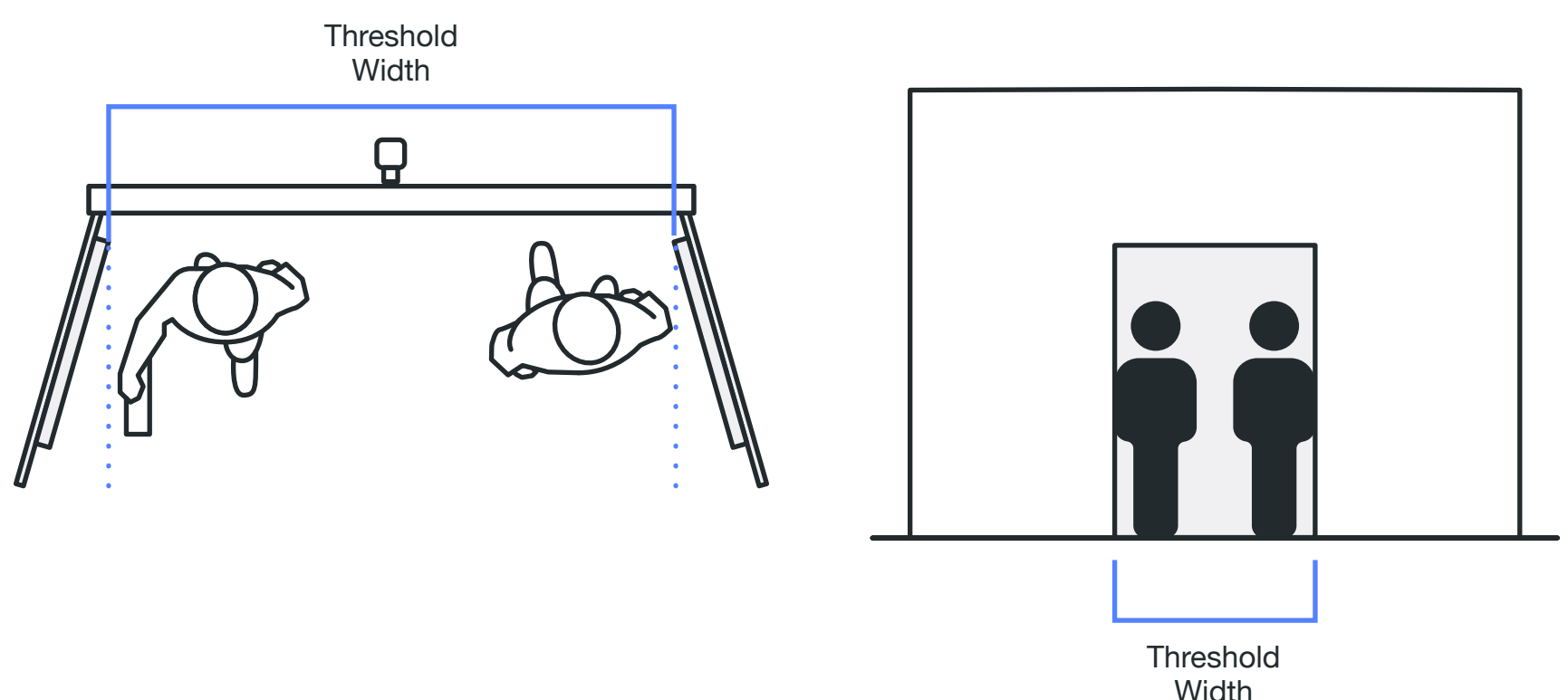
The DPU needs to be centered horizontally above the entryway or hallway to ensure people are detected within the Field of View.

The DPU cannot be mounted inside of the ceiling, on a side wall facing the entryway, or in the corner of a room.



Entryway Width

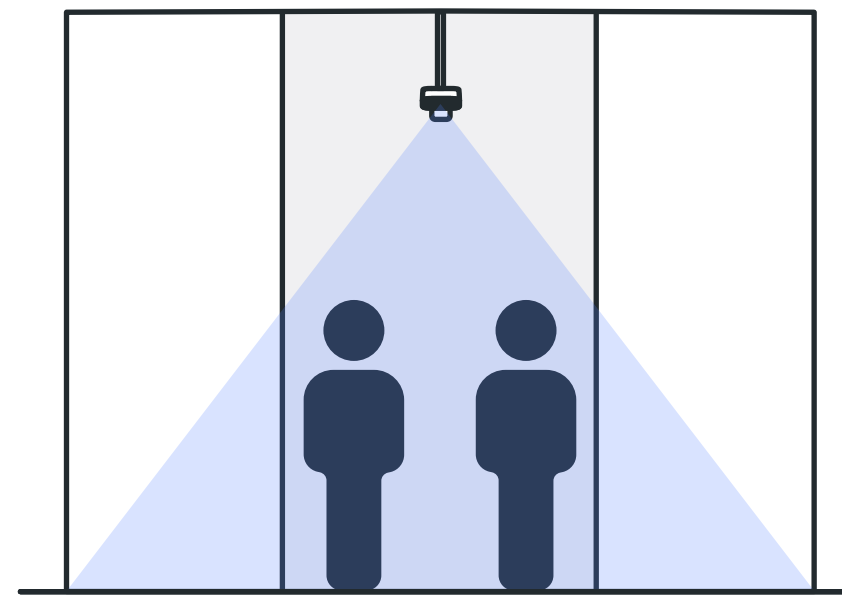
To determine the *Threshold Width* of the entryway, measure the open space that a person can physically walk through. Doors with handles can restrict the walkable pathway and reduce the FOV coverage requirements. For entryways with doors, open the door fully and measure the width of the unobstructed path through the doorway. For hallways or entryways with no doors, measure the distance from wall to wall.



Hallways

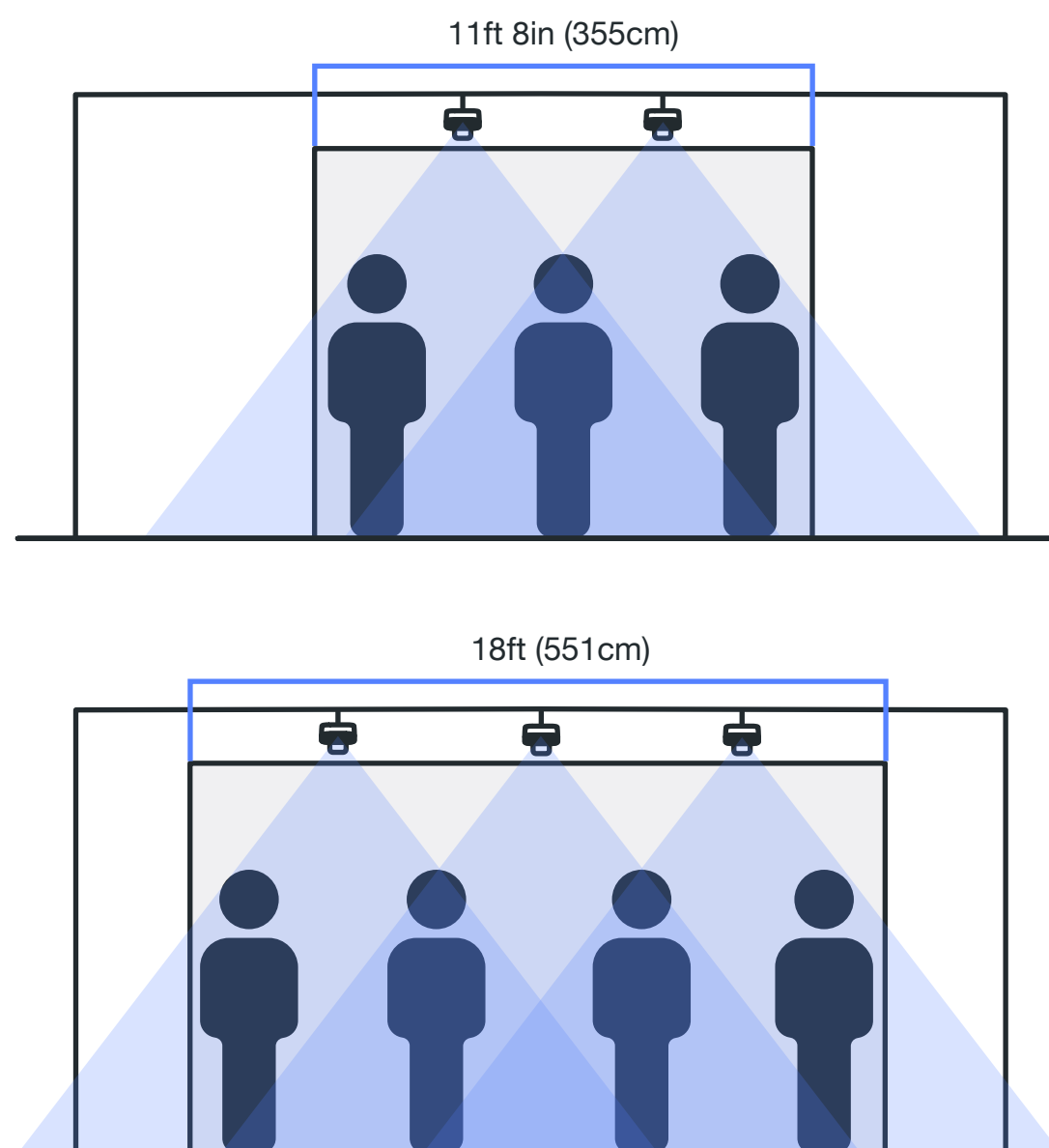
In certain scenarios the DPU can be suspended over hallways using a threaded rod and a Ceiling Mount Kit (section 7,8).

Make sure to follow the Install Height Chart for hallway installs.



Multiple Devices

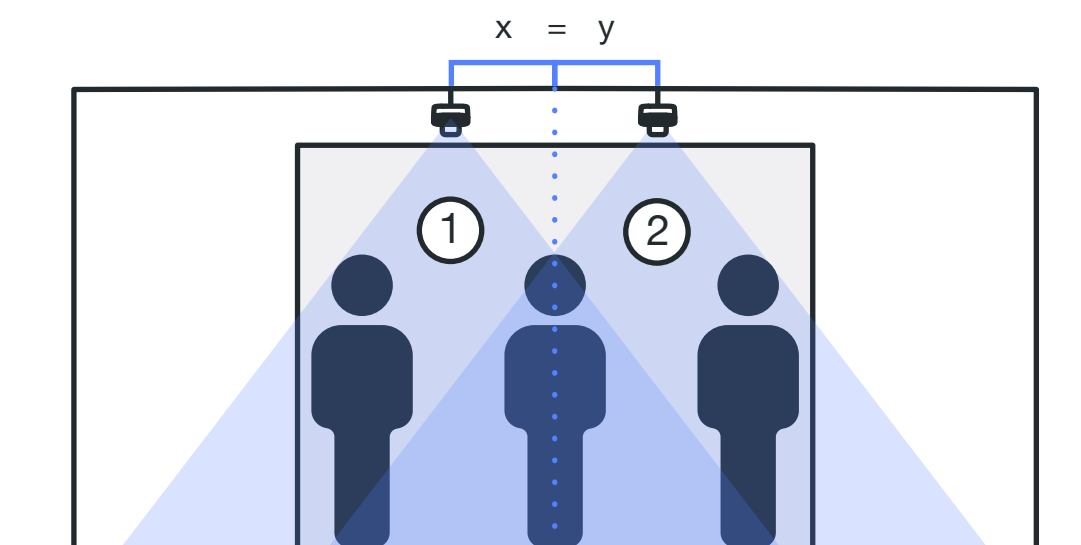
If entryway width is too wide, and the DPU cannot be mounted high enough for ample FOV coverage, additional devices can be added. Space the devices evenly across the width of the entryway for optimal coverage. For spaces that have multiple entryways next to each other, mount a DPU above each entryway.



Multi Device Spacing - 2 DPUs

When two DPUs are installed above an entryway, the distance between the center point of the entryway and the center point of each DPU (x,y) should be equal.

Refer to the *Install Height / Spacing Chart* below for required spacing and sensor height requirements.



Install Height / Spacing Chart - Two DPUs

The Install Height and Spacing Chart lists the minimum sensor height requirements for various entryway widths, along with the required distance between devices.

To use the chart, measure the *Threshold Width* (the physical opening that a person can walk through), then look at the chart for the minimum required install height and device spacing for that width measurement.

If needed, please reach out to your account representative or support@density.io for a walk through of the *Install Height / Spacing Chart*.

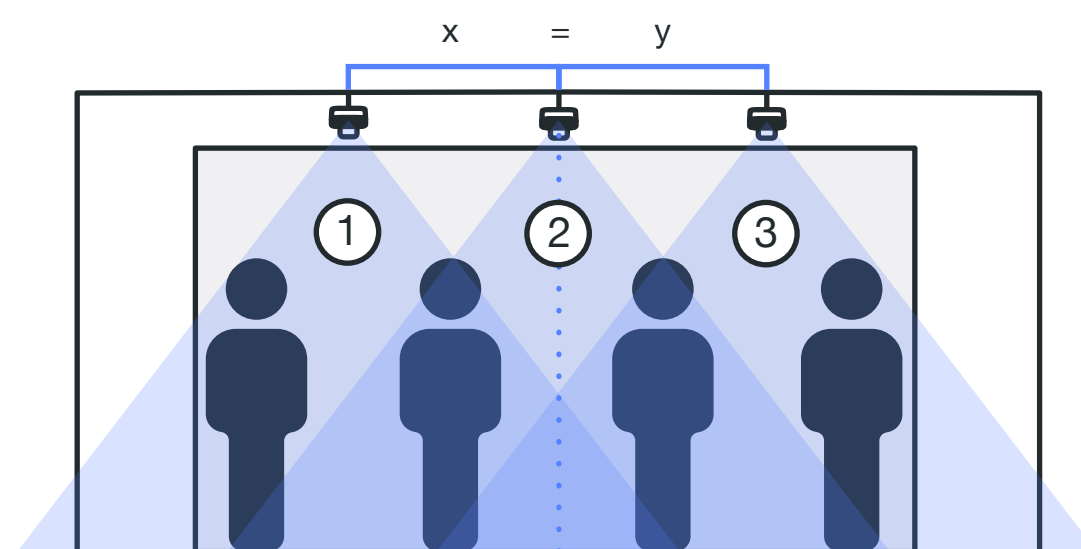
2 Devices - Standard											
Entryway Width	Min Sensor Height	Sensor Heights									
		102in	104in	106in	108in	110in	112in	114in	116in	118in	120in
		Distance Between Devices									
≤ 95in	*102in	40in	43in	46in	49in	52in	55in	58in	61in	64in	67in
≤ 101in	104in	N/A	43in	46in	49in	52in	55in	58in	61in	64in	67in
≤ 107in	106in	N/A	N/A	46in	49in	52in	55in	58in	61in	64in	67in
≤ 113in	108in	N/A	N/A	N/A	49in	52in	55in	58in	61in	64in	67in
≤ 119in	110in	N/A	N/A	N/A	N/A	52in	55in	58in	61in	64in	67in
≤ 125in	112in	N/A	N/A	N/A	N/A	N/A	55in	58in	61in	64in	67in
≤ 131in	114in	N/A	N/A	N/A	N/A	N/A	N/A	58in	61in	64in	67in
≤ 137in	116in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61in	64in	67in
≤ 143in	118in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64in	67in
≤ 149in	*120in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67in
*Minimum sensor height - *102in (8ft 6in) *Maximum sensor height - *120in (10ft)											

2 Devices - Metric											
Entryway Width	Min Sensor Height	Sensor Heights									
		259cm	264cm	269cm	274cm	279cm	284cm	289cm	295cm	300cm	305cm
		Distance Between Devices									
≤ 241cm	*259cm	101cm	109cm	117cm	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 256cm	264cm	N/A	109cm	117cm	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 272cm	269cm	N/A	N/A	117cm	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 287cm	274cm	N/A	N/A	N/A	N/A	132cm	140cm	147cm	155cm	162cm	170cm
≤ 302cm	279cm	N/A	N/A	N/A	N/A	132cm	140cm	147cm	155cm	162cm	170cm
≤ 317cm	284cm	N/A	N/A	N/A	N/A	N/A	140cm	147cm	155cm	162cm	170cm
≤ 332cm	289cm	N/A	N/A	N/A	N/A	N/A	N/A	147cm	155cm	162cm	170cm
≤ 347cm	295cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	155cm	162cm	170cm
≤ 363cm	300cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	162cm	170cm
≤ 378cm	*305cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	170cm
*Minimum sensor height - *259cm (2.59m) *Maximum sensor height - *305cm (3.05m)											

Multi Device Spacing - 3 DPUs

When three DPUs are installed above an entryway, the distance between the center point of the entryway and the center point of the left and right DPUs (x,y) should be equal. One of the DPUs should be mounted centrally over the entryway.

Refer to the *Install Height / Spacing Chart* below for required spacing and sensor height requirements.



Install Height / Spacing Chart - Three DPUs

The Install Height and Spacing Chart lists the minimum sensor height requirements for various entryway widths, along with the required distance between devices.

To use the chart, measure the Threshold Width (the physical opening that a person can walk through), then look at the chart for the minimum required install height and device spacing for that width measurement.

If needed, please reach out to your account representative or support@density.io for a walk through of the *Install Height / Spacing Chart*.

3 Devices - Standard										
Entryway Width	Min Sensor Height	Sensor Heights								
		104in	106in	108in	110in	112in	114in	116in	118in	120in
Distance Between Devices										
≤ 145in	*104in	43in	46in	49in	52in	55in	58in	61in	64in	67in
≤ 154in	106in	N/A	46in	49in	52in	55in	58in	61in	64in	67in
≤ 163in	108in	N/A	N/A	49in	52in	55in	58in	61in	64in	67in
≤ 172in	110in	N/A	N/A	N/A	52in	55in	58in	61in	64in	67in
≤ 181in	112in	N/A	N/A	N/A	N/A	55in	58in	61in	64in	67in
≤ 190in	114in	N/A	N/A	N/A	N/A	N/A	58in	61in	64in	67in
≤ 199in	116in	N/A	N/A	N/A	N/A	N/A	N/A	61in	64in	67in
≤ 208in	118in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64in	67in
≤ 217in	*120in	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67in

***Minimum sensor height - *104in (8ft 8in) *Maximum sensor height - *120in (10ft)**

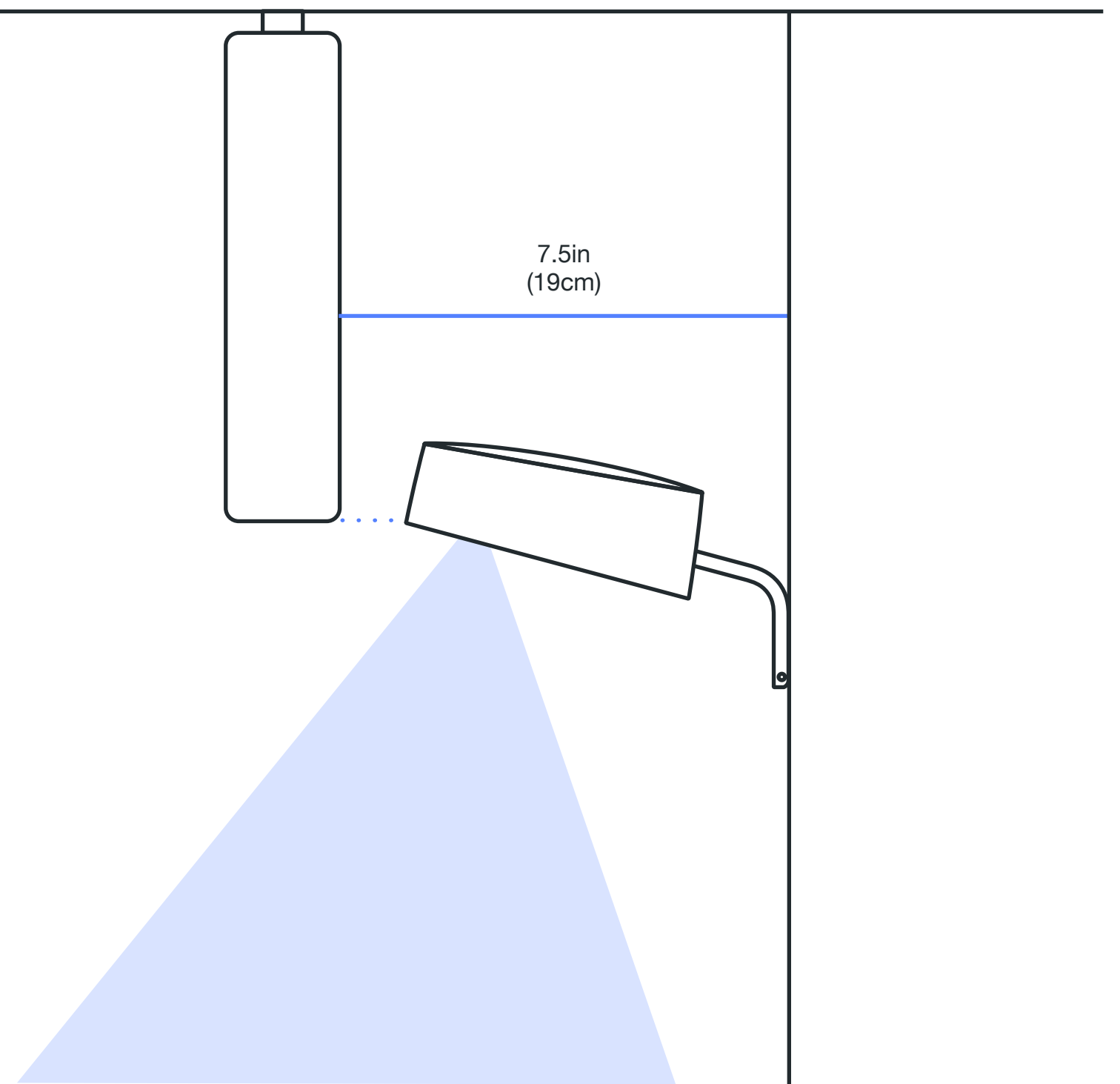
3 Devices - Metric										
Entryway Width	Min Sensor Height	Sensor Heights								
		264cm	269cm	274cm	279cm	284cm	289cm	295cm	300cm	305cm
Distance Between Devices										
≤ 368cm	*264cm	109cm	117cm	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 391cm	269cm	N/A	117cm	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 414cm	274cm	N/A	N/A	124cm	132cm	140cm	147cm	155cm	162cm	170cm
≤ 437cm	279cm	N/A	N/A	N/A	132cm	140cm	147cm	155cm	162cm	170cm
≤ 460cm	284cm	N/A	N/A	N/A	N/A	140cm	147cm	155cm	162cm	170cm
≤ 482cm	289cm	N/A	N/A	N/A	N/A	N/A	147cm	155cm	162cm	170cm
≤ 505cm	295cm	N/A	N/A	N/A	N/A	N/A	N/A	155cm	162cm	170cm
≤ 528cm	300cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	162cm	170cm
≤ 551cm	*305cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	170cm

***Minimum sensor height - *264cm (2.64m) *Maximum sensor height - *305cm (3.05m)**

Exit Signs

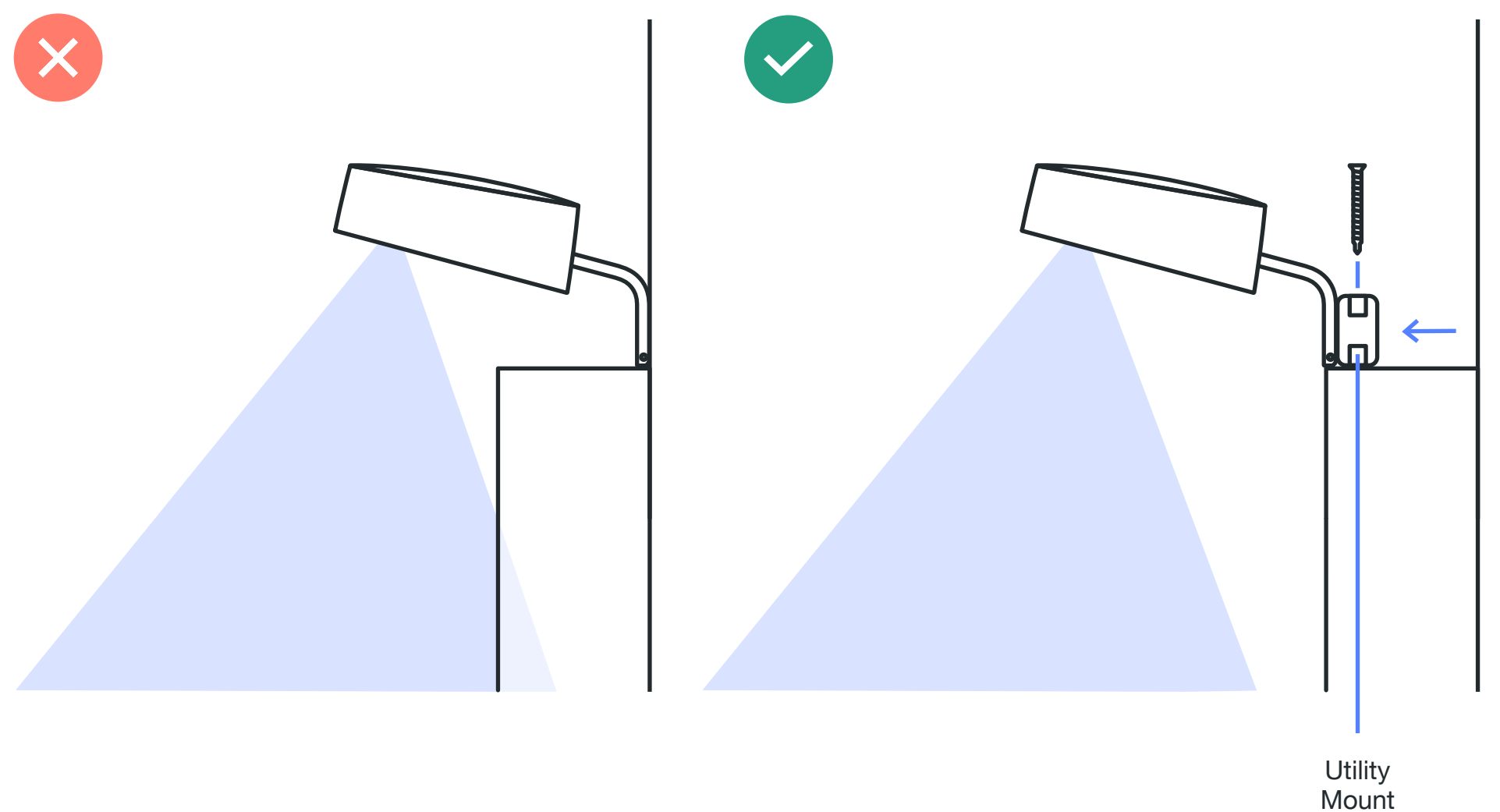
Exit signs should be level with the DPU or higher to avoid any light or FOV interference. If the exit sign is level with the DPU, make sure that there is at least 7.5in (19cm) of space between the exit sign and the wall.

If an exit sign position falls outside these guidelines, reach out to your account representative or support@density.io to verify that there is no FOV or light interference.



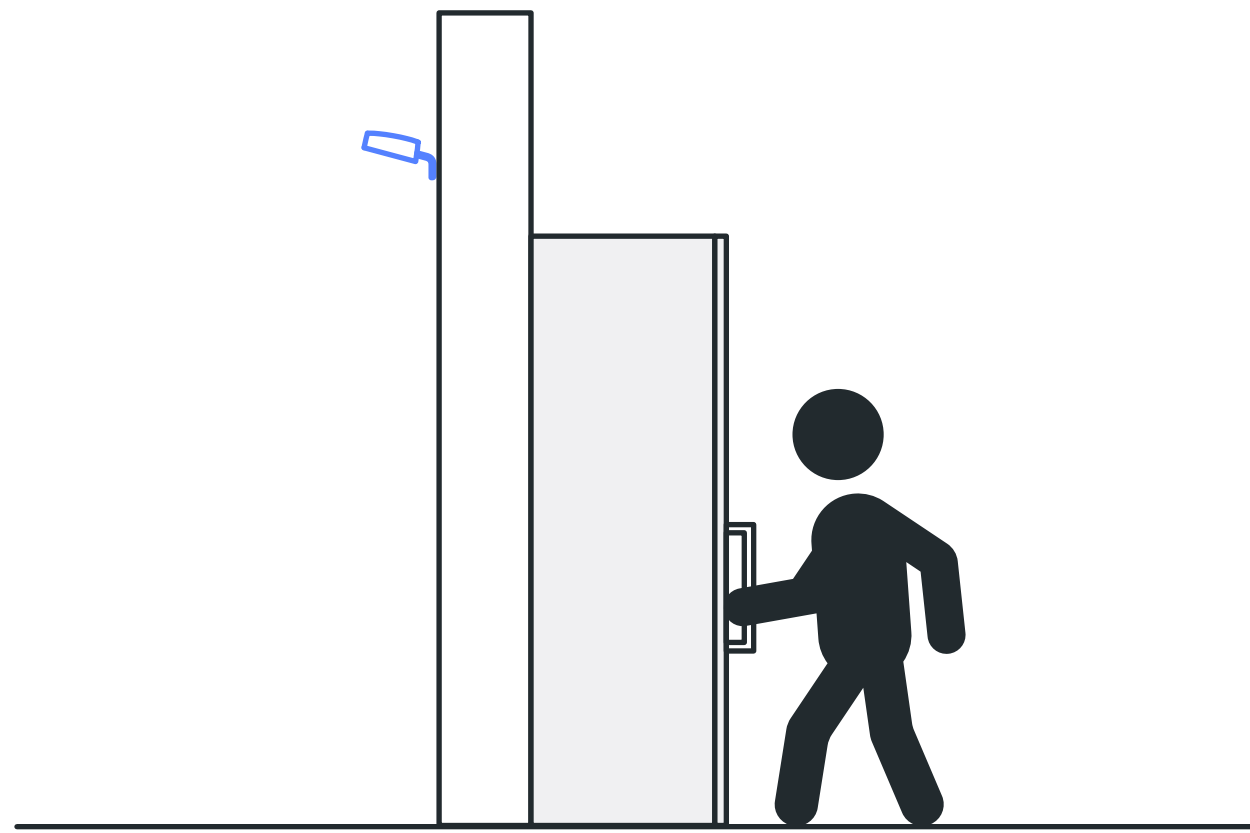
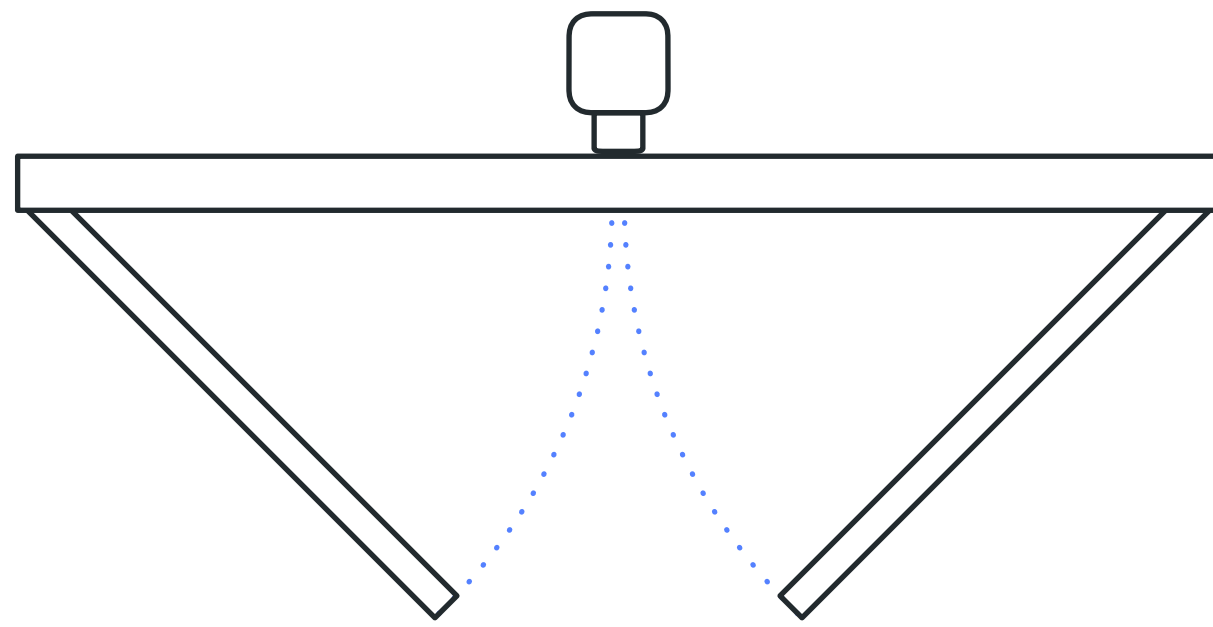
Door Frames

Installing the DPU near a door frame can cause potential FOV interference. If your installation requires a door frame mount (section 9), make sure to position the DPU towards the front edge of the door frame.



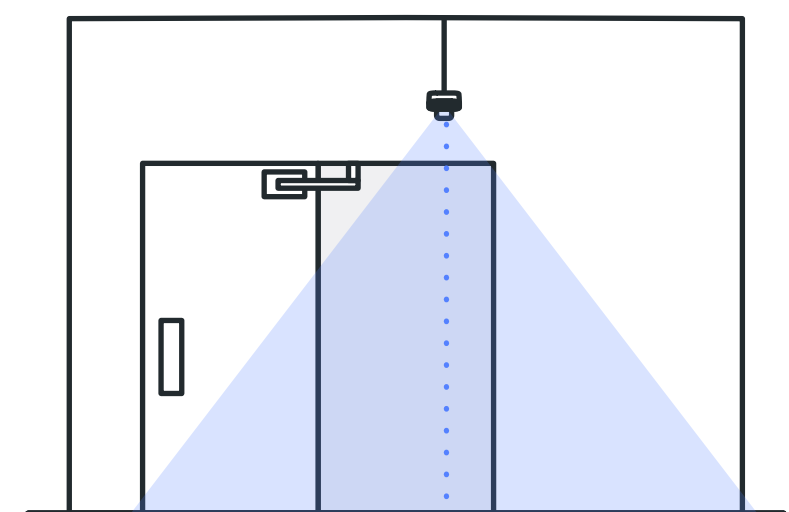
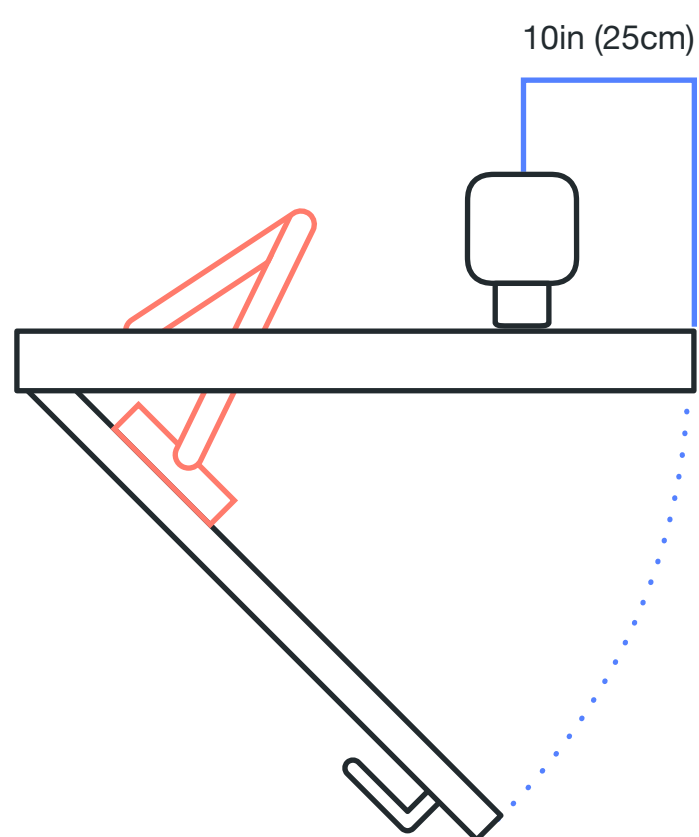
Door Swing

The DPU performs best when mounted on the non-door swing side of the entryway.



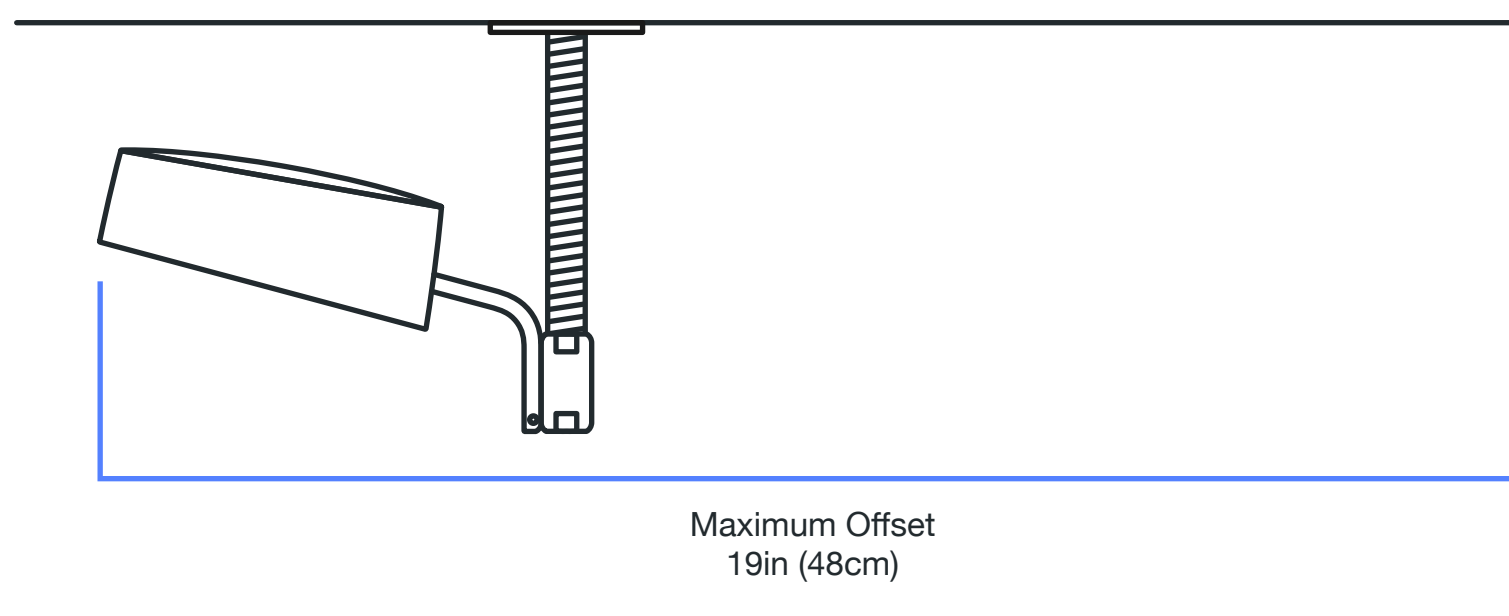
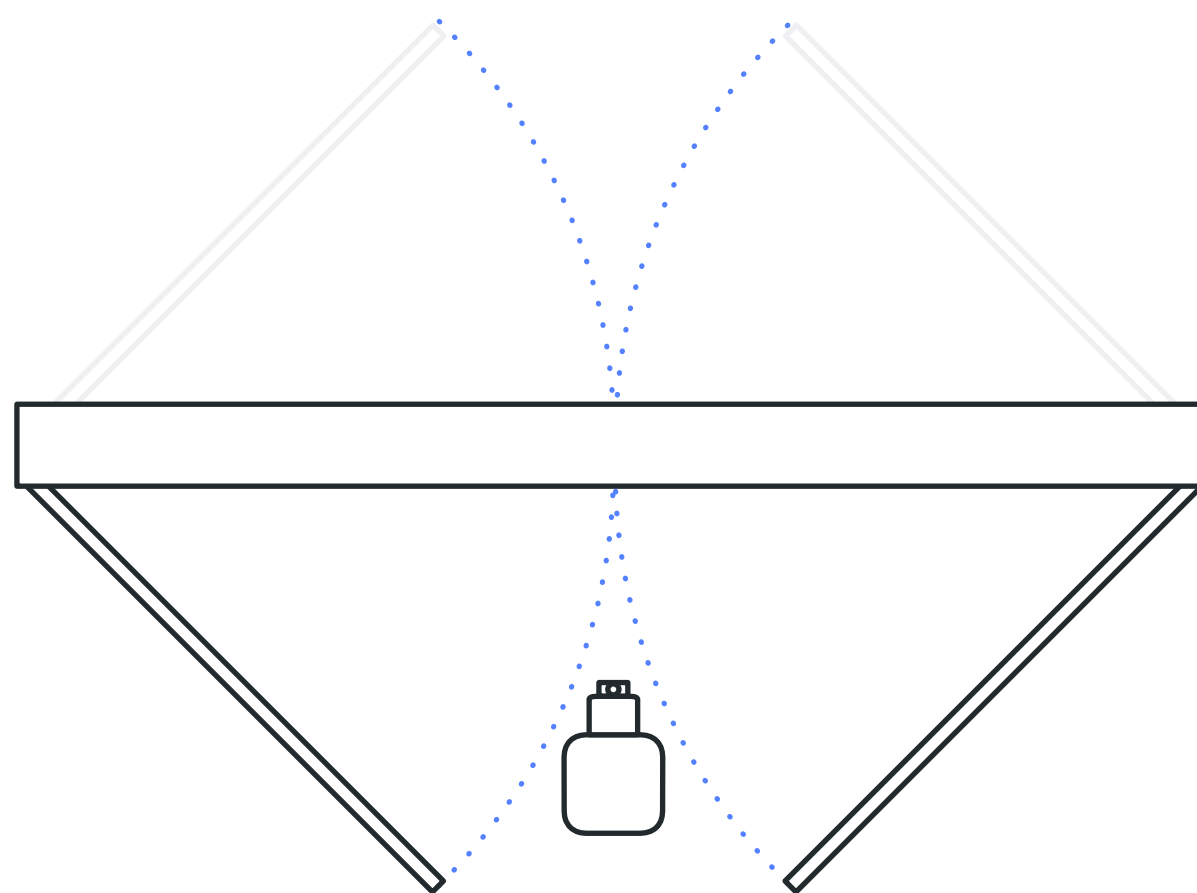
Door Arm

If the entryway (single door only) has a door with an arm, it's best to offset the DPU away from the arm. Mount the DPU approximately 10in (25cm) away from the handle side of the door.



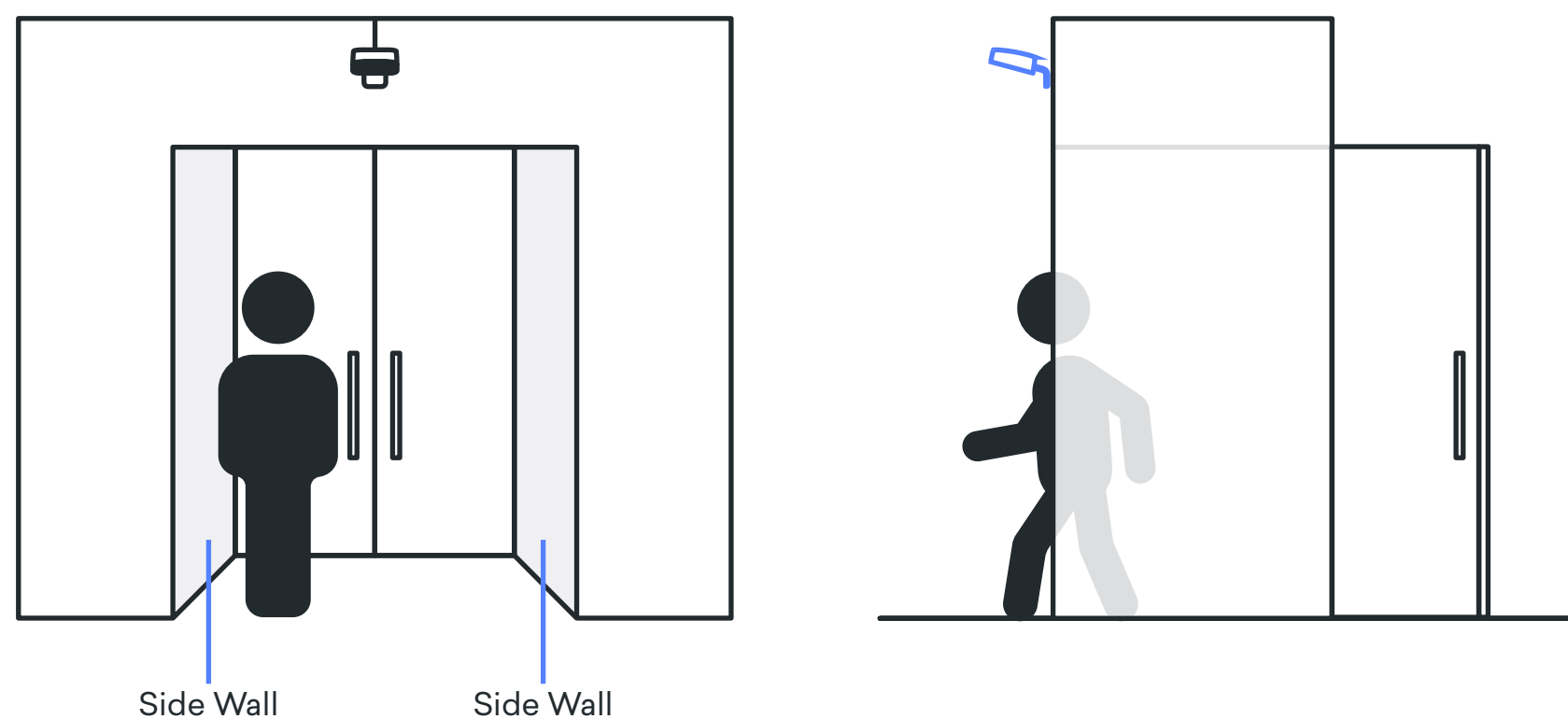
Offset

Doors that swing both directions, and that are flush with the ceiling require the DPU to be ceiling mounted and offset away from the swinging door to avoid any collision. The maximum offset distance for the DPU is 19in (48cm), measured from the wall to the front of the DPU.



Overhang

Some doorways have a structural overhang which would prevent the DPU from being installed above the door at the optimal mounting height. The DPU can be offset from the door and mounted above the opening of the overhang. The opening will act as an extension of the door entryway. In order for the overhang mount to work, there needs to be structural side walls to confine human movement to the area beneath the DPU.



Standard Wall Mount

For mounting the sensor to a variety of wall types using the provided multi-surface wall anchors and screws.

Refer to section 5 for more details and mounting instructions.



Low Profile Wall Mount

For mounting the sensor in areas with limited space above the entryway (requires minimum 3.75" clearance).

Refer to section 6 for more details and mounting instructions.



Ceiling Mount

For mounting the sensor to the ceiling in front of the entryway. Kit includes two options (Toggle Anchor or Screw Mount Nut) for hollow or solid ceilings of a variety of surface materials (drywall, wood, metal, tile, stone & plaster).

Refer to section 7 and 8 for more details and mounting instructions.



Door Frame Mount

For mounting the sensor to the top or bottom surface of a wood or metal door frame.

Refer to section 9 and 10 of the Physical Installation Guide for more details and mounting instructions.



Glass/Metal Wall Mount

For mounting the sensor to a smooth glass or metal surface with semi-permanent adhesive.

Refer to section 11 of the Physical Installation Guide for more details and mounting instructions.

Note: The Glass/Metal Adhesive Mount requires a 72hr curing process before the sensor can be installed. Use of a pressure roller is highly recommended.

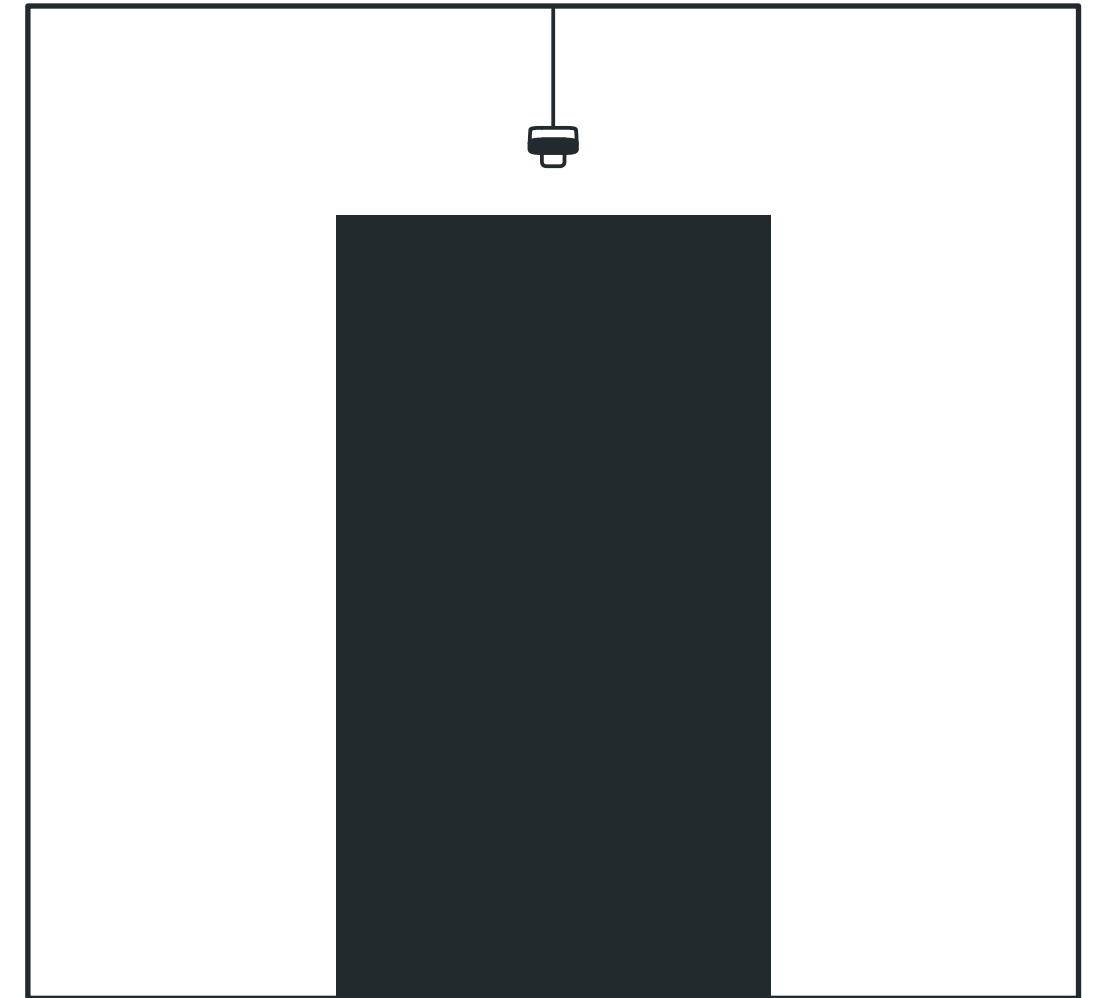


Junction Box Mount

For mounting the sensor directly to a single gang junction box.

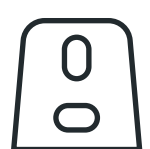
Refer to section 12 of the Physical Installation Guide for more details and mounting instructions.



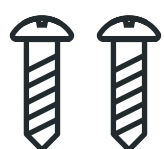


Wall Mount Kit *(Included, also available for order)*

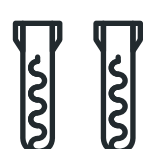
- a. Wall Bracket
- b. 2pcs #8 x 1.25in Rounded Head Screws
- c. 2pcs Multi-Surface Anchors
- d. Hex Key (1.5mm)



a



b



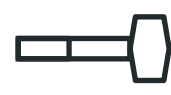
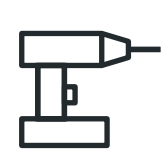
c



d

Materials Not Included

- Drill
- Mallet or Hammer
- Level
- Measuring tape
- Pencil
- 3/16in drill bit
- Ethernet Cable (Cat 5e or later)



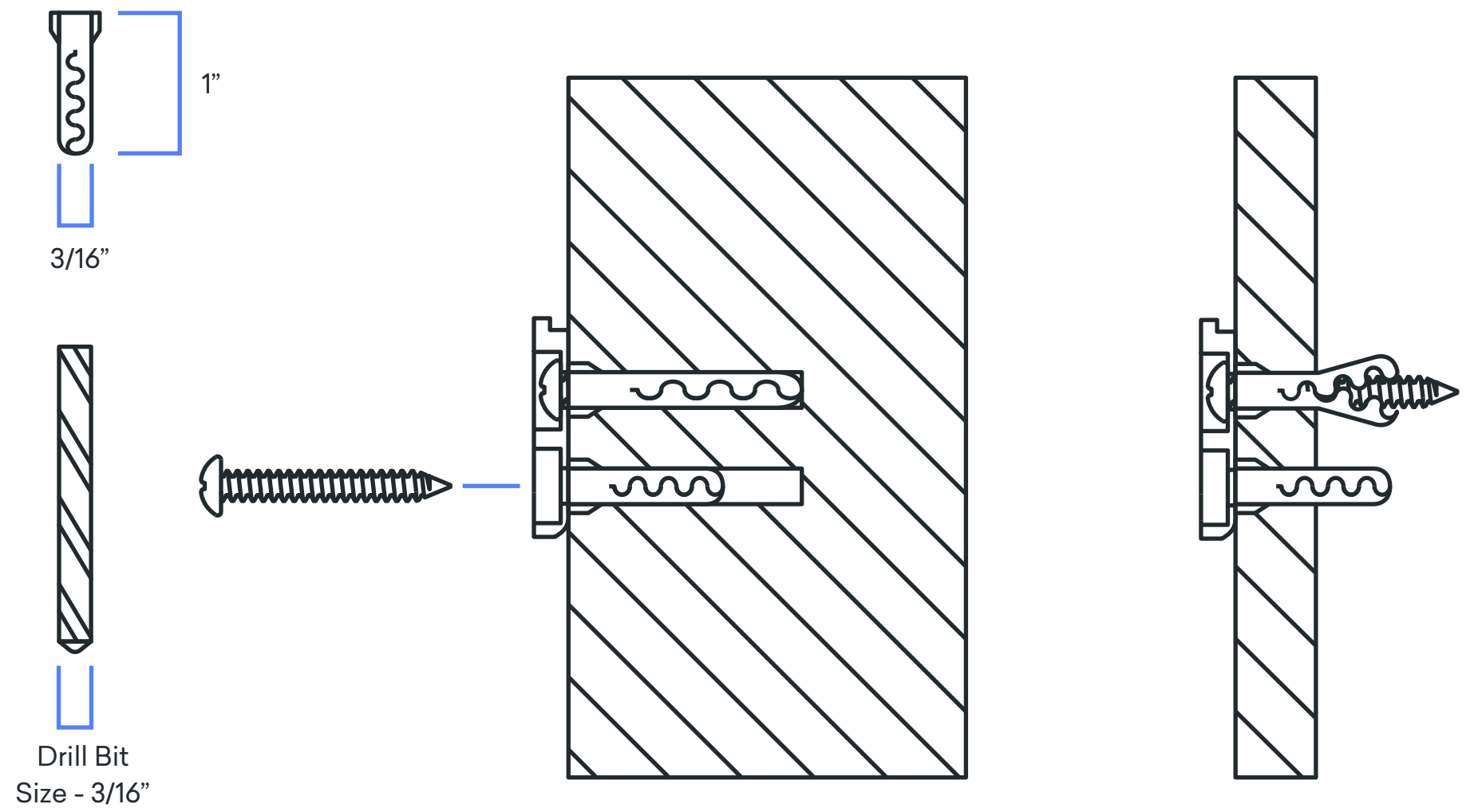
Power & Connectivity

All DPUs require power over ethernet and internet connectivity.

Screws and Anchors

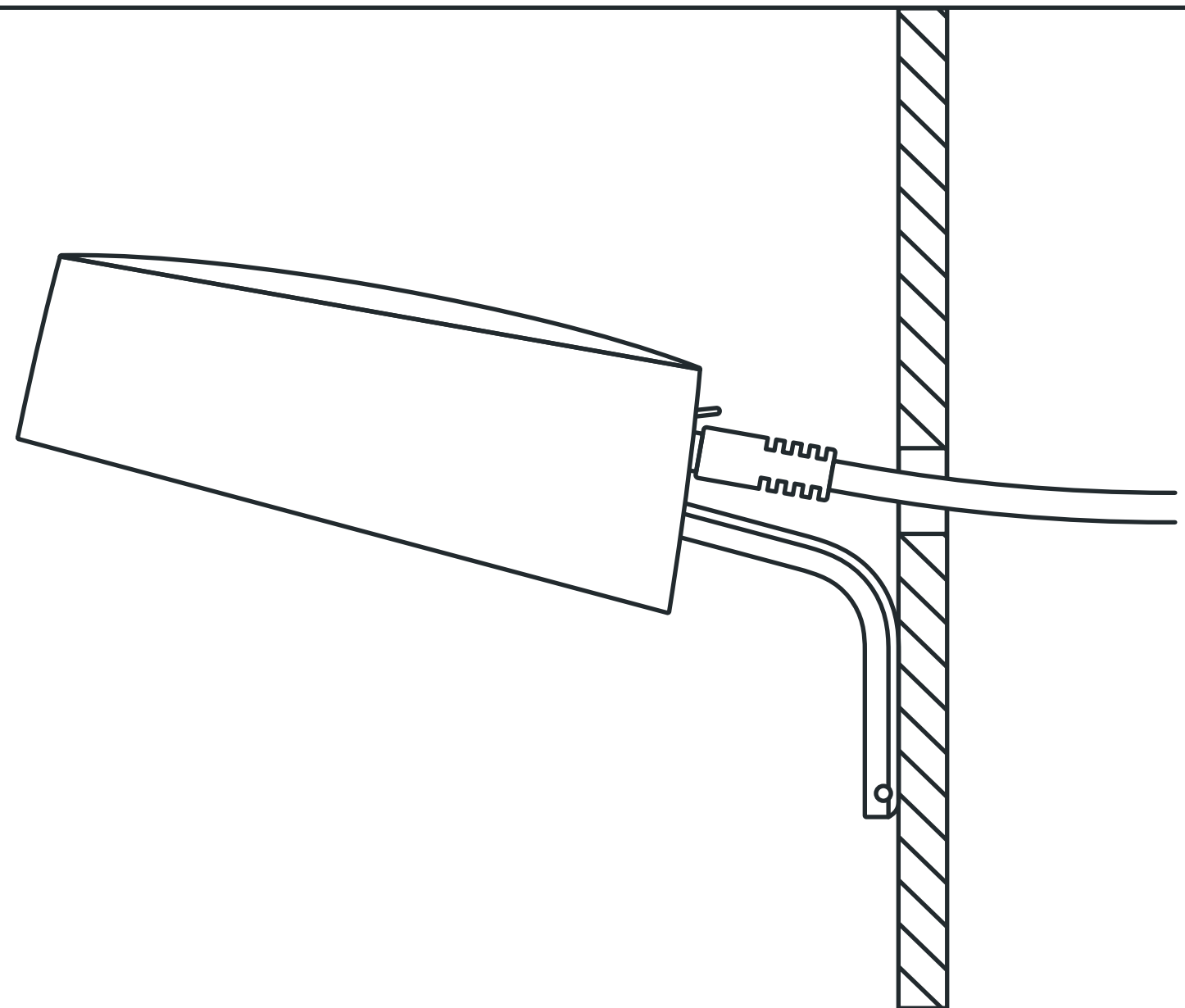
The Wall Mount Kit and Low Profile Wall Mount Kit (section 6) come with 2pcs #8 x 1.25in Phillips Rounded Head Screws and 2pcs Multi-Surface Toggler Anchors designed for a wide range of materials (concrete, brick, stone, drywall, etc.). The anchor expands and elongates within a solid substrate to distribute force evenly. For hollow substrates, the anchor jaws pop open to lock into position.

Anchors should be used for all wall materials except for wood. For wood, use the screws and drill directly the surface.



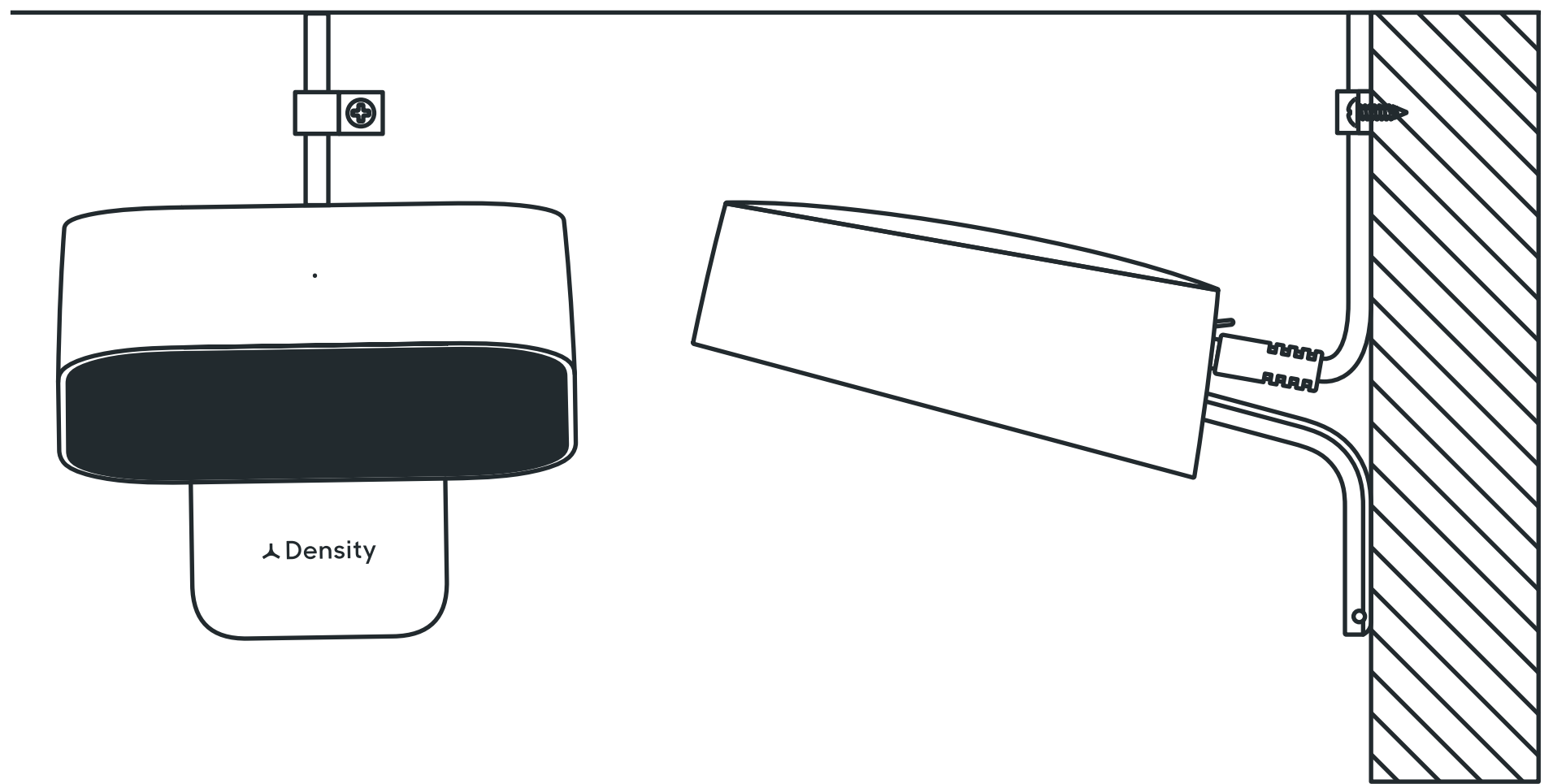
Cable Management - Hidden

For hollow wall installs, the cable can be hidden by drilling a hole into the wall material and threading the ethernet cable through the drilled hole.



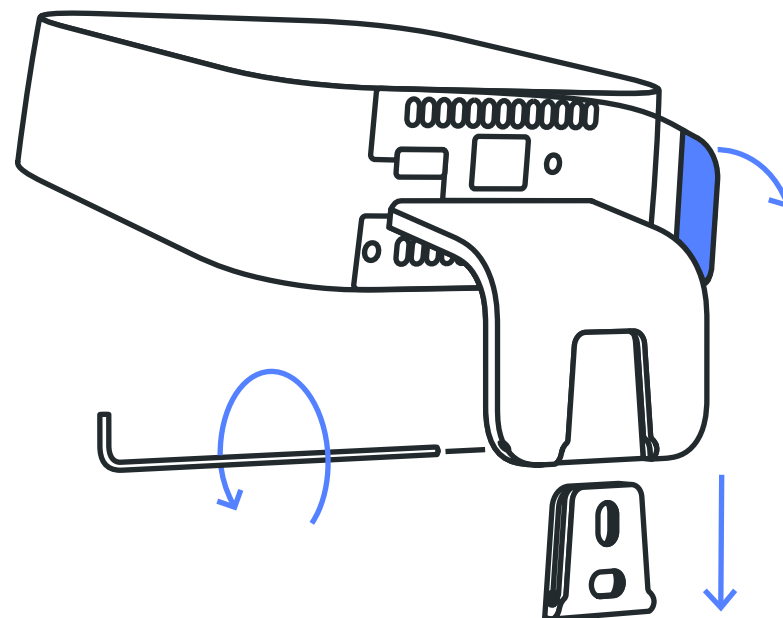
Cable Management - Exposed

For solid and hollow wall installs, the cable can be exposed by securing directly to the wall surface using cable clip fasteners.



Step 1: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.

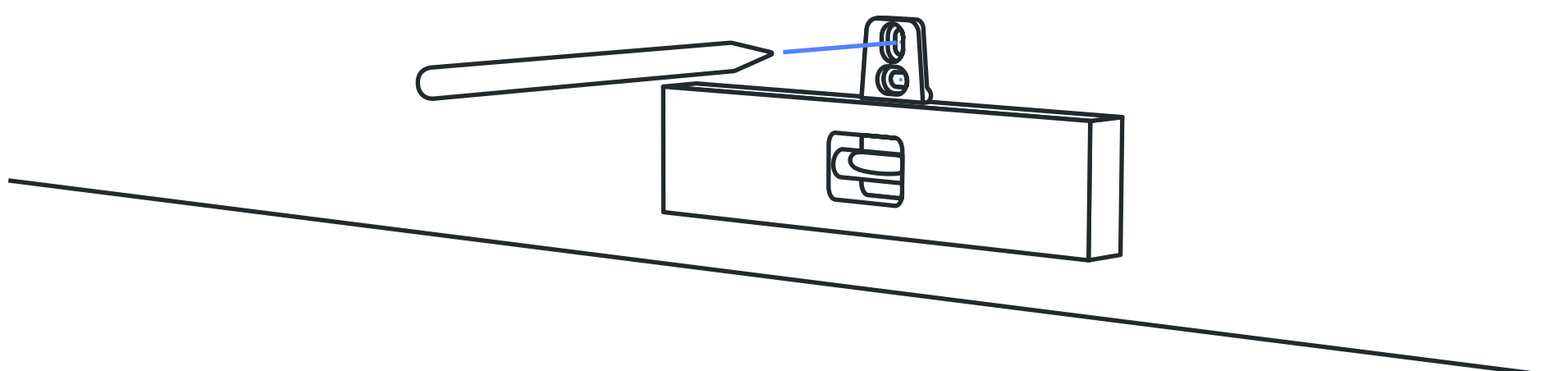


Step 2: Mark Placement

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

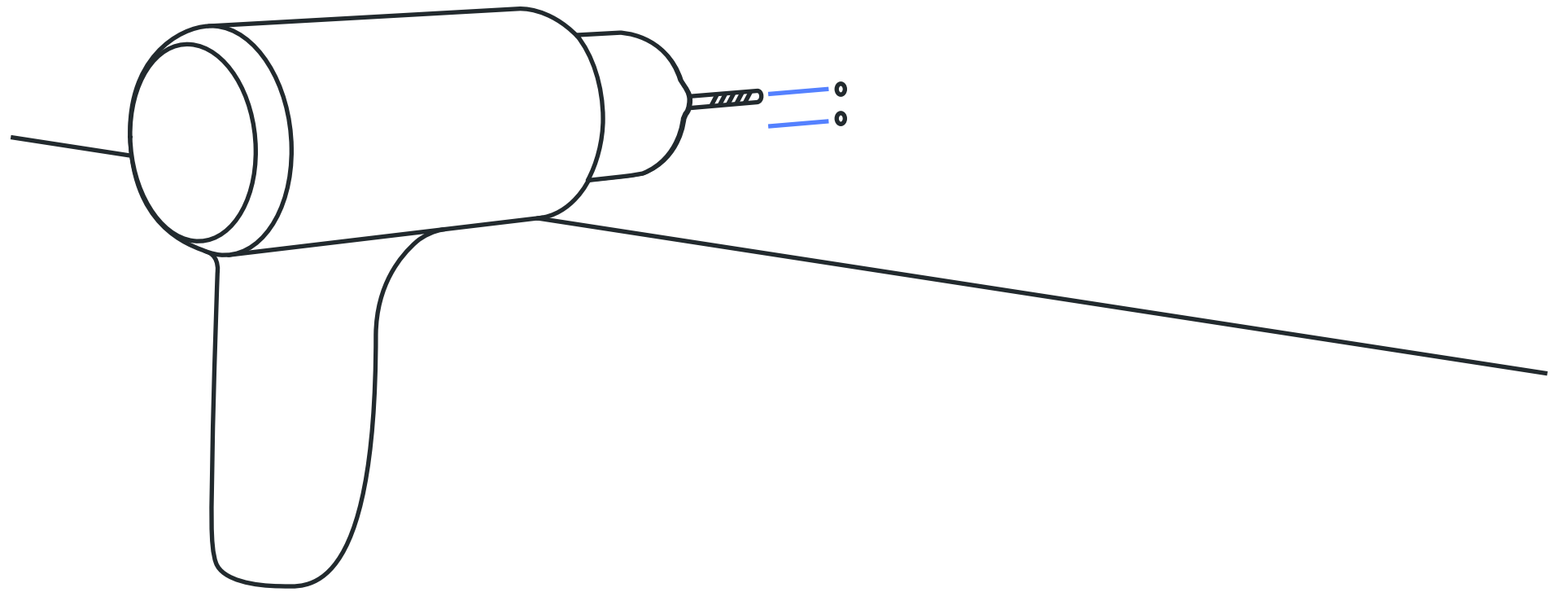
Center the Wall Bracket horizontally above the doorway. Use the level to ensure the Wall Bracket is parallel to the ground. Use a pencil to mark the center of the two holes in the Wall Bracket.

If there are any objects obstructing the DPU, you may install the DPU slightly off-center, or consider moving the obstruction. Please consult your Density Account Manager before offsetting the DPU.



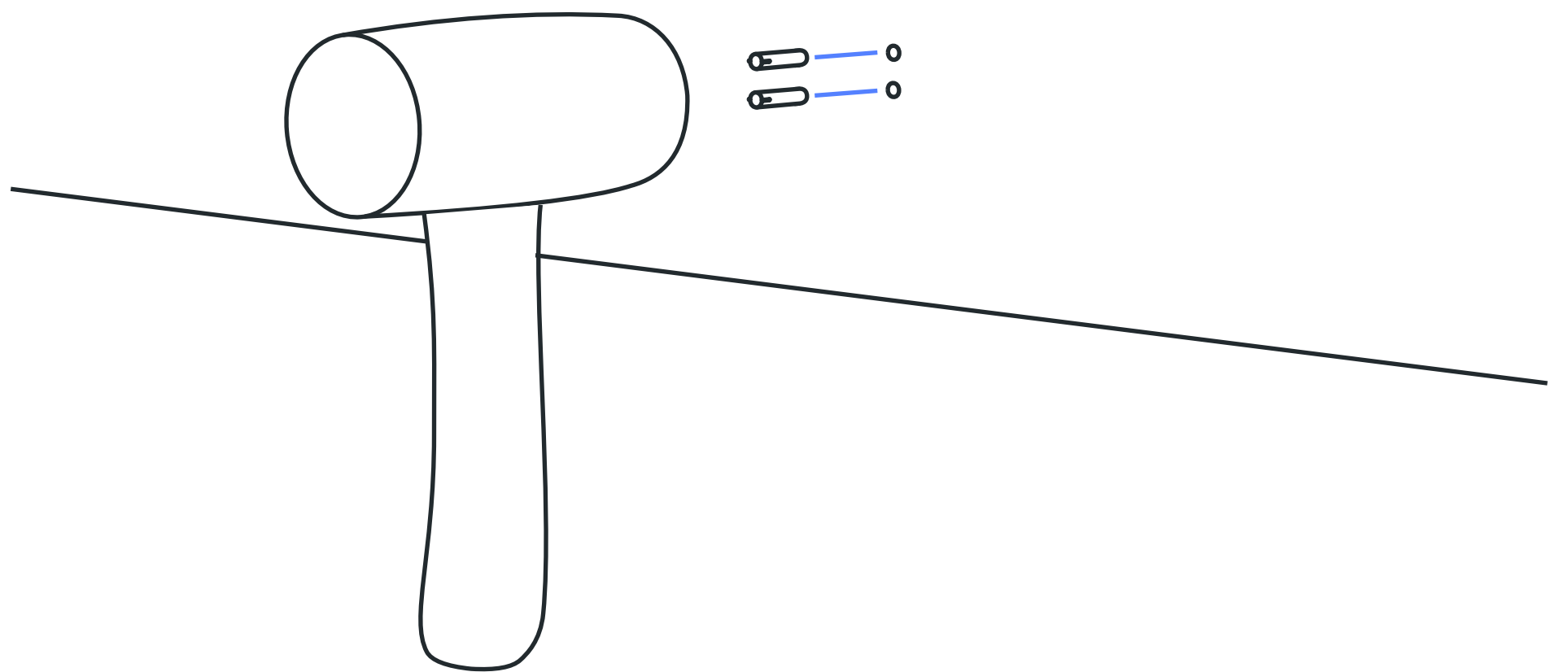
Step 3: Drill Holes

Drill a hole through each pencil mark using a 3/16in drill bit. For hollow substrates, drill completely through. For solid wall materials, drill holes with a depth of at least 1 1/4in (3.2cm).



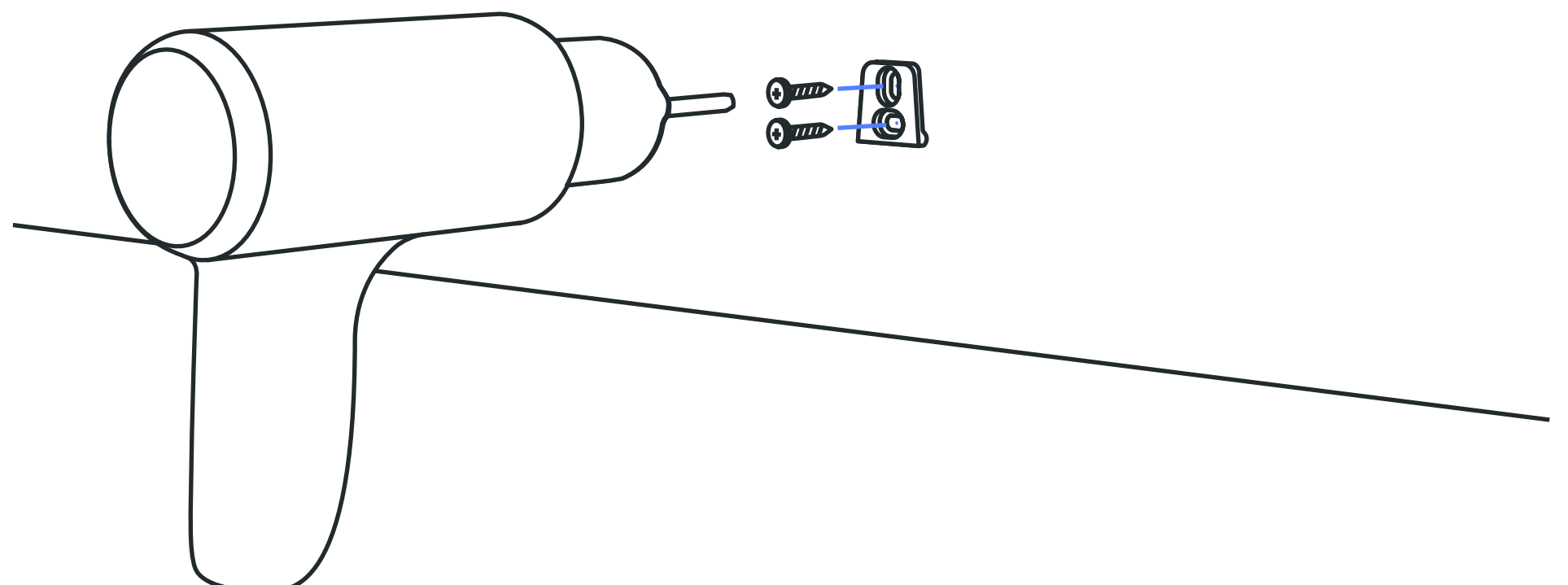
Step 4: Insert Anchors

Use a mallet or hammer to tap the the anchors into each hole. Anchors should be flush with the wall.



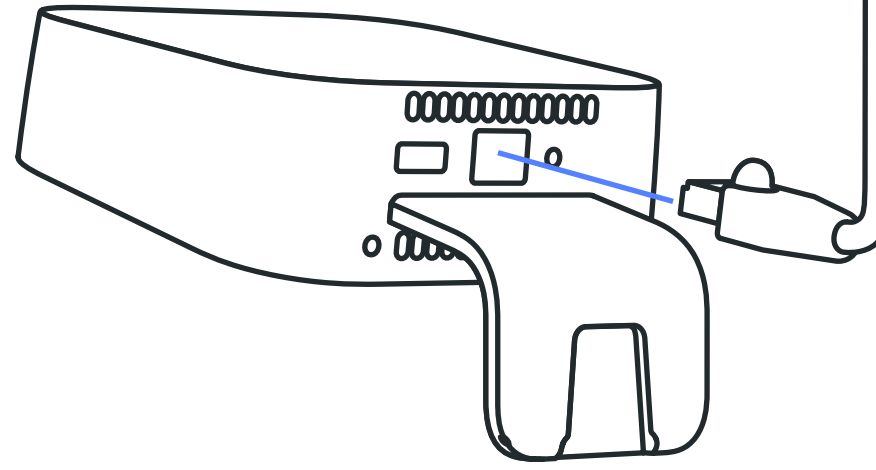
Step 5: Install Wall Bracket

Align the holes in the Wall Bracket with the installed anchors. Use a drill with #2 Phillips Screwdriver Bit or manually with a standard Phillips head screwdriver to drive each screw into the drywall anchors.



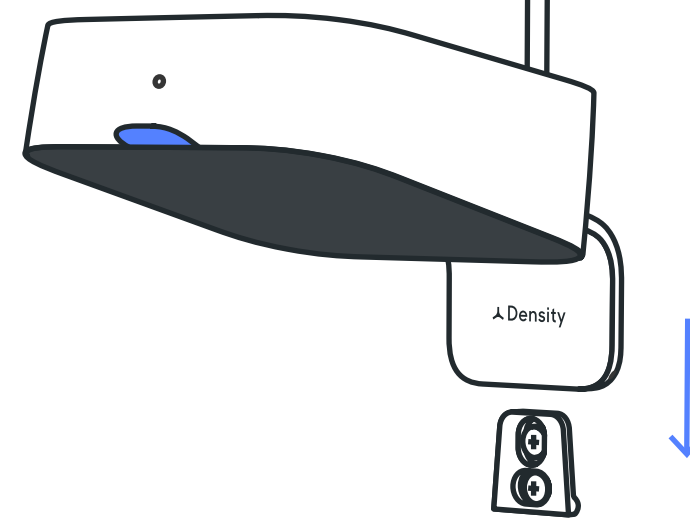
Step 6: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 7: Wall Mount

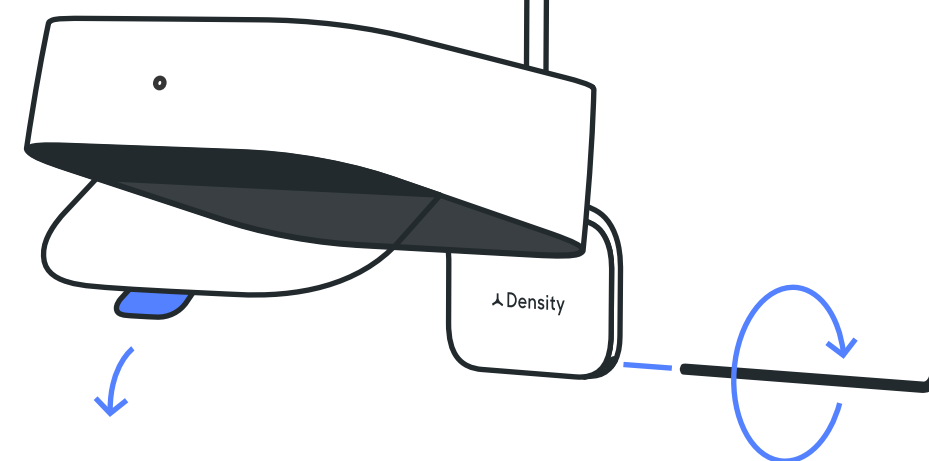
Slide the DPU downward onto the installed Wall Bracket.

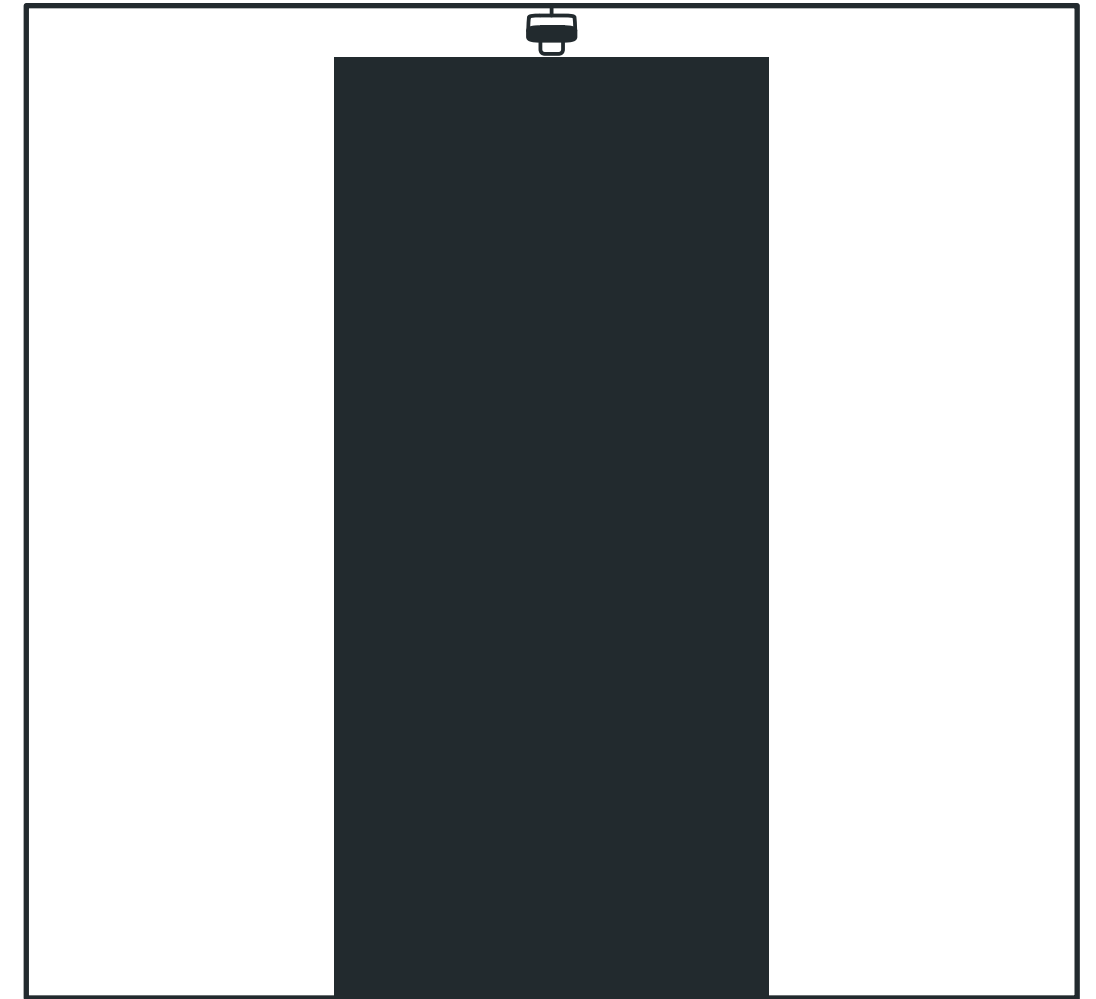


Step 8: Lock DPU and Peel Film

Lock the DPU to the Wall Bracket with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation.





Low Profile Wall Mount Kit *(available for order)*

- e. Low Profile Wall Bracket
- b. 2pcs #8 x 1.25in Rounded Head Screws
- c. 2pcs Multi-Surface Anchors
- d. Hex Key (1.5mm)

Materials Not Included

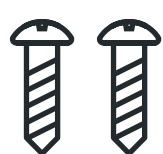
- Drill
- Mallet or Hammer
- Level
- Measuring tape
- Pencil
- 3/16in drill bit
- Ethernet Cable (Cat 5e or later)

Power & Connectivity

All DPUs require power over ethernet and internet connectivity.



e



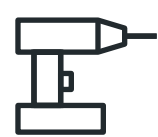
b



c

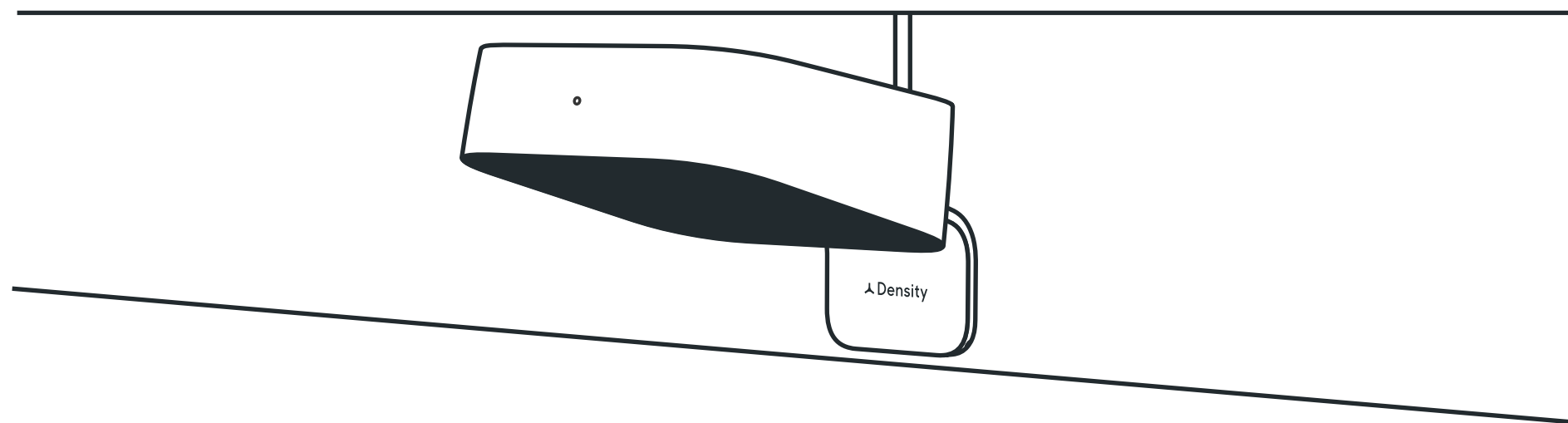


d



Low Profile Wall Mount Kit

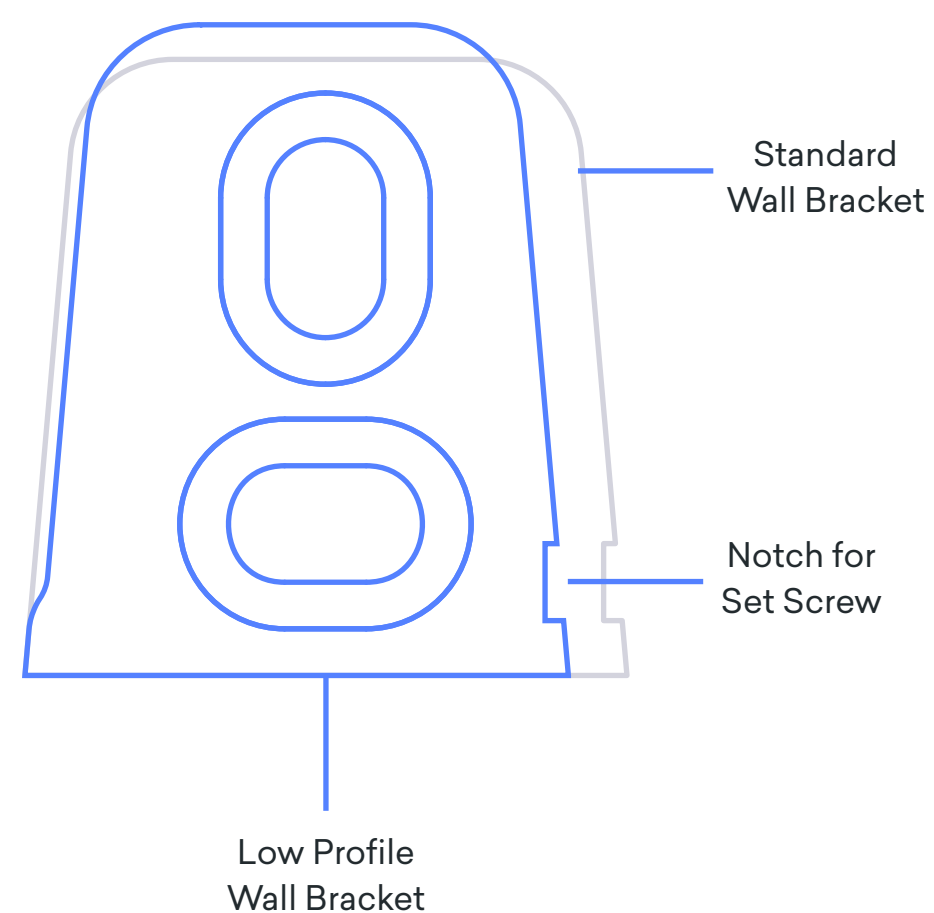
The Low Profile Wall Mount Kit (available for order) is designed for installations with less than 4.5in (12.7cm) of clearance above the entryway, however, you will need a minimum of 3.75in (9.5cm) of clearance above the entryway.



Low Profile Wall Bracket

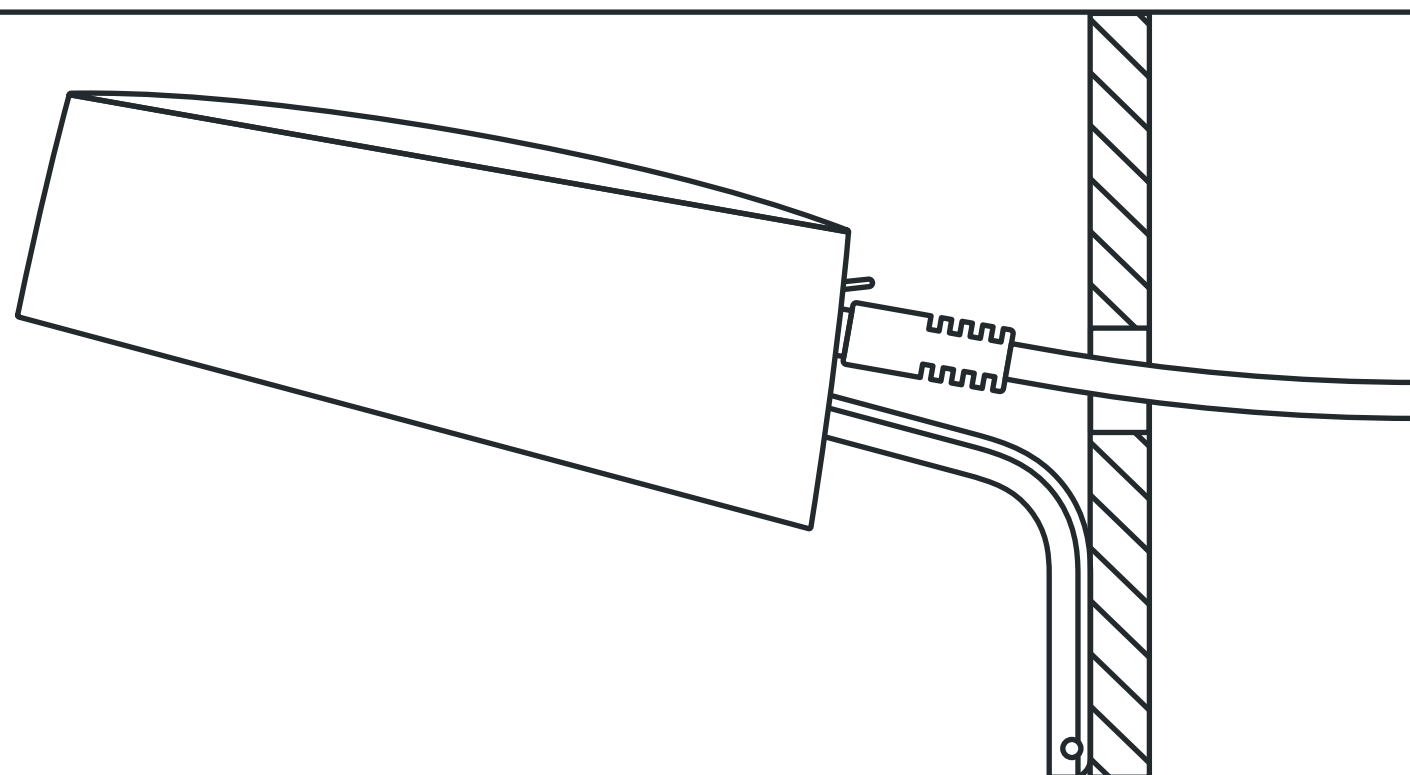
The Low Profile Wall Bracket is similar to the standard Wall Bracket, but has slight physical modifications to the design to allow the DPU to attach to the bracket with minimal vertical movement.

Warning: When using the Low Profile Wall Bracket, the set screw MUST be tightened all the way to ensure the unit does not fall off the wall.



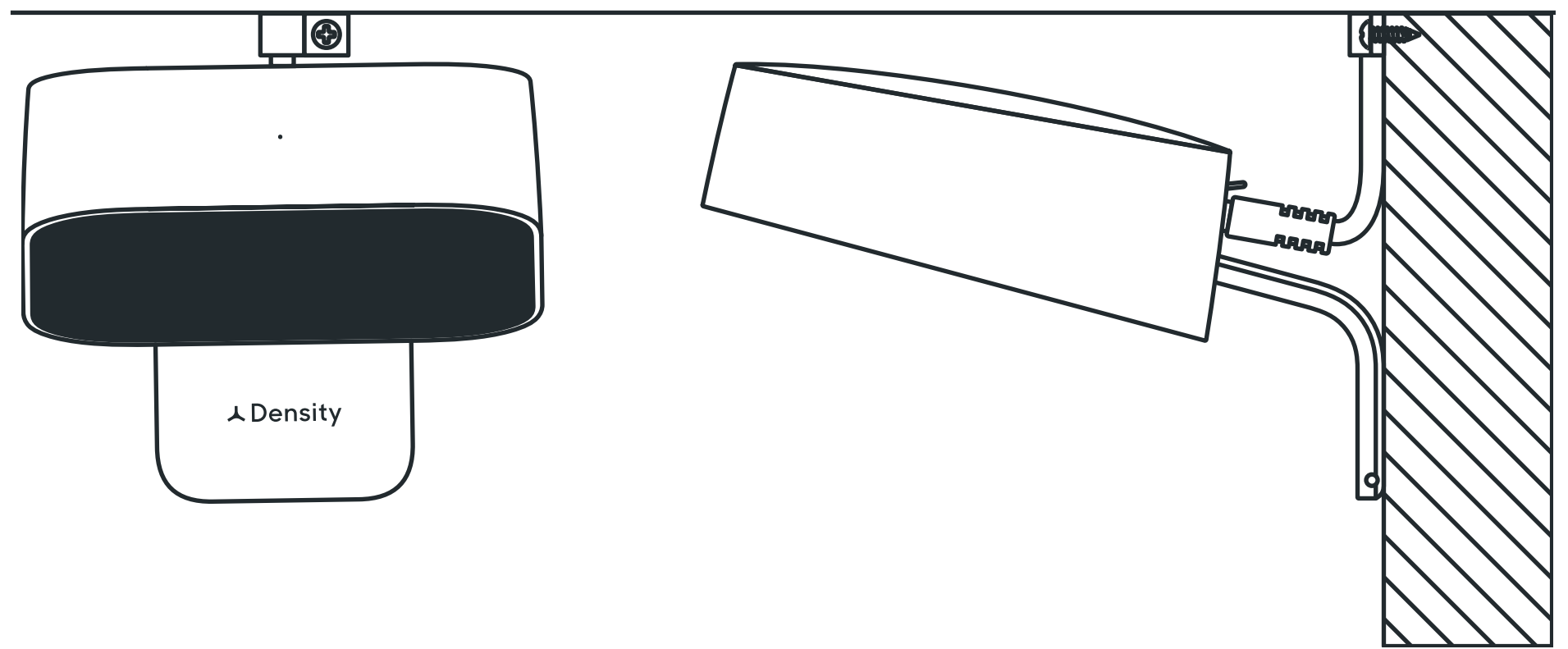
Cable Management - Hidden

For hollow wall installs, the cable can be hidden by drilling a hole into the wall material and threading the ethernet cable through the drilled hole.



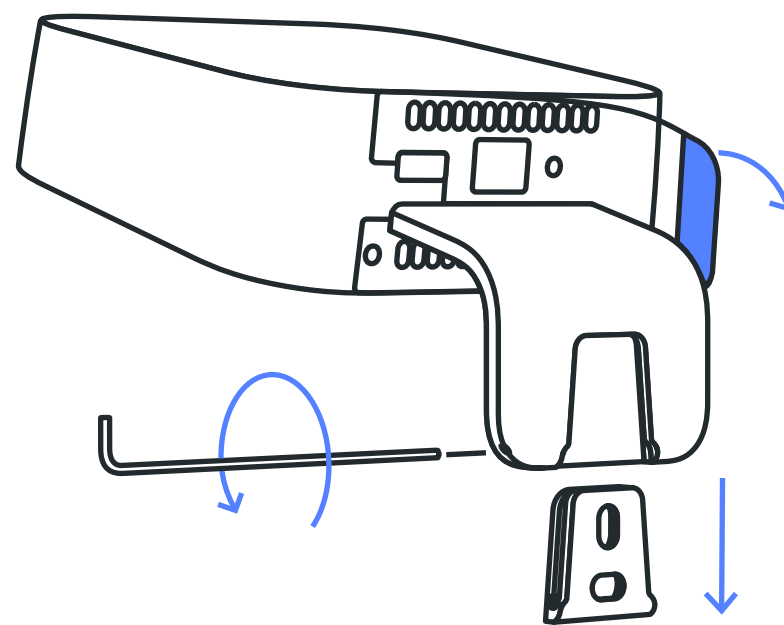
Cable Management - Exposed

For solid and hollow wall installs, the cable can be exposed by securing directly to the wall surface using cable clip fasteners.



Step 1: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.

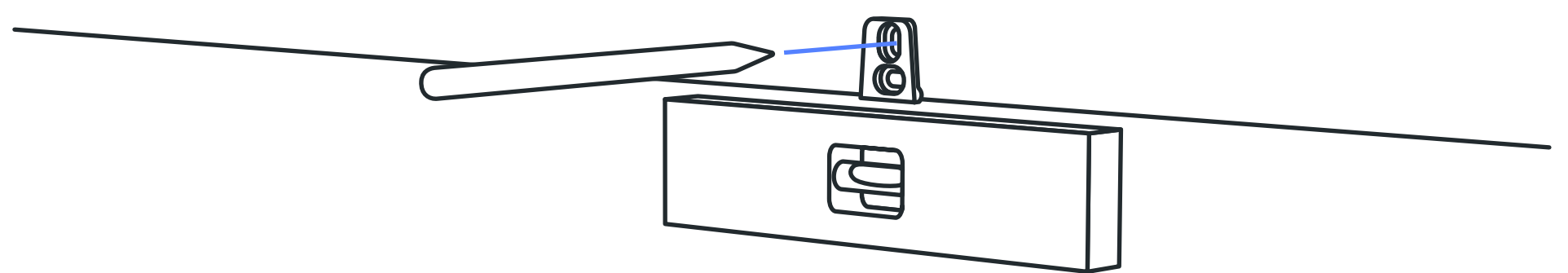


Step 2: Mark Placement

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

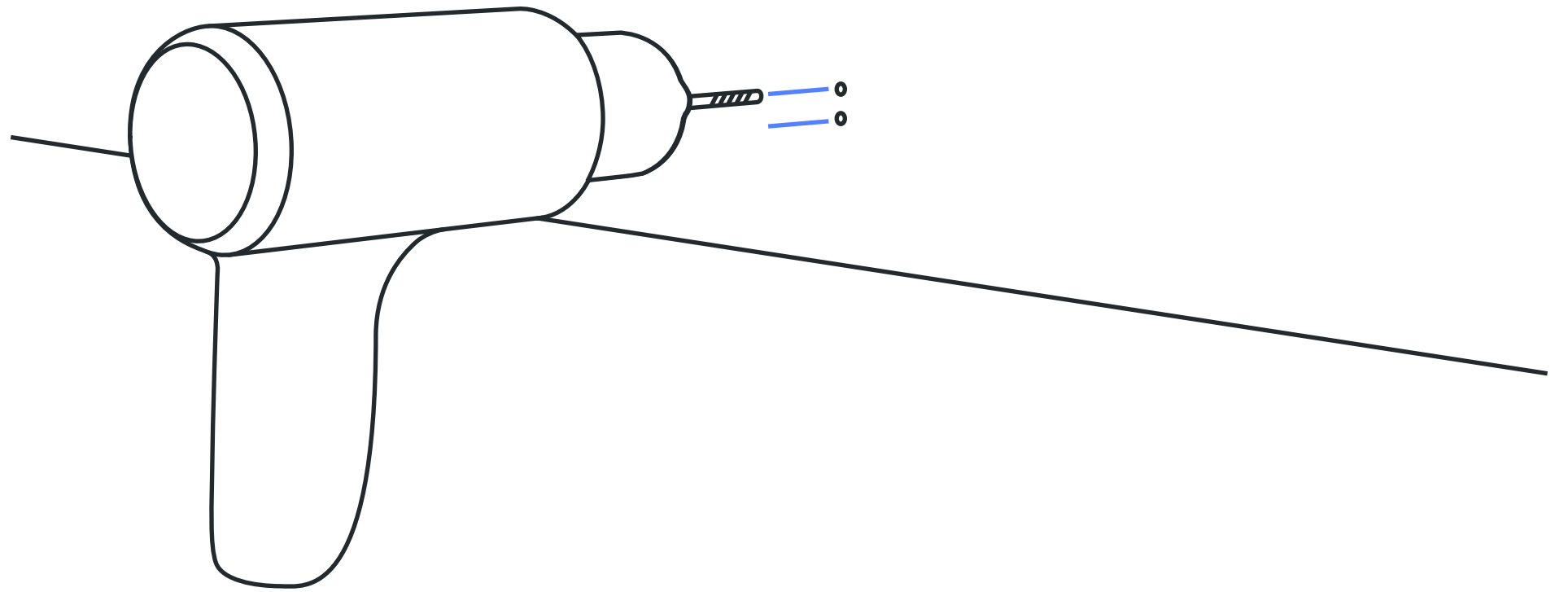
Center the Low Profile Wall Bracket horizontally above the doorway. Align the bottom edge of the Low Profile Wall Bracket with the edge of the entryway as shown. Use the level to ensure the Low Profile Wall Bracket is parallel to the ground. Use a pencil to mark the center of the two holes in the Low Profile Wall Bracket.

If there are any objects obstructing the DPU, you may install the DPU slightly off-center, or consider moving the obstruction. Please consult your Density Account Manager before offsetting the DPU.



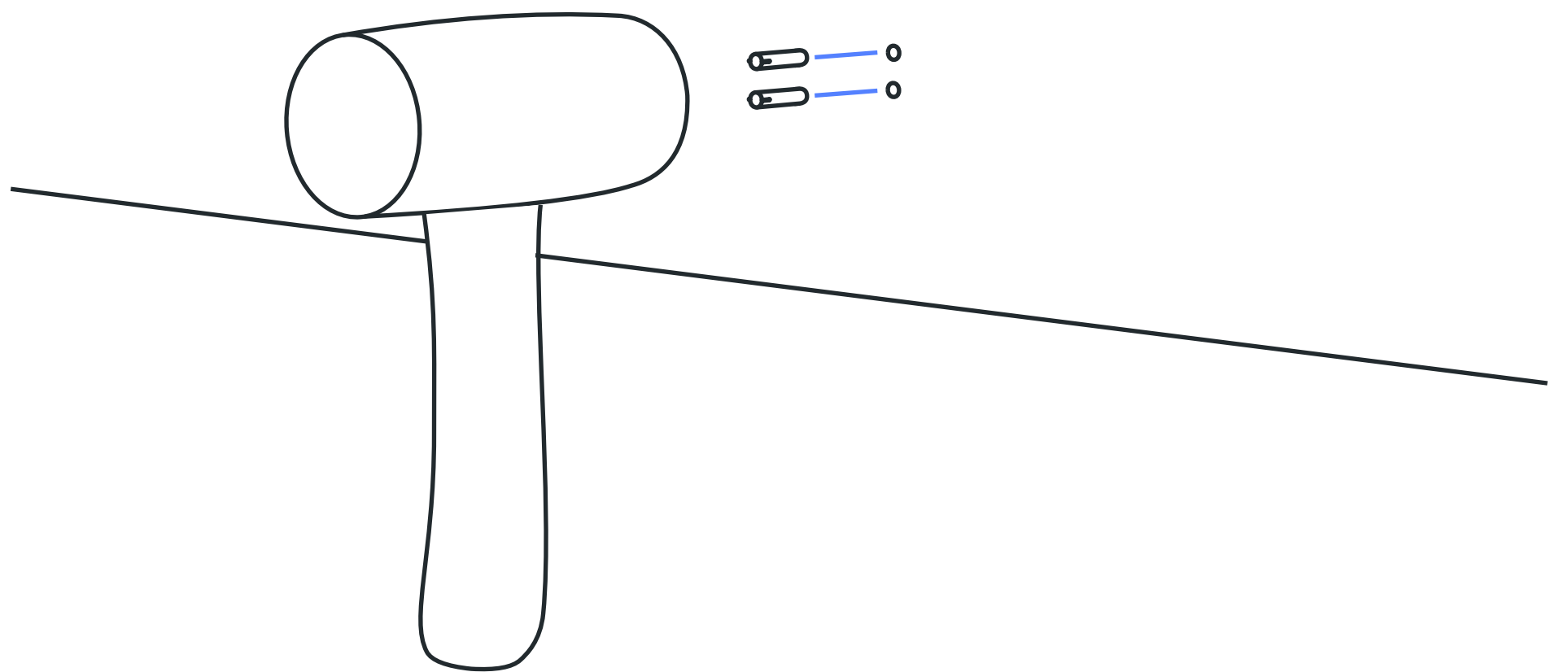
Step 3: Drill Holes

Drill a hole through each pencil mark using a 3/16in drill bit. For hollow substrates, drill completely through. For solid wall materials, drill holes with a depth of at least 1 1/4in (3.2cm).



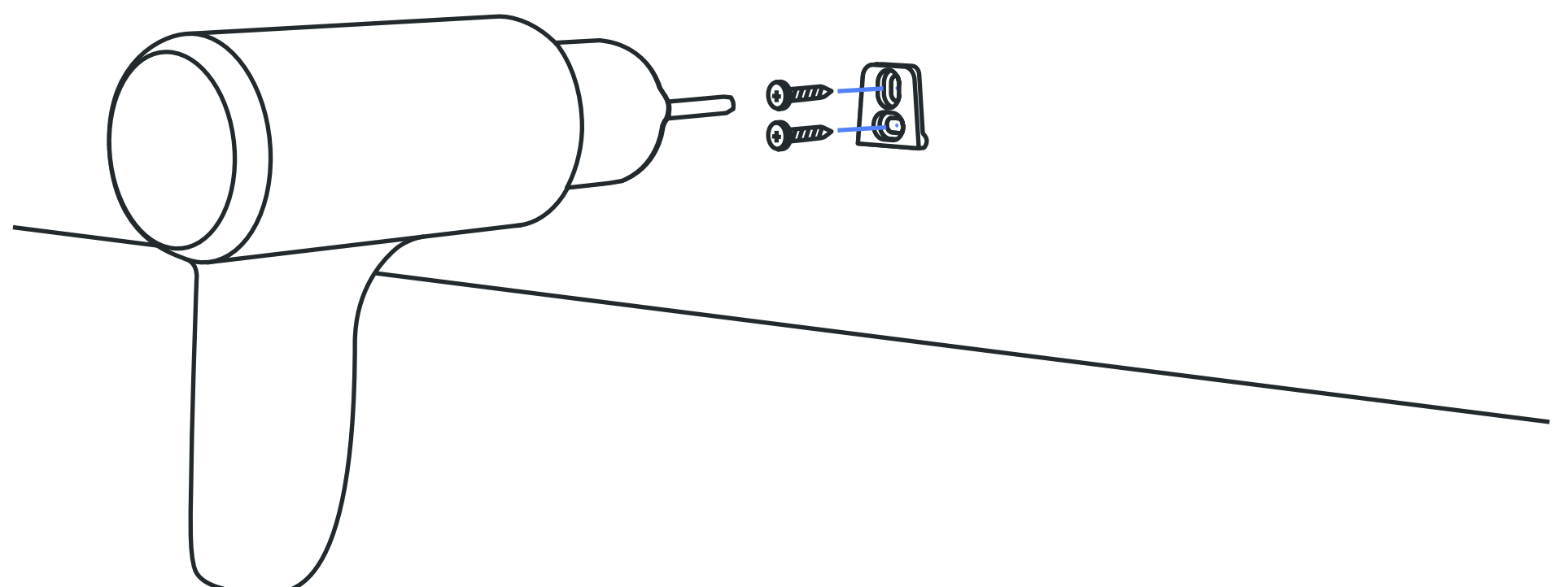
Step 4: Insert Anchors

Use a mallet or hammer to tap the the anchors into each hole. Anchors should be flush with the wall.



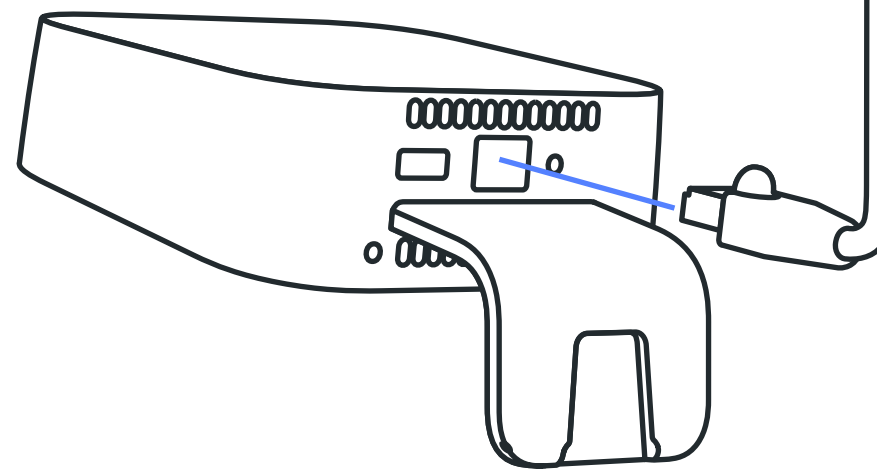
Step 5: Install Low Profile Wall Bracket

Align the holes in the Low Profile Wall Bracket with the installed anchors. Use a drill with #2 Phillips Screwdriver Bit or manually with a standard Phillips head screwdriver to drive each screw into the drywall anchors.



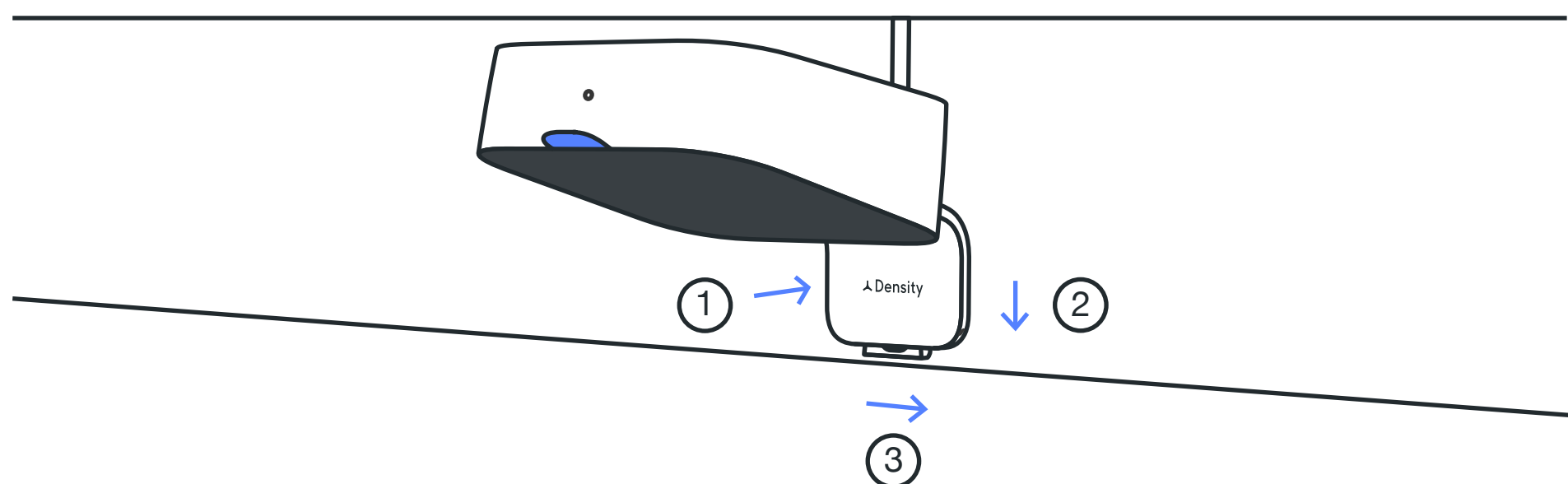
Step 6: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 7: Low Profile Wall Mount

To mount, align the bottom of the DPU approximately 1/8in (0.3cm) above the bottom edge of the Low Profile Wall Bracket. Move the DPU directly towards the wall so that the DPU and Low Profile Wall Bracket are overlapping. Slide the DPU downward, then all the way over to the right.

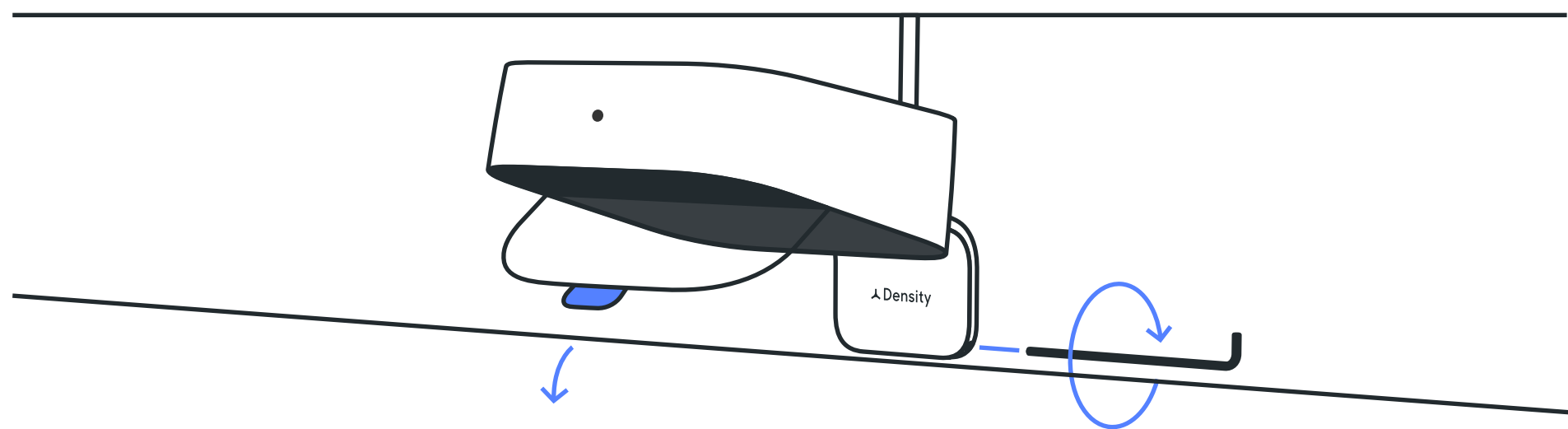


Step 8: Lock DPU and Peel Film

Lock the DPU to the Low Profile Wall Bracket with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation.

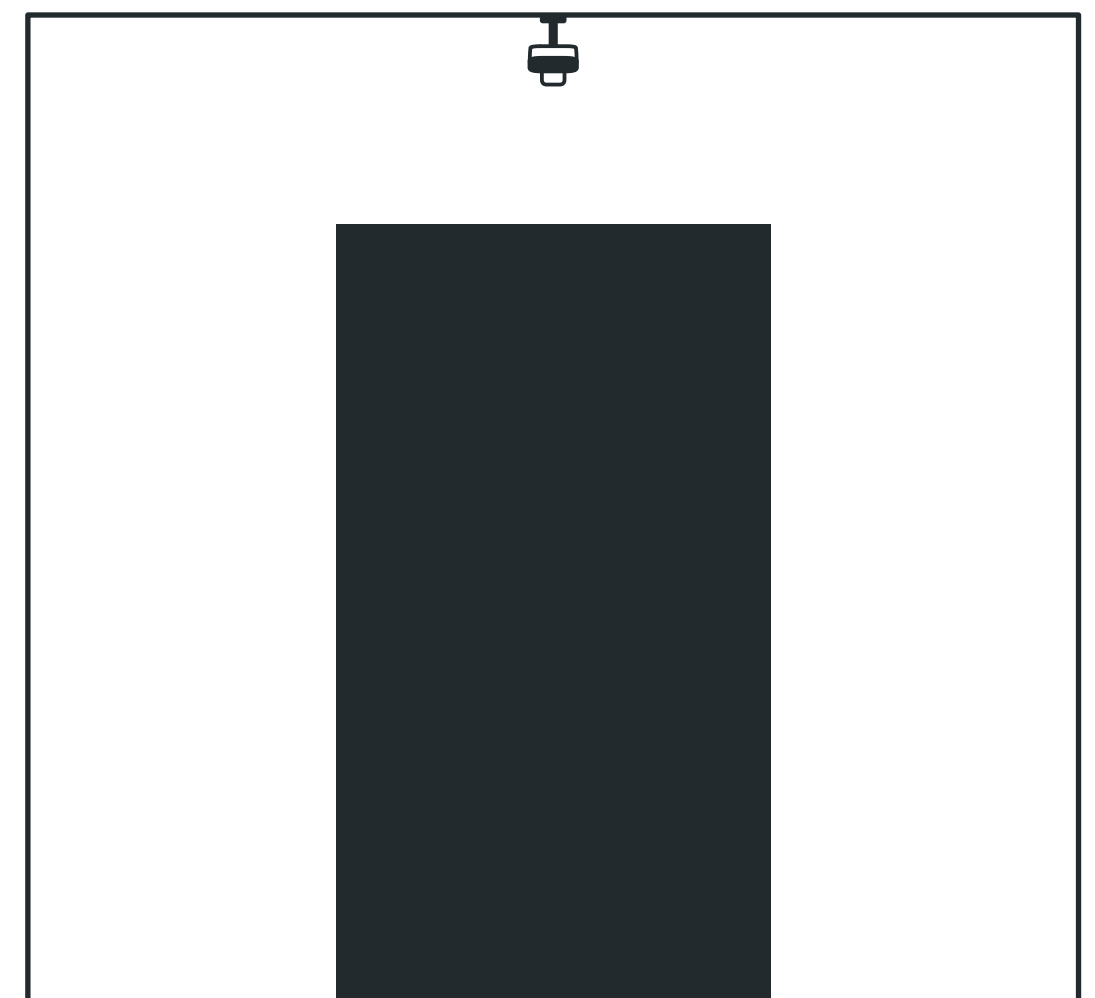
Warning: When using the Low Profile Wall Bracket, the set *MUST* be tightened all the way to ensure the unit does not fall off the wall.



Ceiling Mounting - Toggle Anchor

For Hollow Ceiling Types

07



Ceiling Mount Kit *(available for order)*

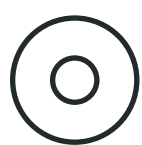
- f. Utility Mount
- g. Toggle Anchor
- h. Steel Washer
- i. Hex Nut
- d. Hex Key (1.5mm)



f



g



h



i



d

Materials Not Included in Kit

- Mallet
- Measuring tape
- Drill
- Wrench
- 1 1/4in hole saw
- 1/2in - 13 Threaded rod
- 3/16in Drill Bit
- #2 Phillips Screwdriver Bit
- Ethernet Cable (Cat 5e or later)

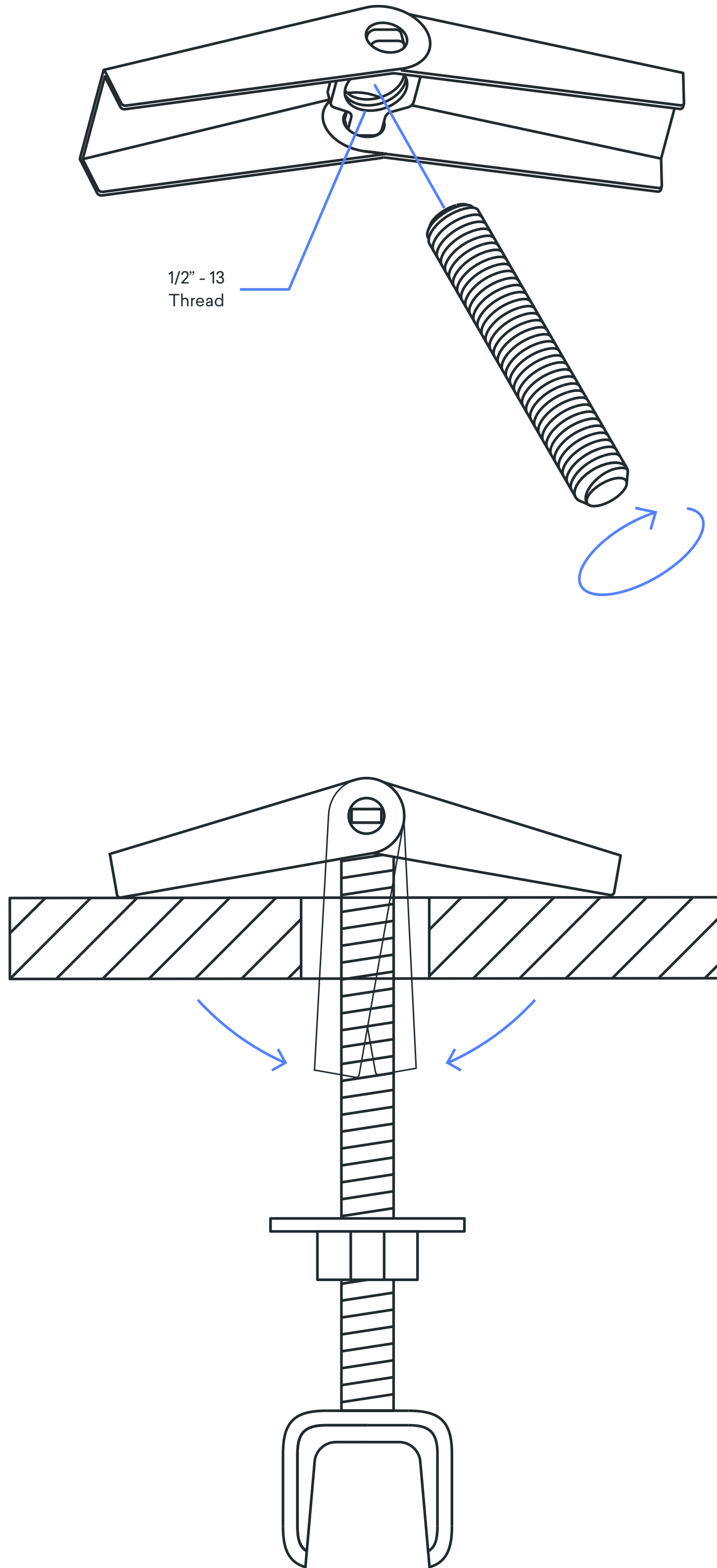


Power & Connectivity

All DPUs require power over ethernet and internet connectivity.

Toggle Anchor

Designed for hollow ceiling types (Drywall, Plaster, Ceiling Tile, Wood Paneling, etc.), the Toggle Anchor has spring loaded wings that fold flush, and then re-open once they have passed through the ceiling material.

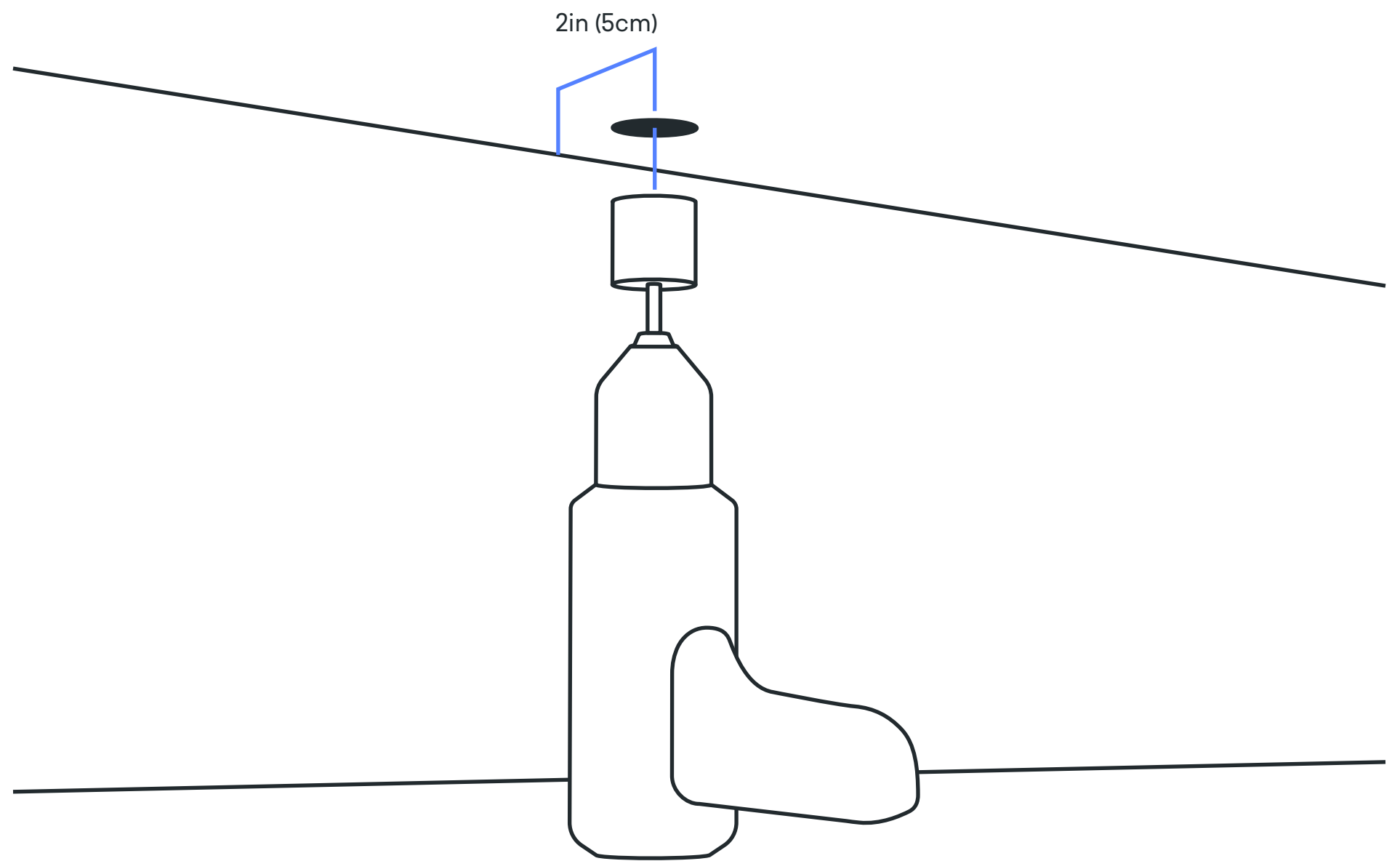


Step 1: Drill Mounting Hole

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

Mark a spot 2in (5cm) away from the wall that is centered horizontally above the entryway.

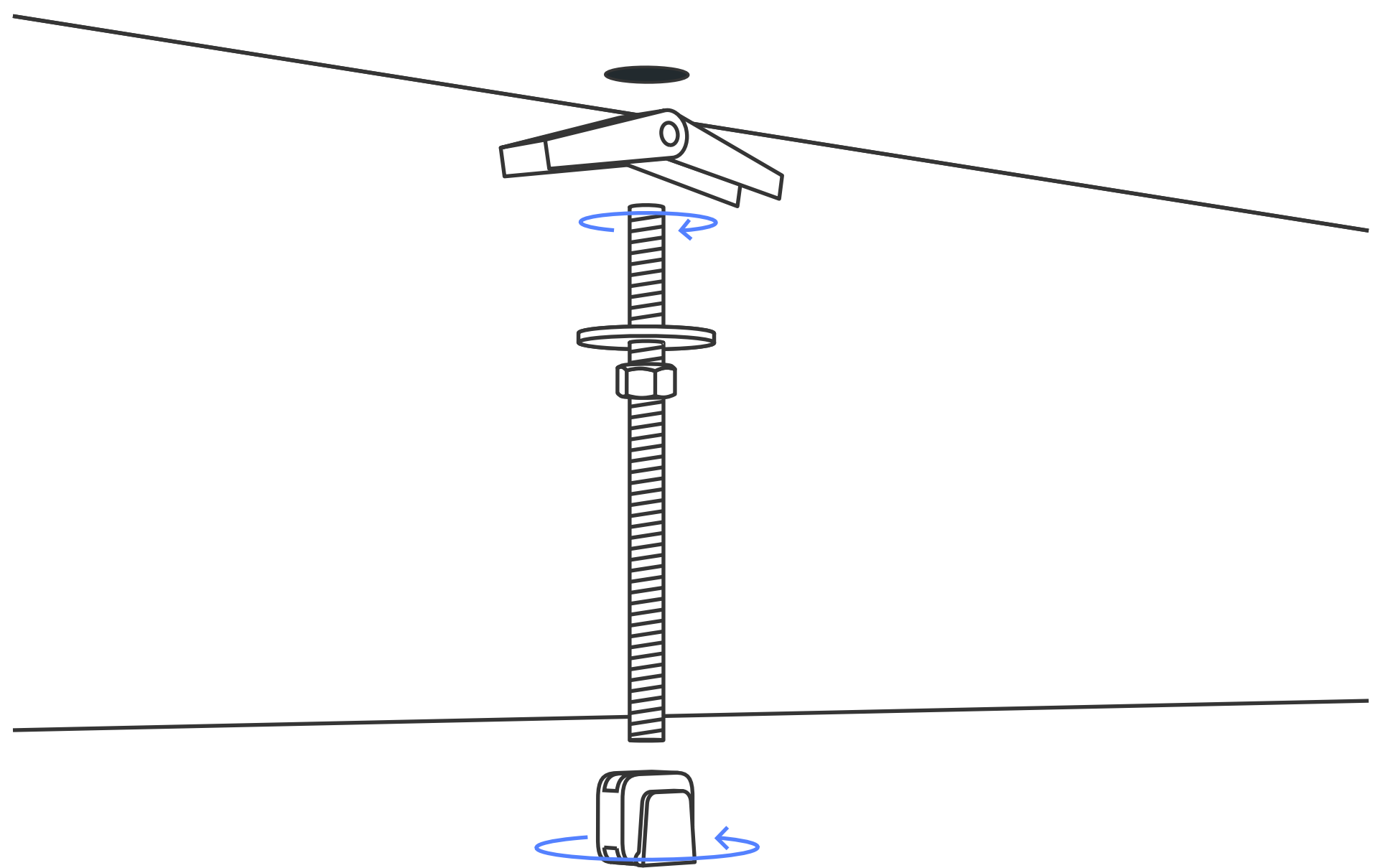
Drill a hole using the 1.25in hole saw.



Step 2: Assemble

Screw the nut and washer onto the threaded rod. Screw the Utility Mount and Toggle Anchor onto the ends of the threaded rod.

Twist the threaded rod into the Toggle Anchor so that the top of the rod is flush with the top of the Toggle Anchor.

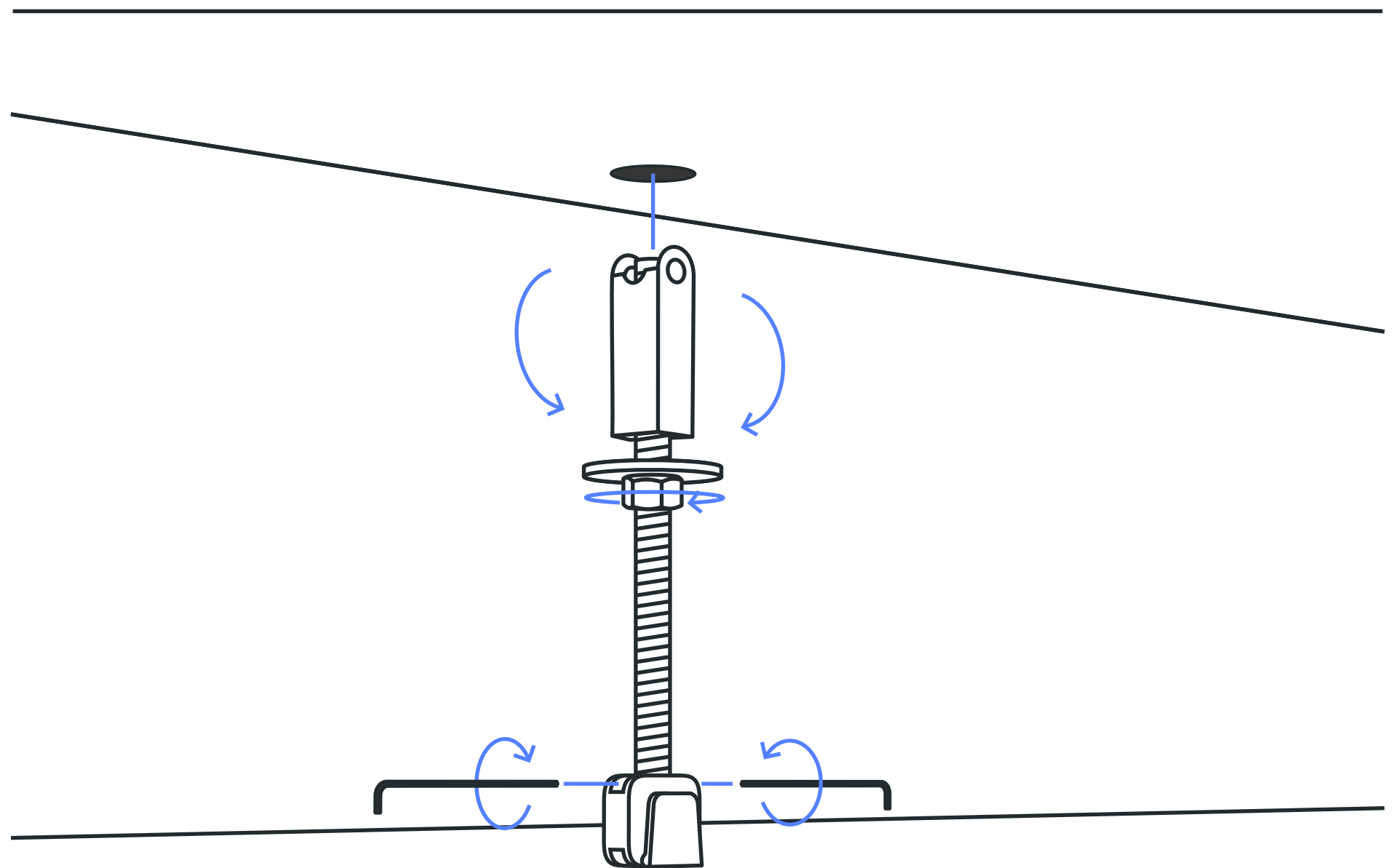


Step 3: Insert Toggle Anchor Into Ceiling

Fold the Toggle Anchor flaps down, then insert the Toggle Anchor and end of the threaded rod through the drilled hole. Once through the ceiling, the Toggle Anchor flaps will spring open again.

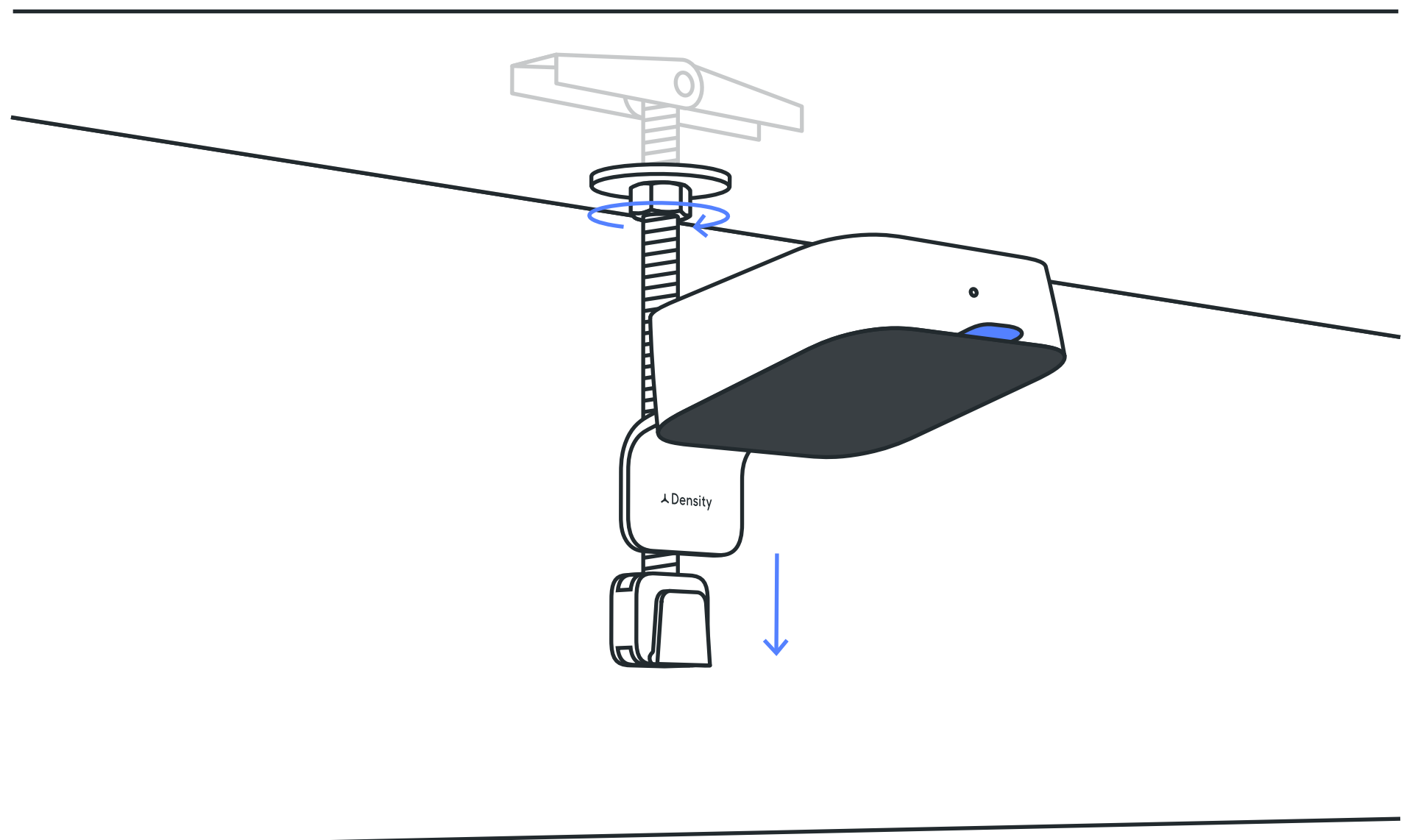
To adjust the install height, twist the threaded rod counter clockwise to raise or clockwise to lower. Make sure the threaded rod has enough thread engagement with the Toggle Anchor.

Lock the Utility Mount to the threaded rod using the provided hex key, twisting in both set screws on each side of the Utility Mount.



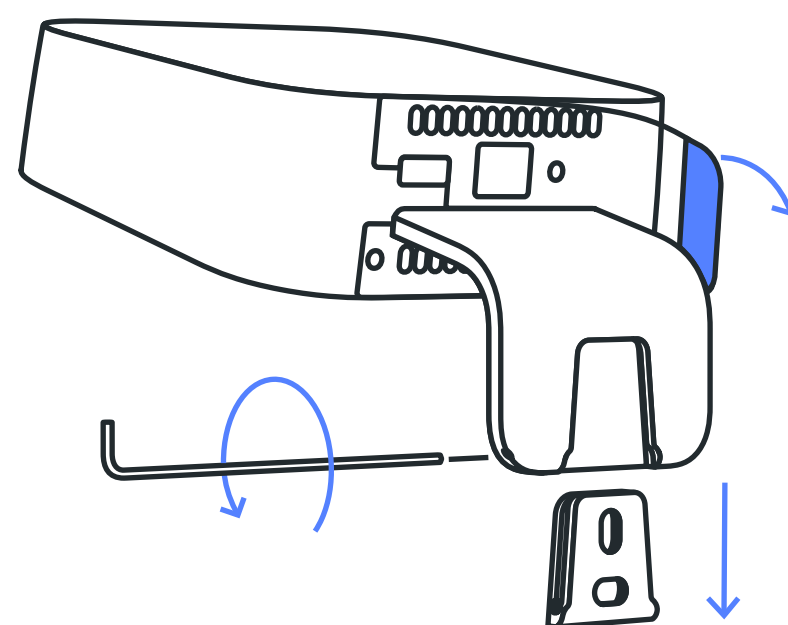
Step 4: Tighten the Anchor Assembly

Once desired install height is determined, twist the nut and washer until they are tight against the ceiling. Tighten the nut with a wrench or pliers so that the washer provides strong clamping pressure against the ceiling.



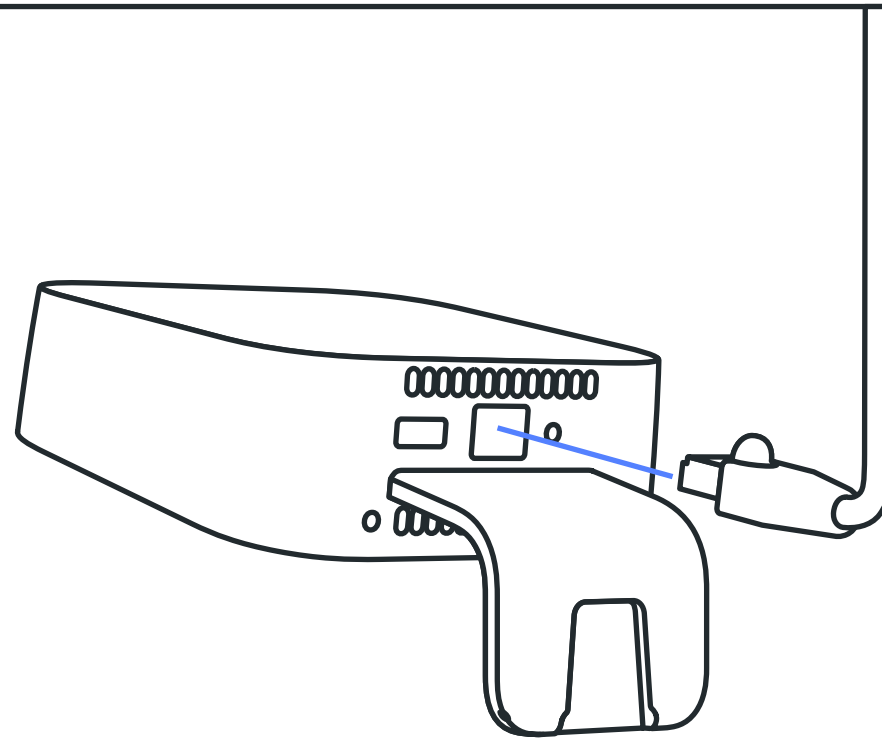
Step 5: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



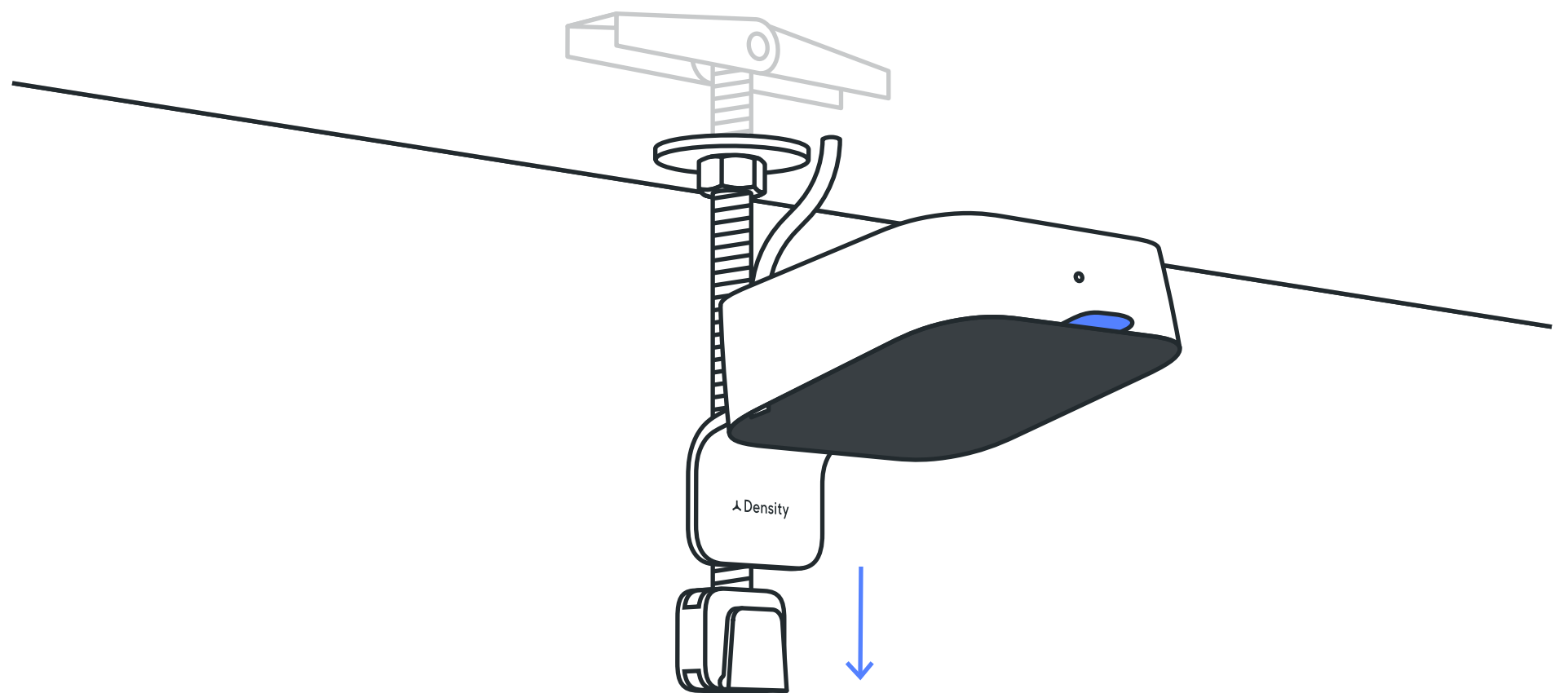
Step 6: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 7: Mount the DPU

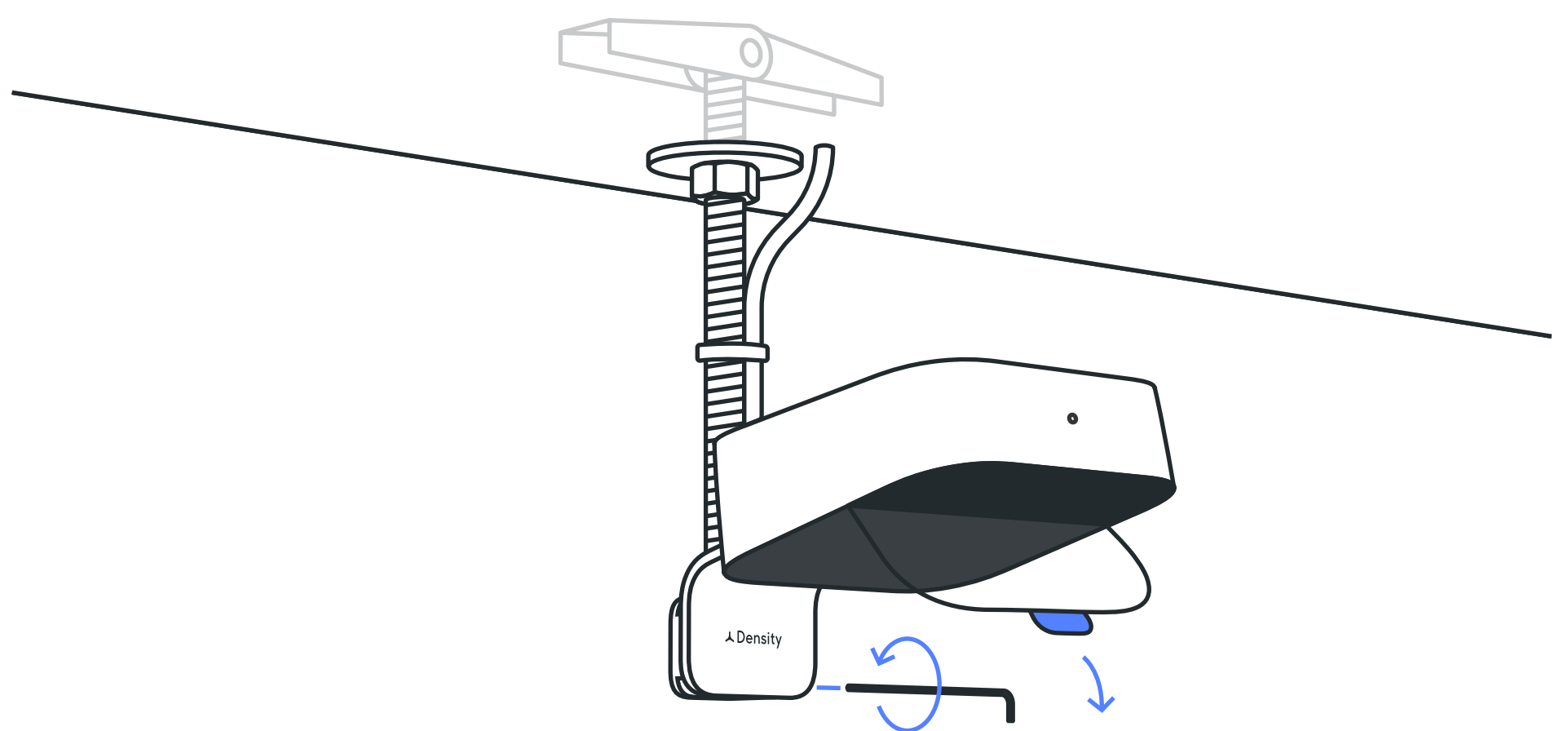
Slide the DPU downward onto the Utility Mount.



Step 8: Lock DPU and Peel Film

Lock the DPU to the Utility Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

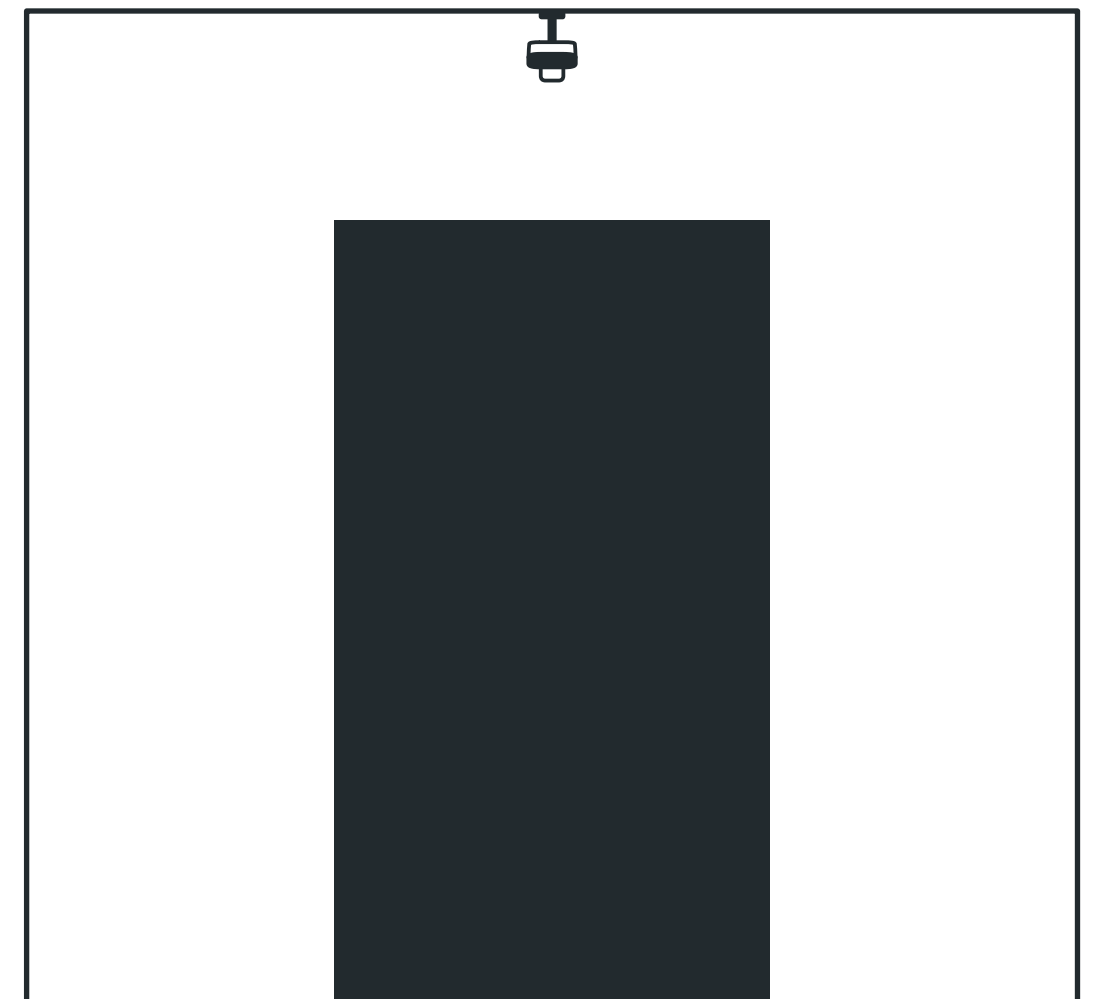
Make sure the black sensor window remains free of dust and smudges during operation. If desired, use zip tie for cable management.



Ceiling Mounting - Mounting Nut

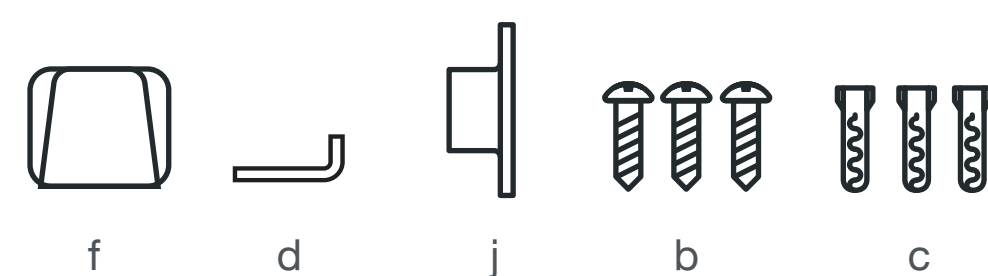
For Solid and Hollow Ceiling Types

08



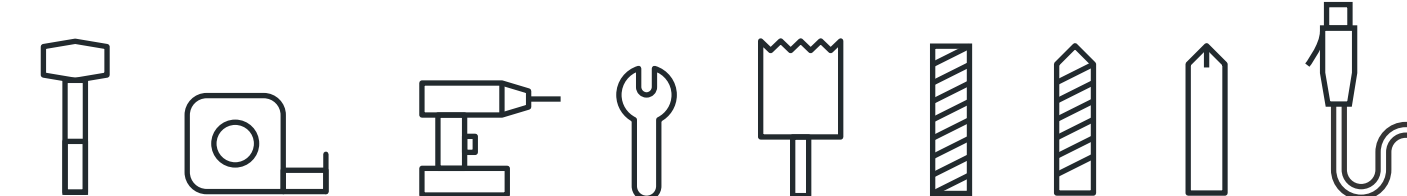
Ceiling Mount Kit *(available for order)*

- f. Utility Mount
- d. Hex Key (1.5mm)
- j. Screw Mount Nut
- b. 3pcs #6 x 1.25in Rounded Head Screws
- c. 3pcs Multi-Surface Anchors



Materials Not Included in Kit

- Mallet
- Measuring tape
- Drill
- Wrench
- 1 1/4in hole saw
- 1/2in - 13 Threaded rod
- 3/16in Drill Bit
- #2 Phillips Screwdriver Bit
- Ethernet Cable (Cat 5e or later)

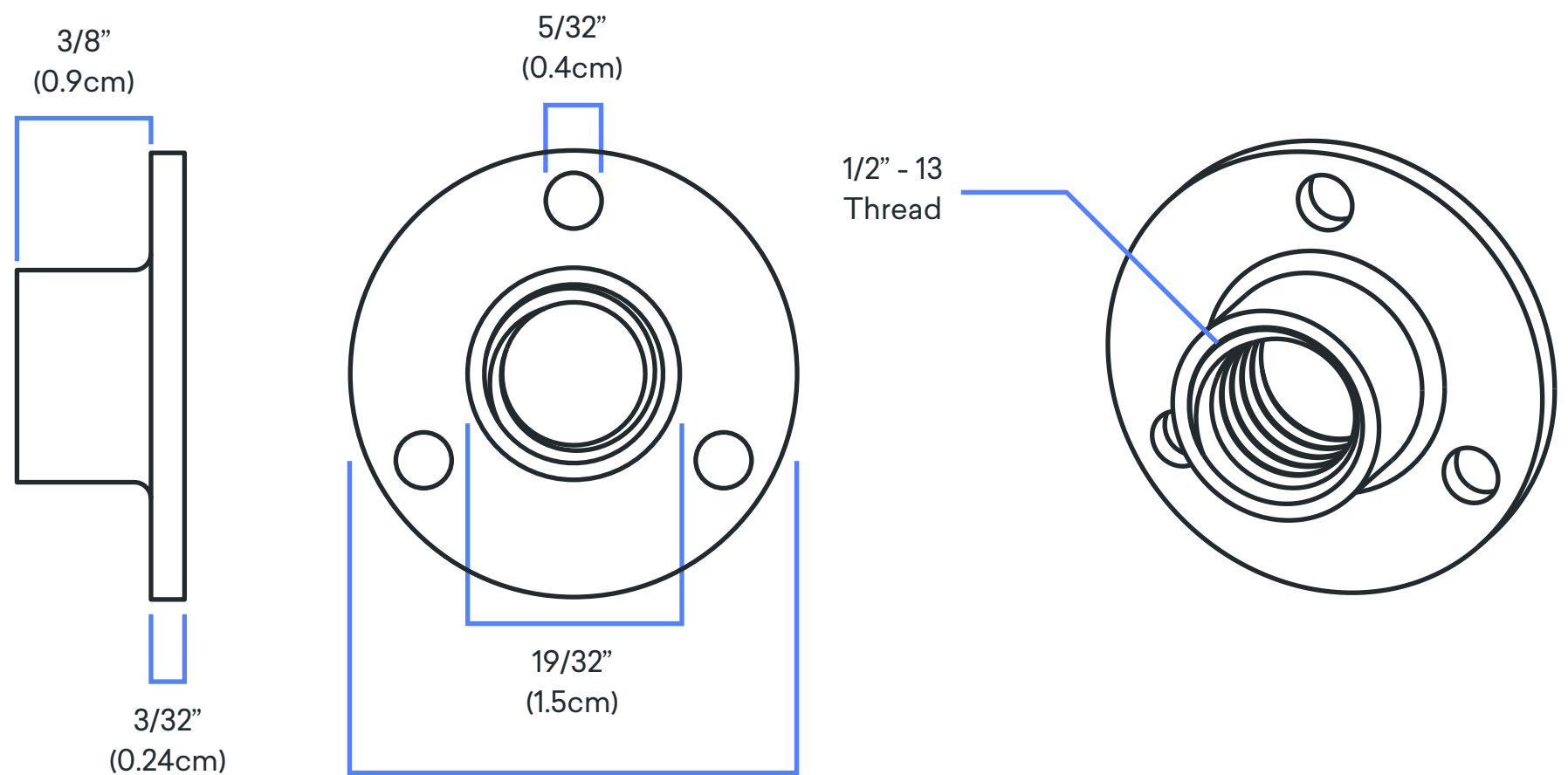


Power & Connectivity

All DPUs require power over ethernet and internet connectivity.

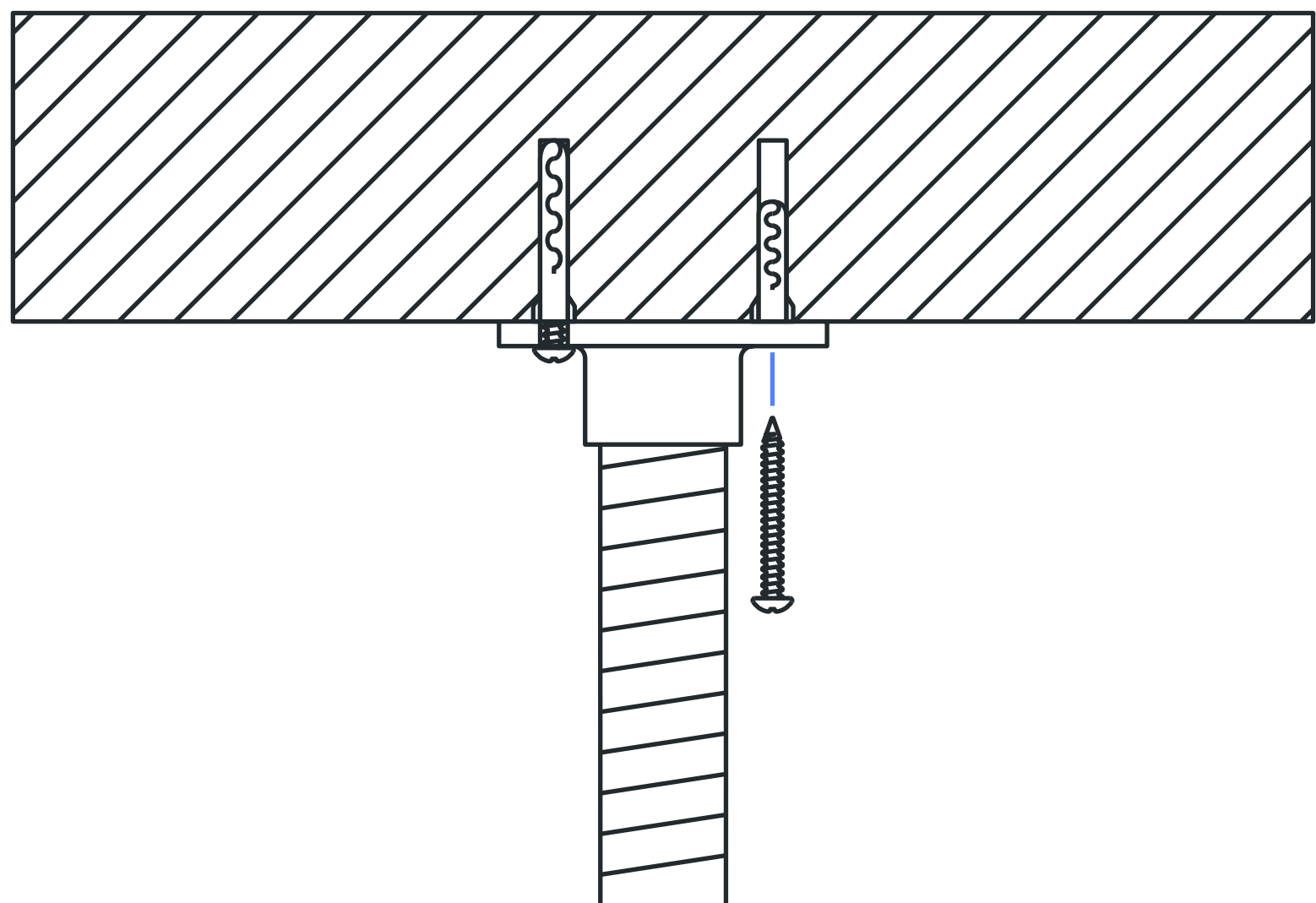
Mounting Nut

The Mounting Nut has three screw mounting holes as well as integrated 1/4"-20 threads designed to accept a threaded rod.



Step 1: Drill Mounting Holes

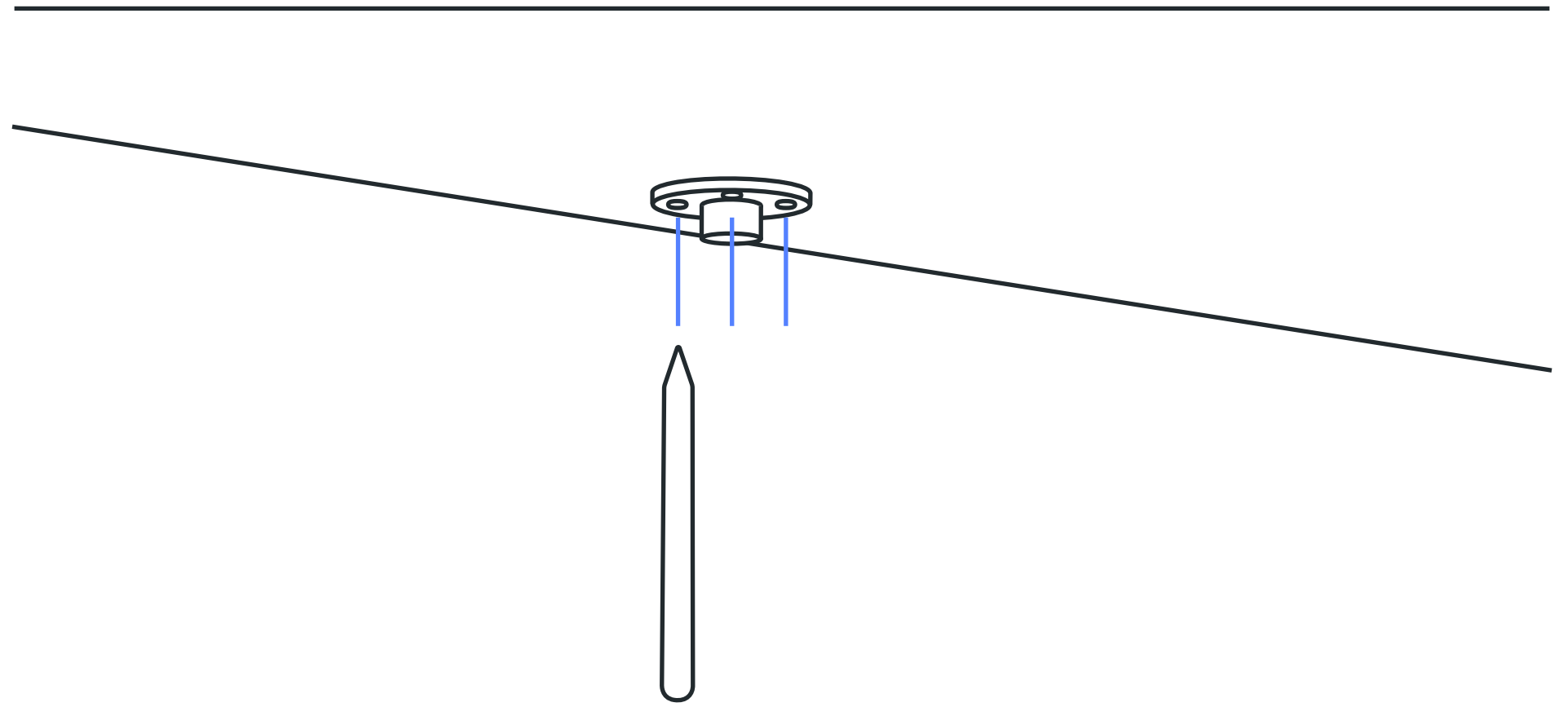
The Ceiling Mount Kit comes with 3pcs #6 x 1.25in Phillips Rounded Head Screws and 3pcs Toggler Anchors designed for a wide range of materials (concrete, brick, stone, drywall, etc.). The anchor expands and elongates within a solid substrate to distribute force evenly.



Step 1: Mark Placement

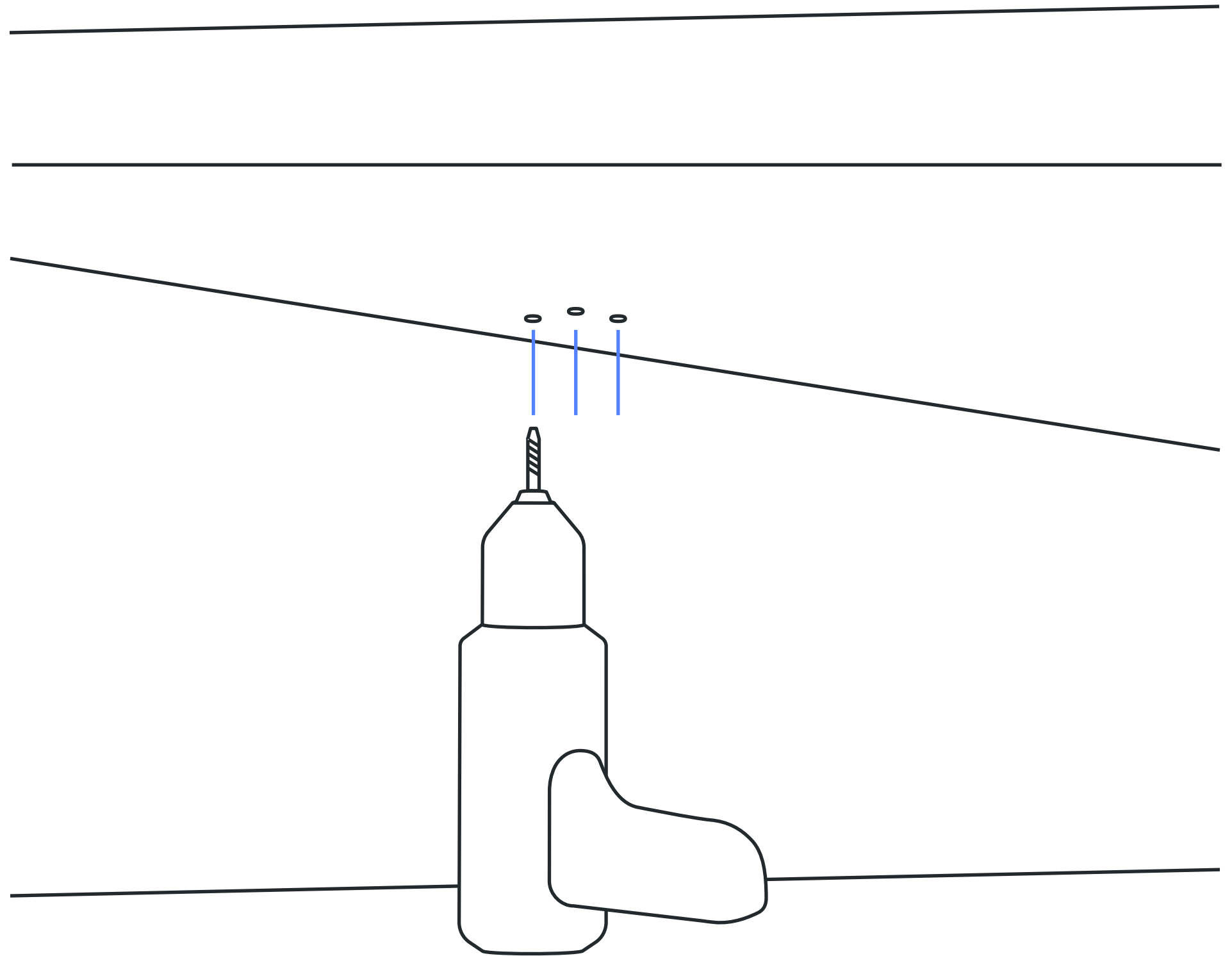
Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

Place the Mounting Nut approximately 1-2in (5cm) away from the entryway and ensure that it is centered horizontally above the door. Use a pencil to mark the center of the three holes.



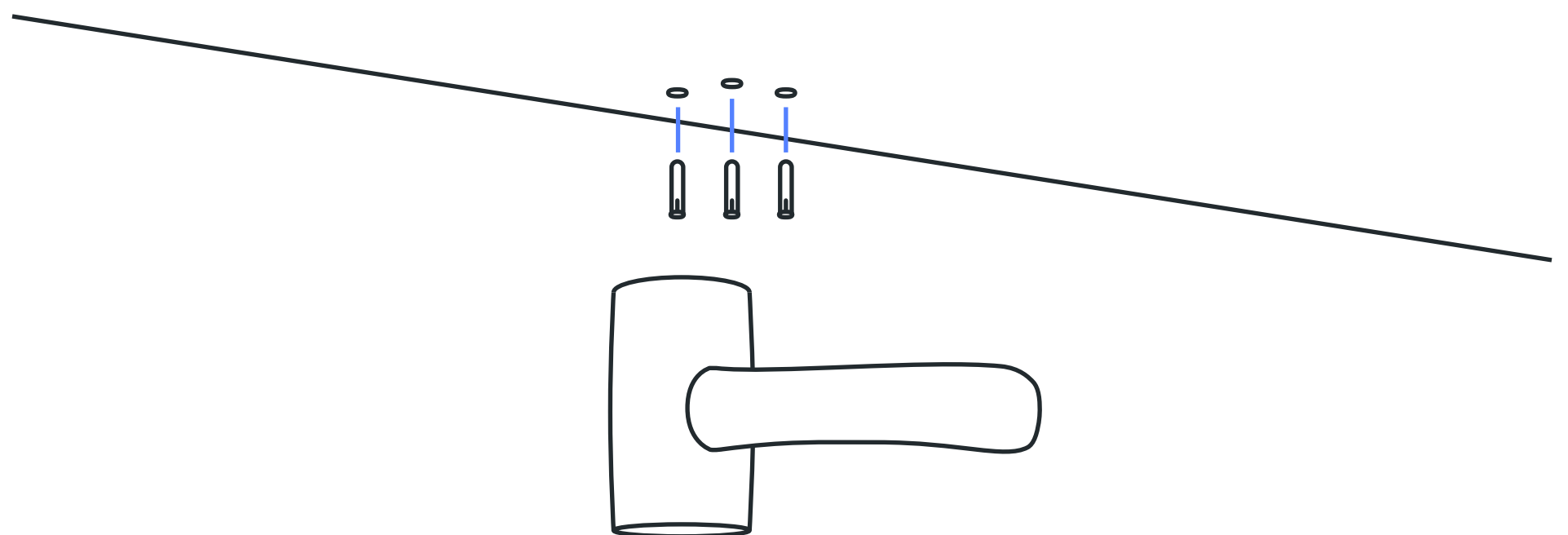
Step 2: Drill Holes

Drill a hole through each pencil mark using a 3/16in drill bit. For hollow substrates, drill completely through. For solid wall materials, drill holes with a depth of at least 1 1/4in (3.2cm).



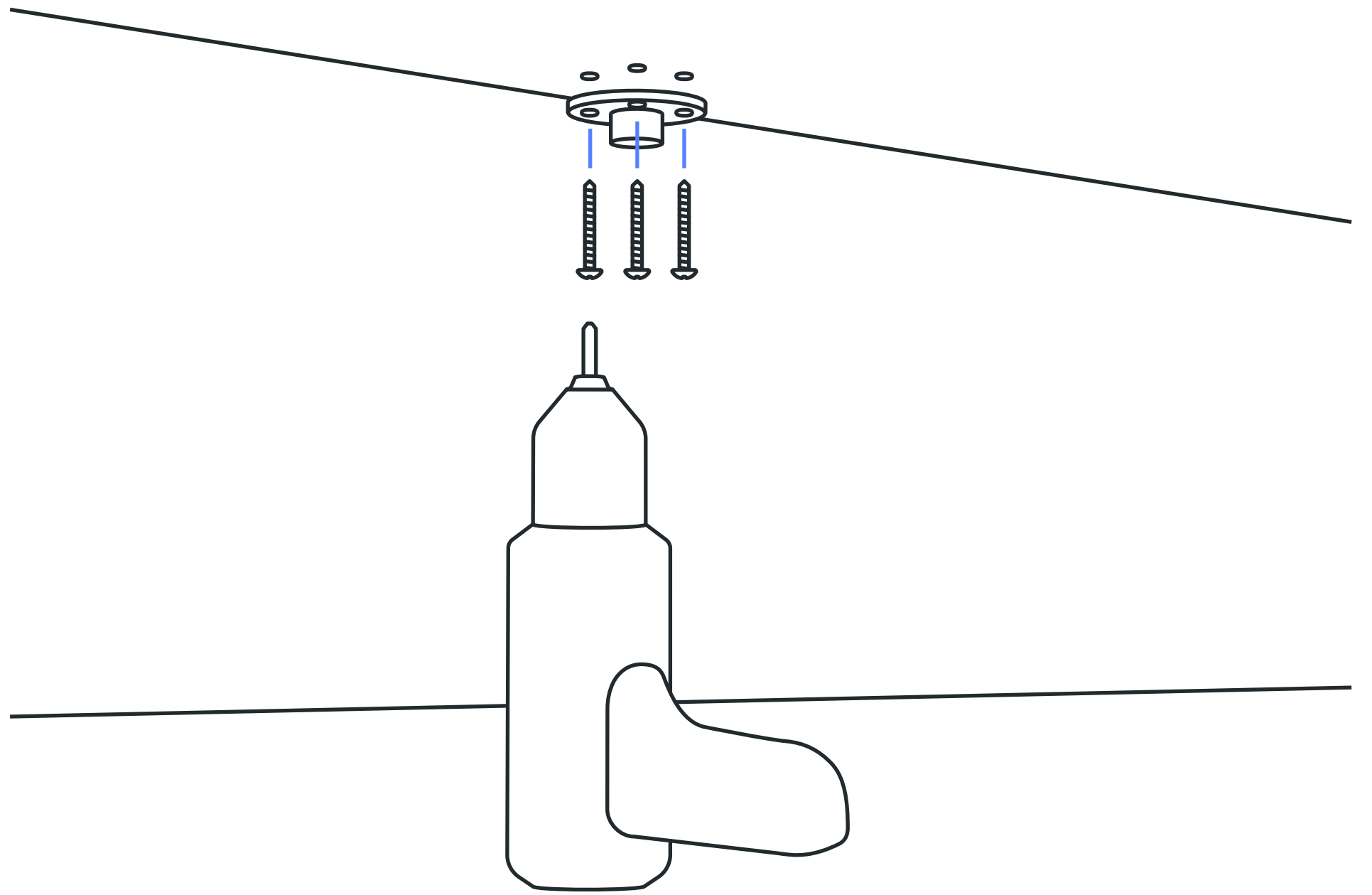
Step 3: Insert Anchors

Use a mallet or hammer to tap the the anchors into each hole. Anchors should be flush with the ceiling.



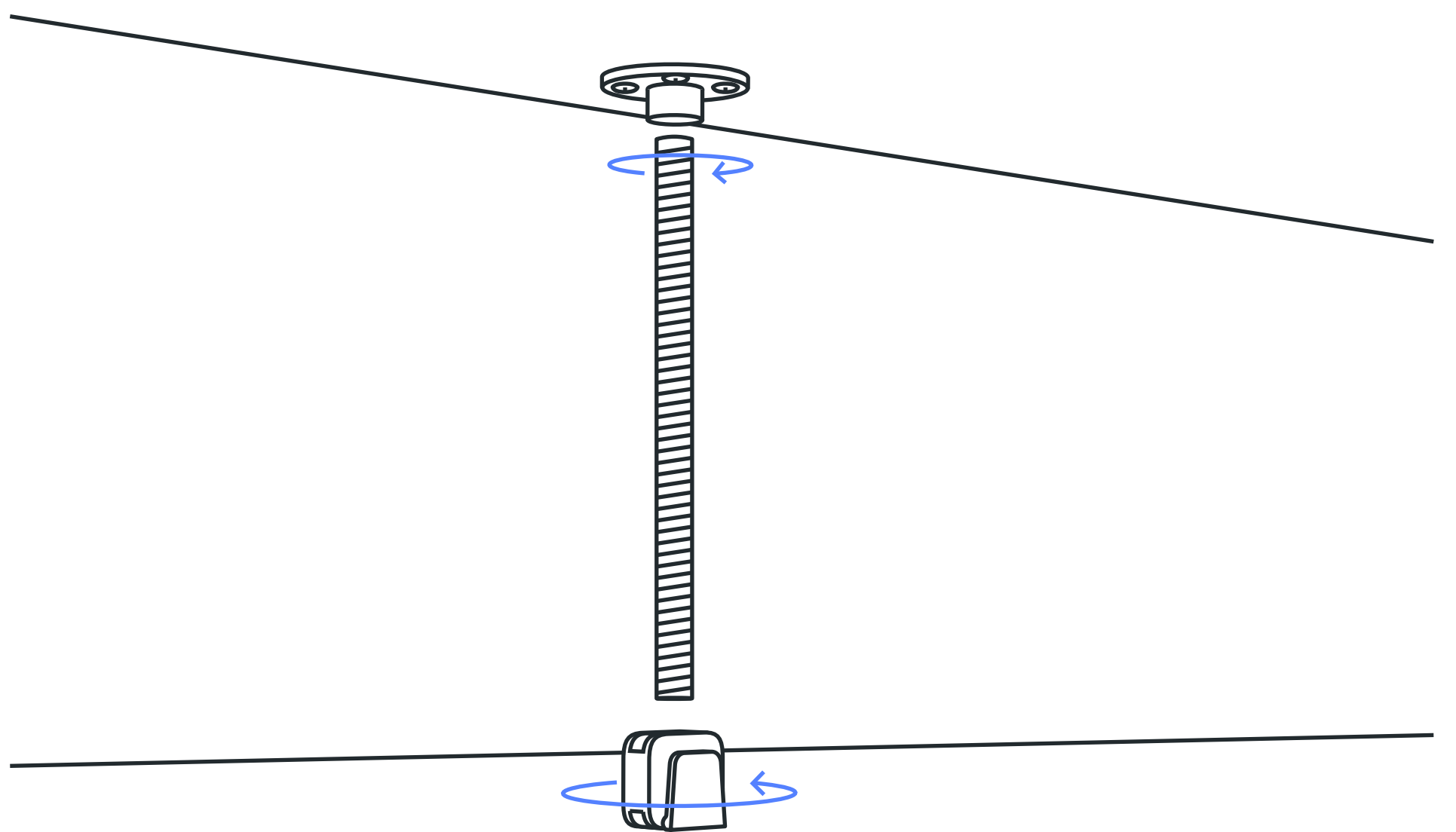
Step 4: Install Mounting Nut

Align the holes in the Mounting Nut with the installed anchors. Use a drill with #2 Phillips Screwdriver Bit or manually with a standard Phillips head screwdriver to drive each screw into the drywall anchors.



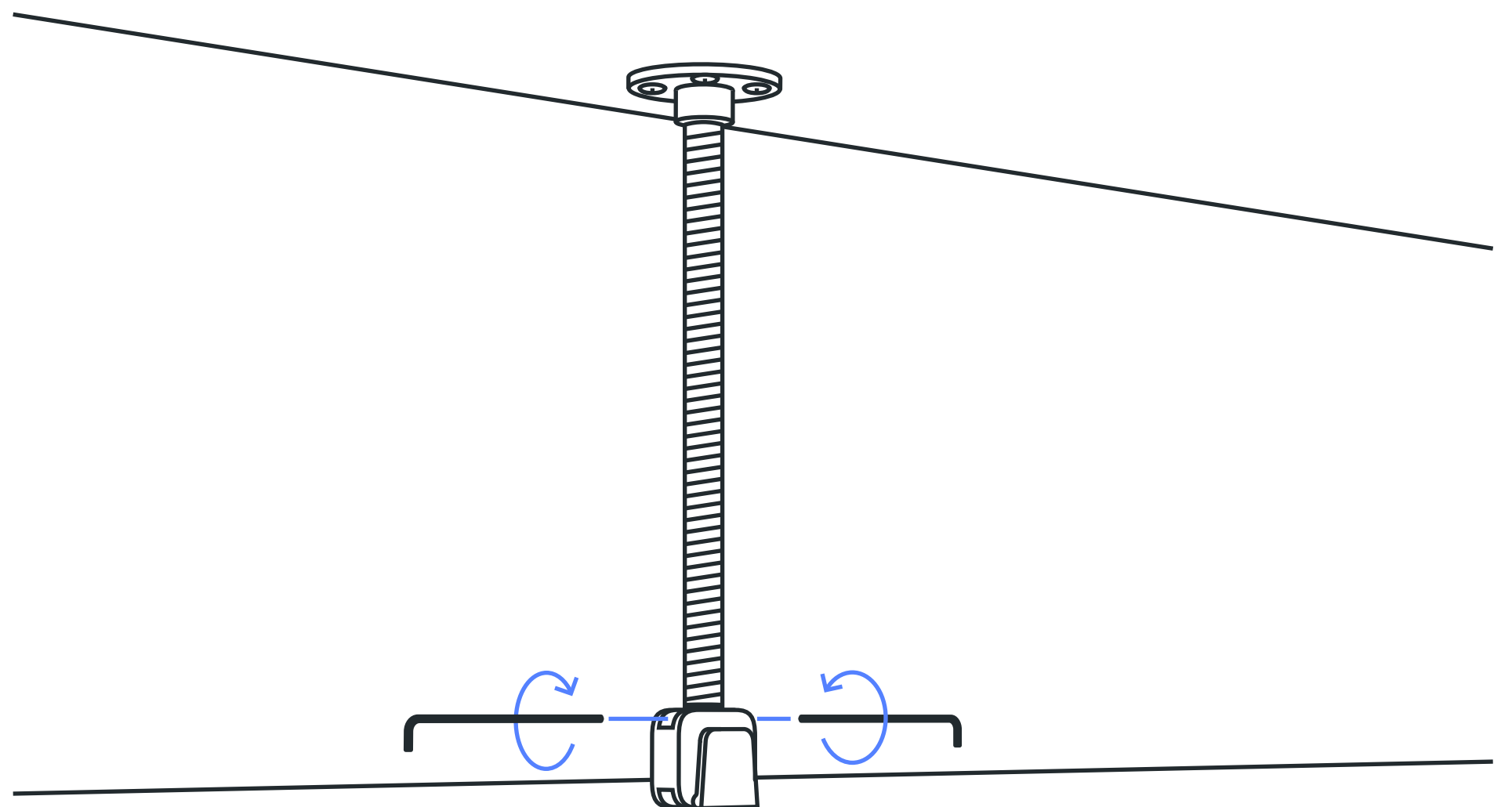
Step 5: Assemble

Twist the top of the threaded rod all the way into the Mounting Nut, and attach the Utility Mount to the bottom of the threaded rod.



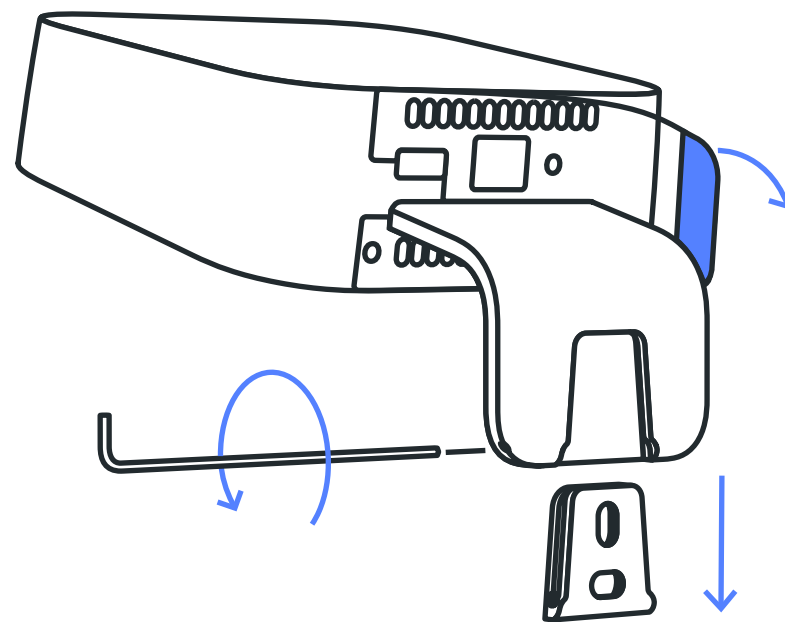
Step 6: Secure Utility Mount

Lock the Utility Mount to the threaded rod using the provided hex key, twisting in both set screws on each side of the Utility Mount.



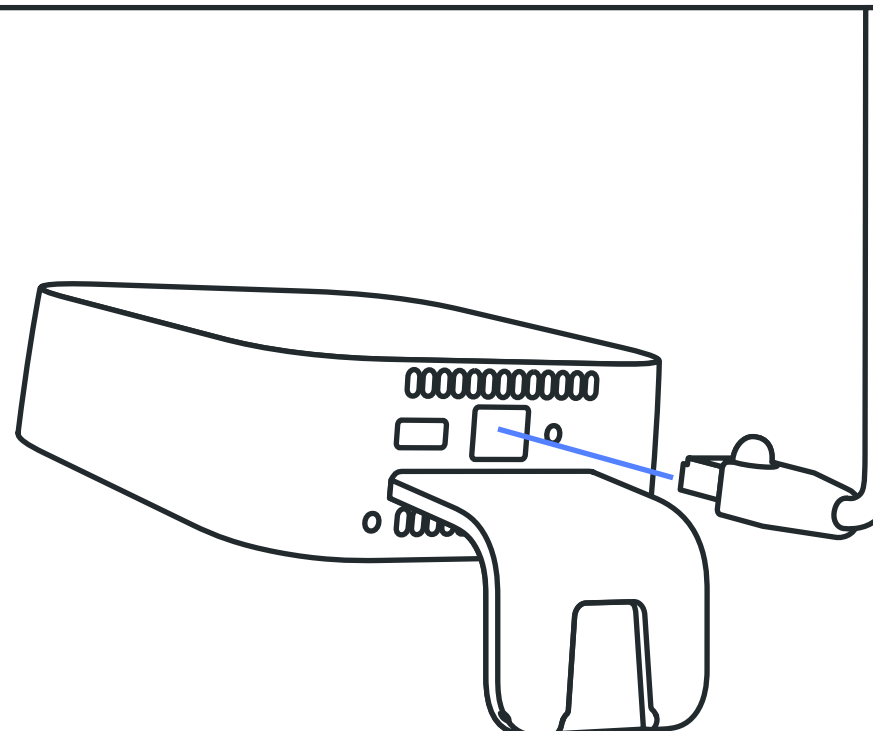
Step 7: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



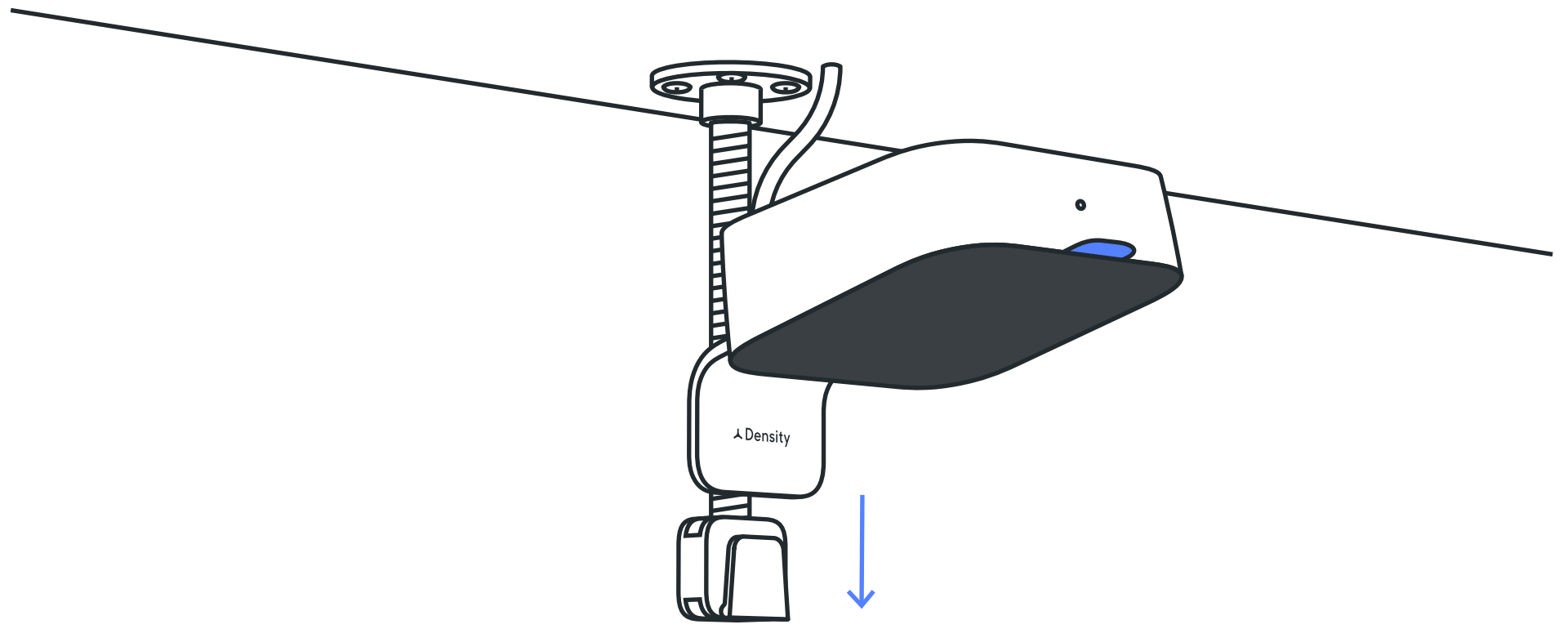
Step 8: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 9: Mount the DPU

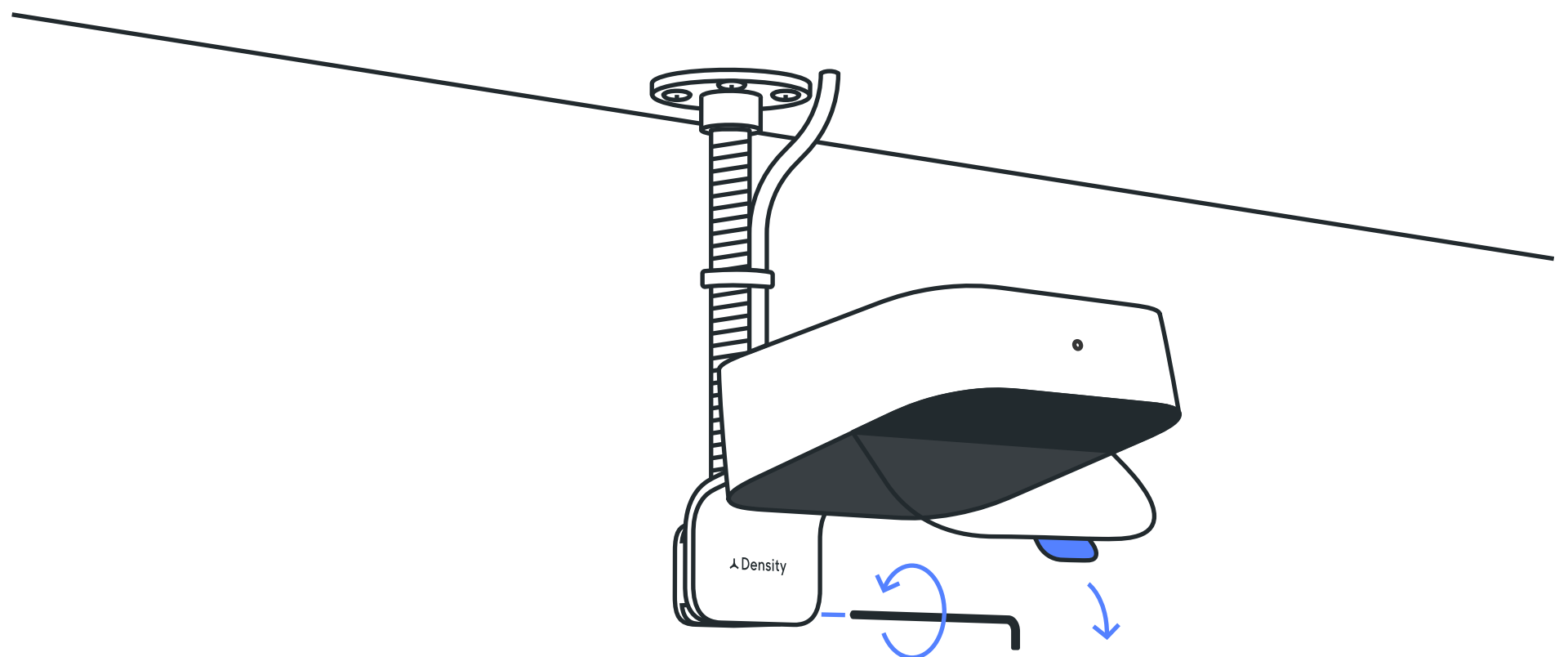
Slide the DPU downward onto the Utility Mount.

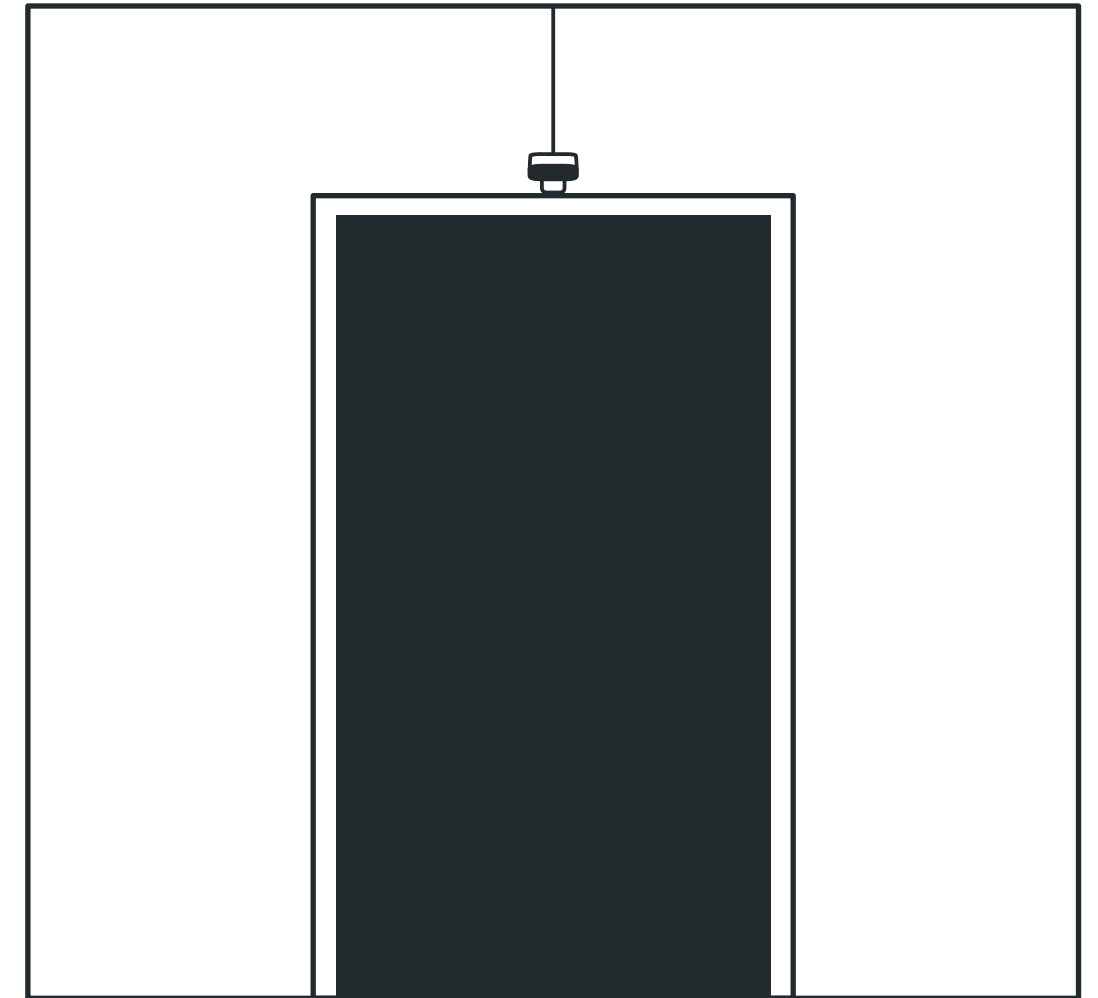


Step 10: Lock DPU and Peel Film

Lock the DPU to the Utility Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation. If desired, use zip tie for cable management.





Door Frame Mount Kit *(available for order)*

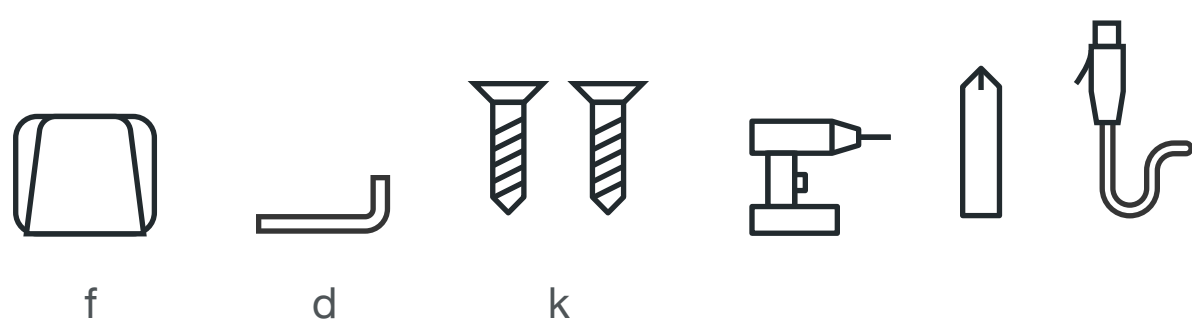
- f. Utility Mount
- d. Hex Key (1.5mm)
- k. 2pcs Self-Drilling Screws, #6 x 1.5in

Materials Not Included in Kit

- Drill
- #2 Phillips Screwdriver Bit
- Ethernet Cable (Cat 5e or later)

Power & Connectivity

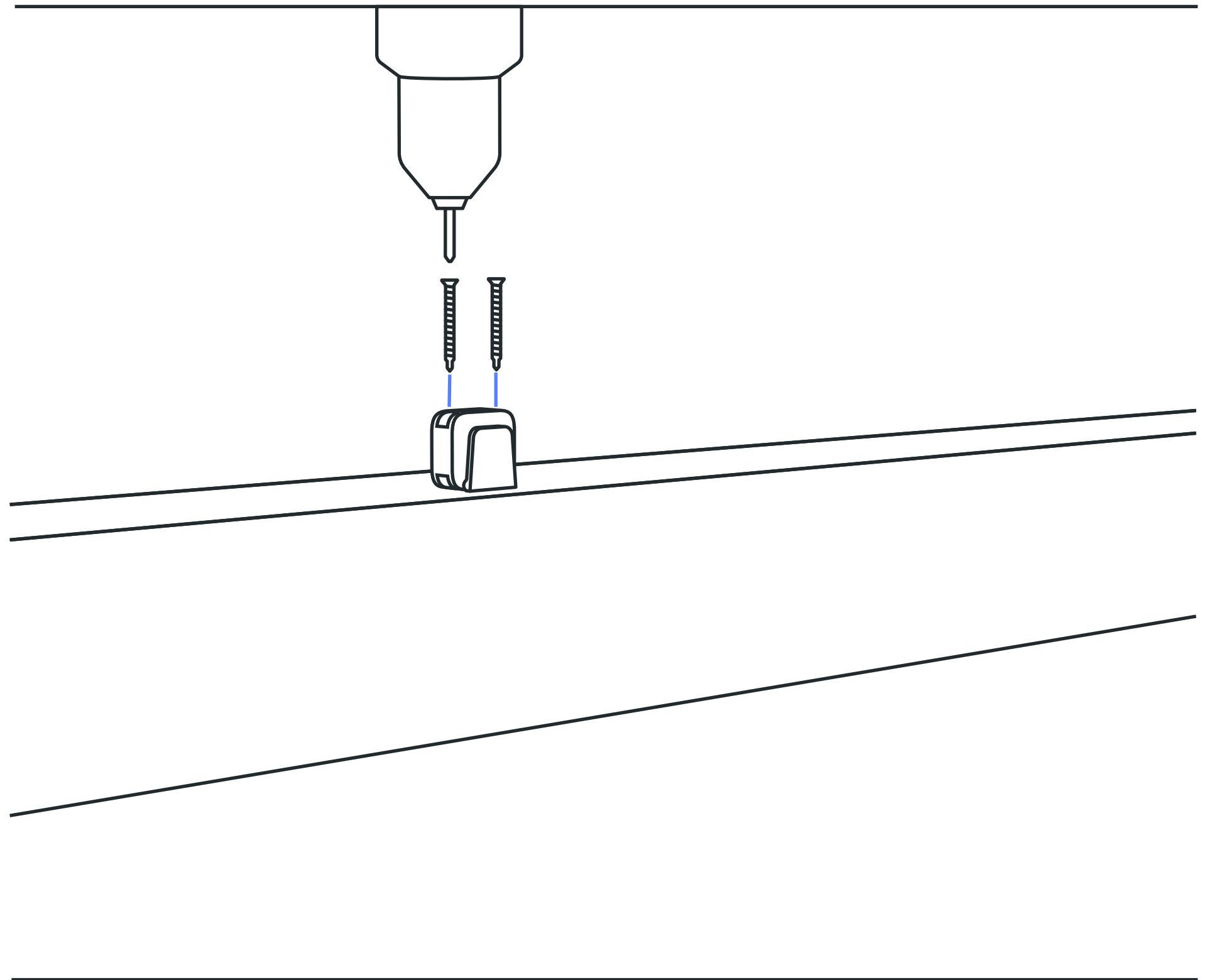
All DPUs require power over ethernet and internet connectivity.



Step 1: Screw In Utility Mount

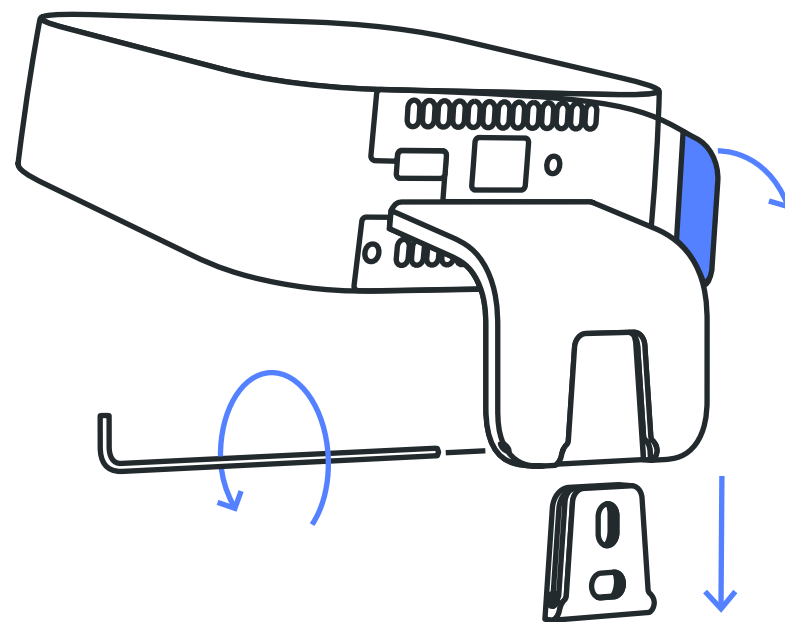
Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

Center the Utility Mount horizontally above the entryway, and 1/4in (0.6 cm) away from the front edge of the frame as shown. Use a drill to drive both self-tapping screws through the Utility Mount and into the top of the door frame.



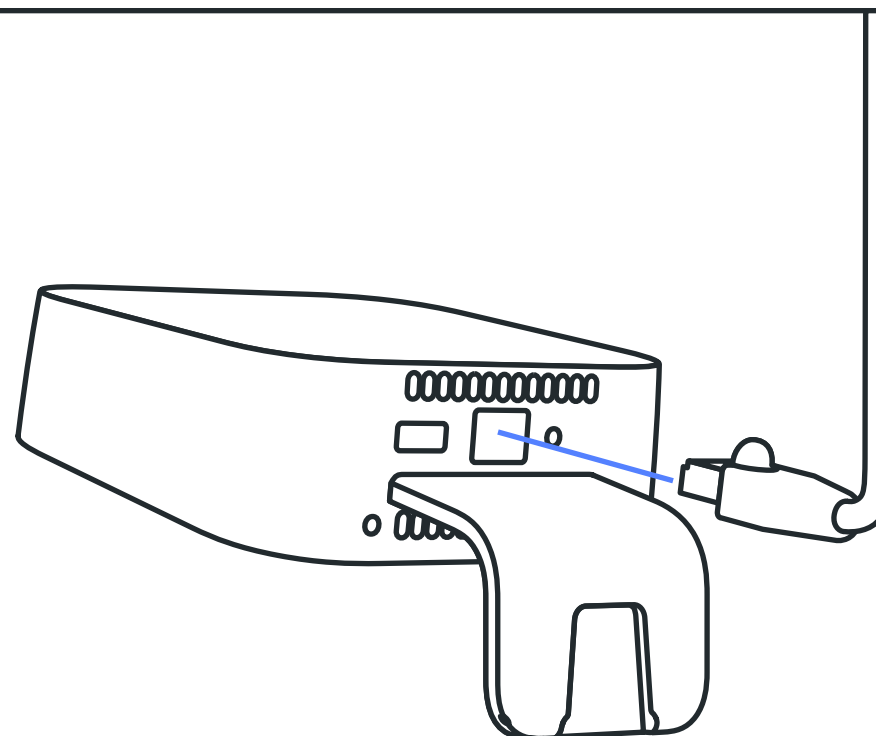
Step 2: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



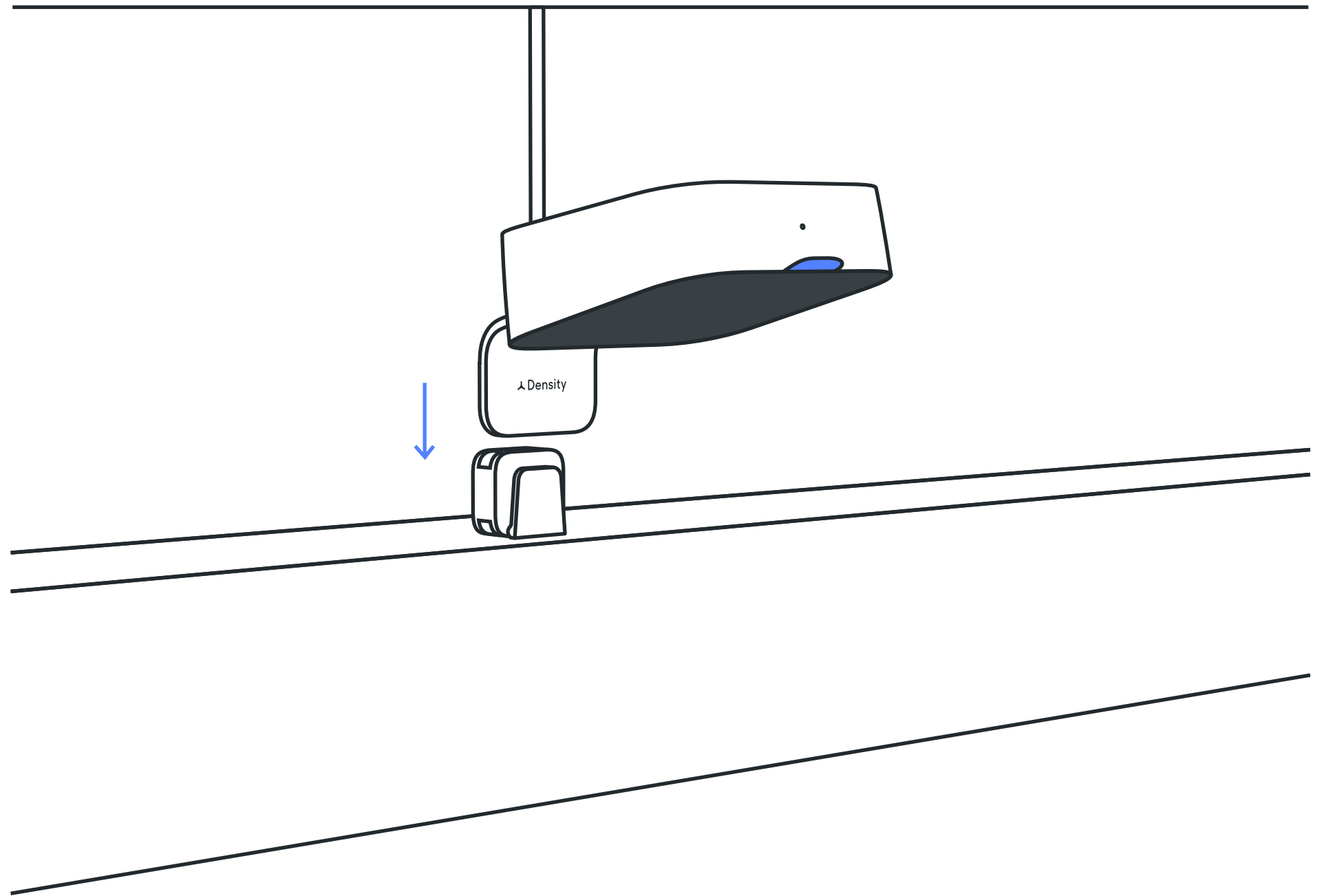
Step 3: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 4: Mount the DPU

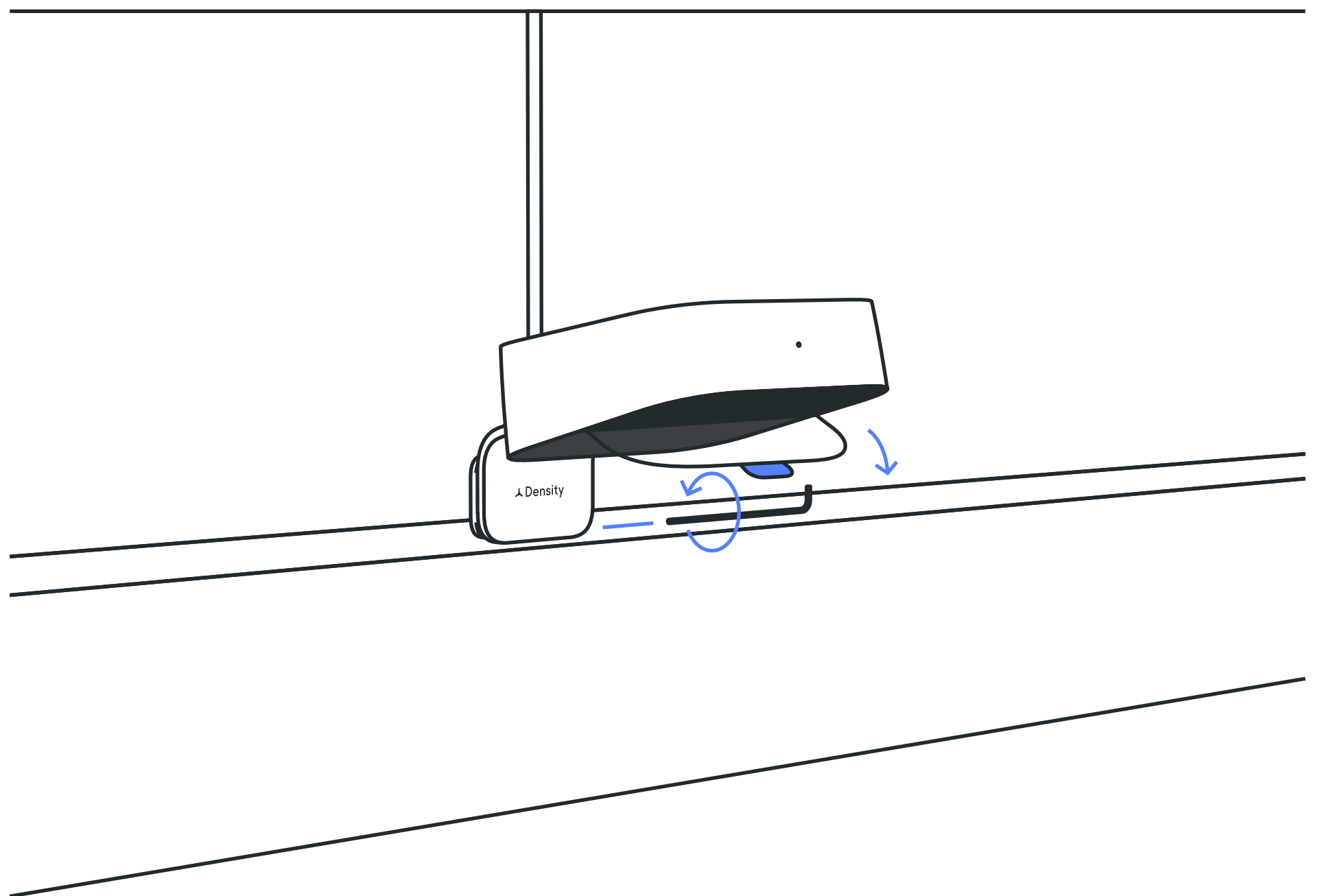
Slide the DPU downward onto the Utility Mount.



Step 5: Lock DPU and Peel Film

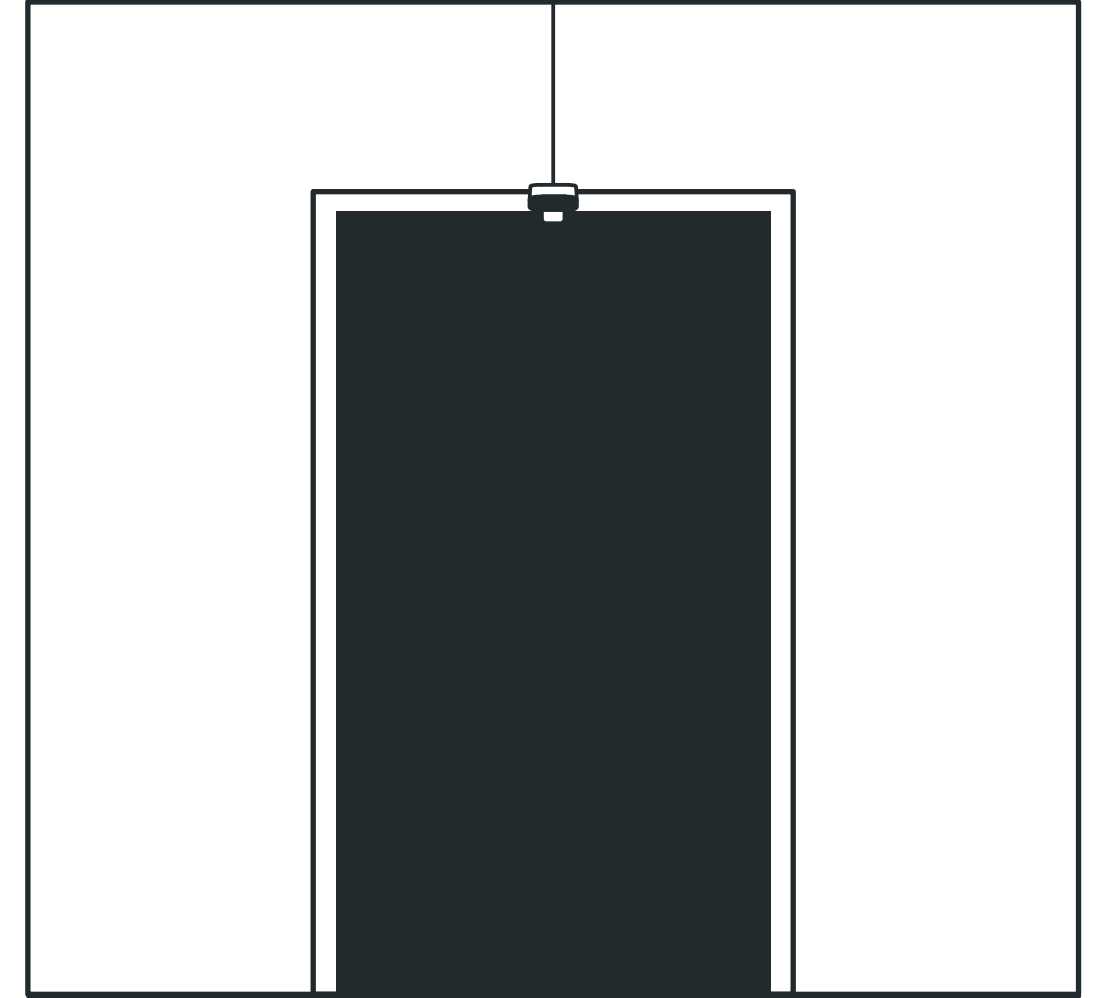
Lock the DPU to the Utility Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation.



Bottom of Frame Mounting

10



Door Frame Mount Kit *(available for order)*

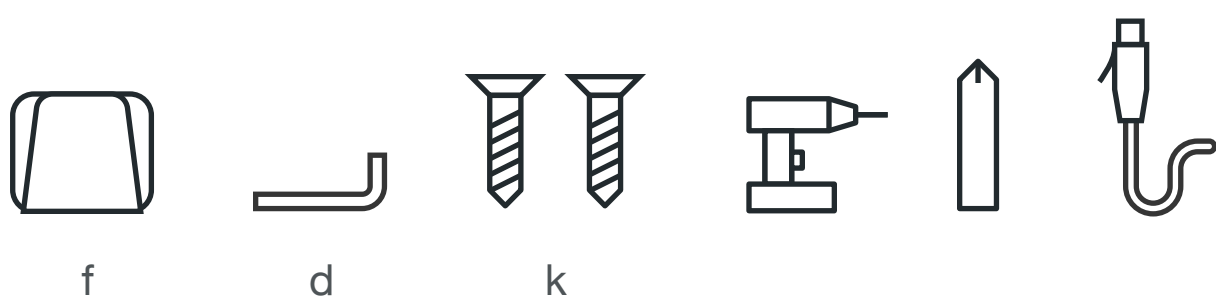
- f. Utility Mount
- d. Hex Key (1.5mm)
- k. 2pcs Self-Drilling Screws, #6 x 1.5in

Materials Not Included in Kit

- Drill
- #2 Phillips Screwdriver Bit
- Ethernet Cable (Cat 5e or later)

Power & Connectivity

All DPUs require power over ethernet and internet connectivity.

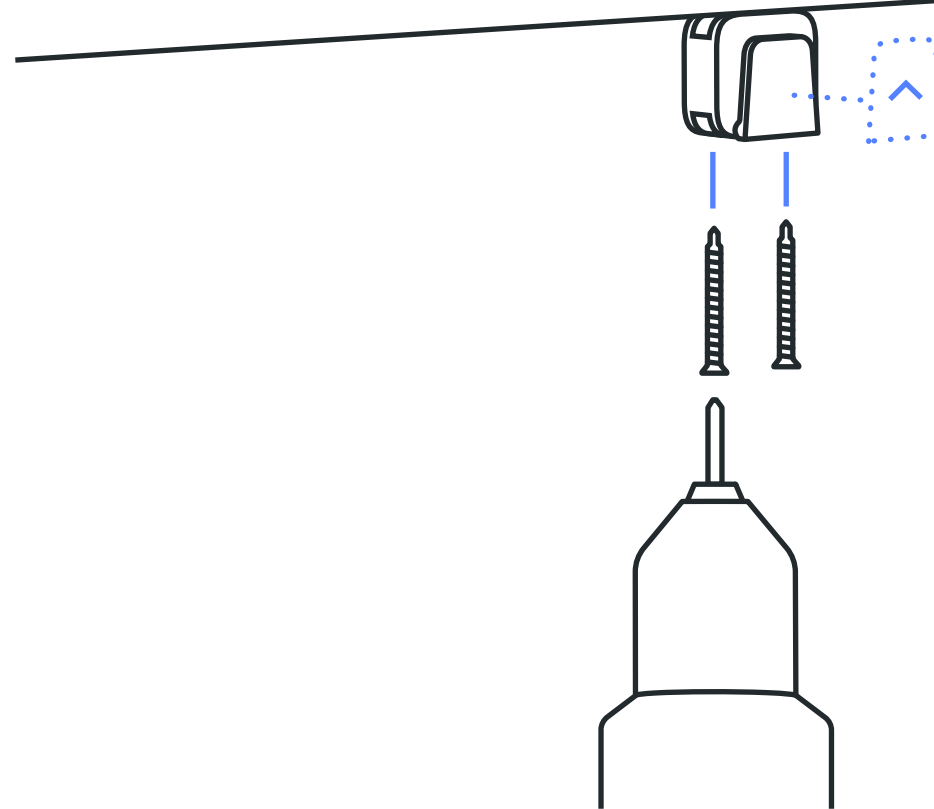


Step 1: Screw In the Door Frame Mount

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

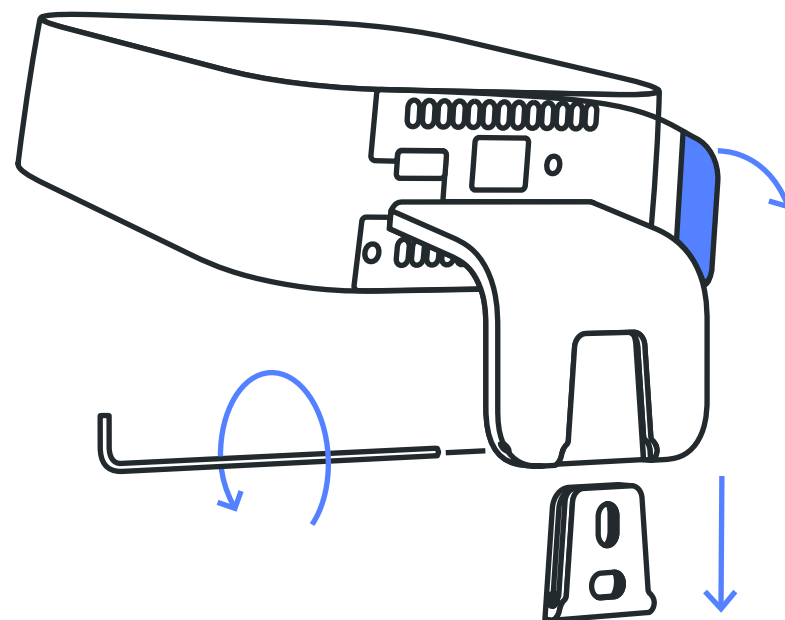
Center the Utility Mount horizontally above the entryway, and 0.27in (0.68cm) away from the front edge of the frame as shown. Use a drill to drive both self-tapping screws through the Utility Mount and into the bottom of the door frame.

Note the orientation of the Door Frame Mount.



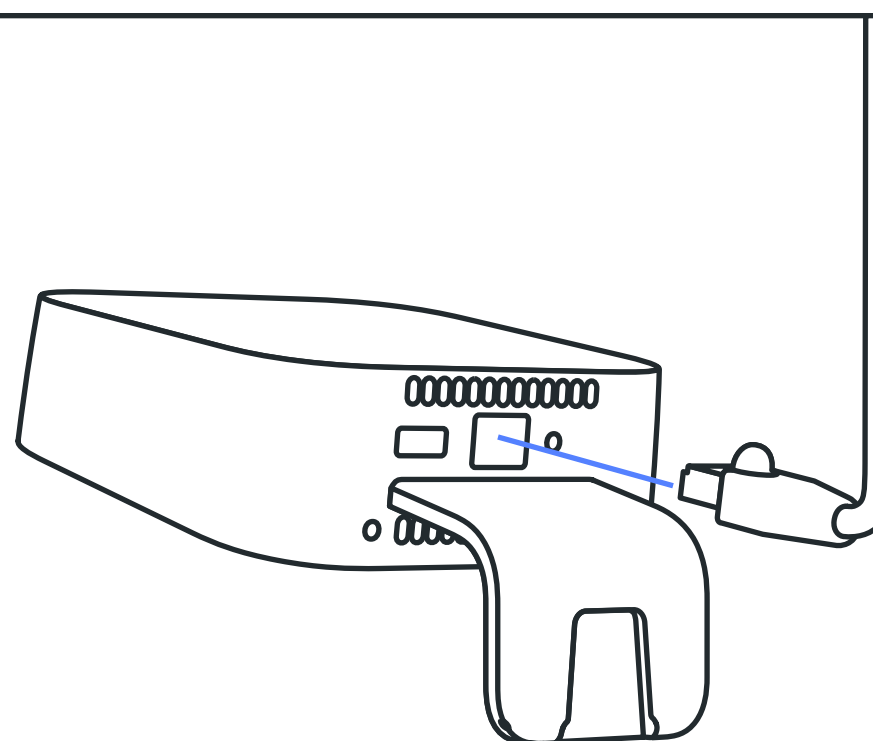
Step 2: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



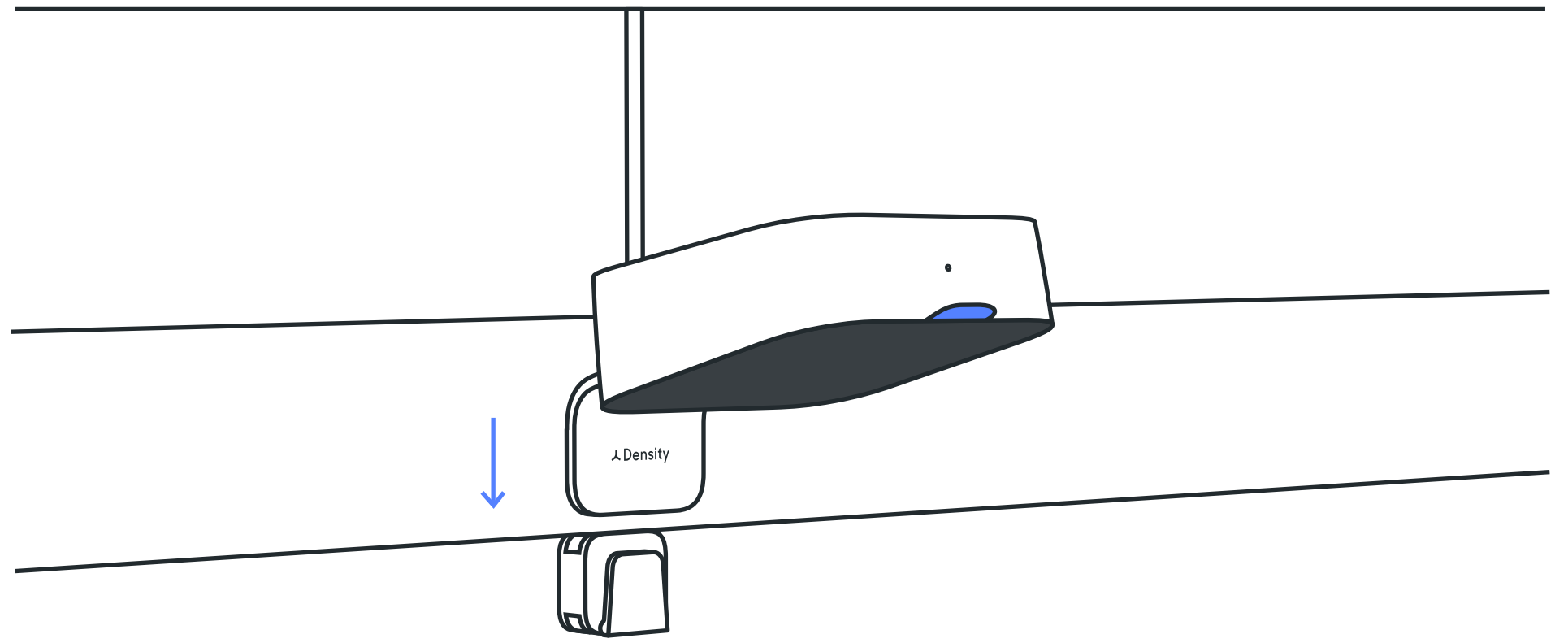
Step 3: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 4: Mount the DPU

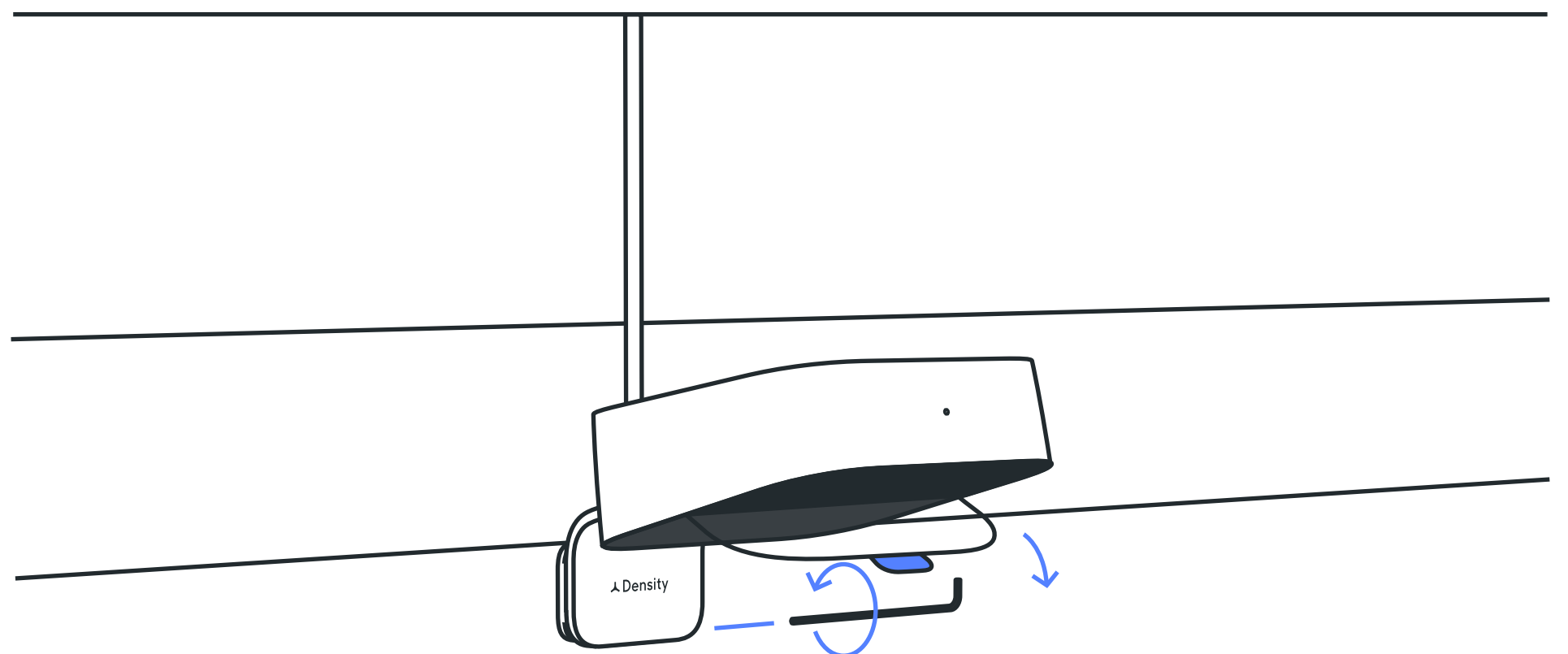
Slide the DPU downward onto the Utility Mount.

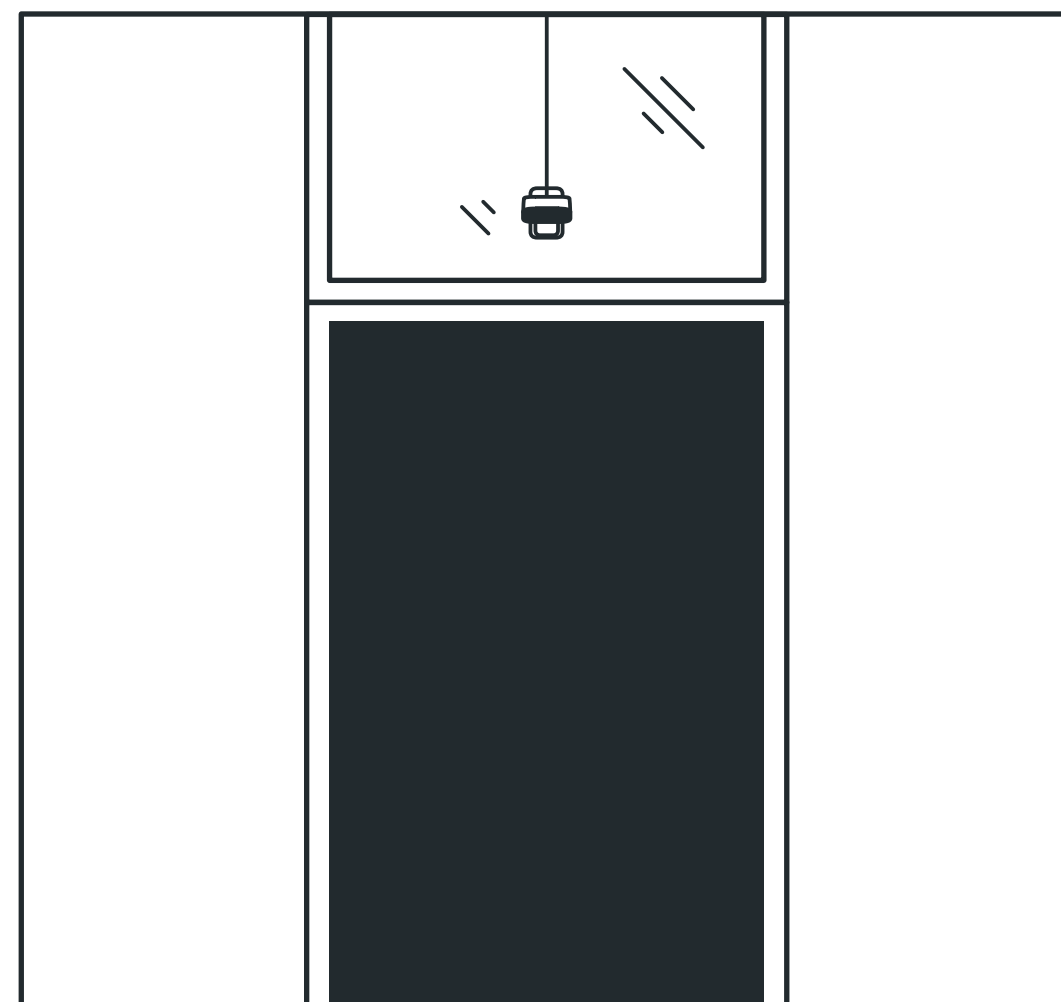


Step 5: Lock DPU and Peel Film

Lock the DPU to the Utility Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation.





Glass/Metal Mount Kit *(available for order)*

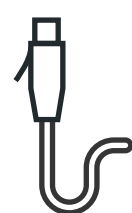
- I. Glass/Metal Adhesive Mount
- d. Hex Key (1.5mm)



I



d



Materials Not Included in Kit

- Hand Roller (optional)
- Lint-Free Towel
- 70:30 Isopropyl Alcohol (IPA)
- Ethernet Cable (Cat 5e or later)

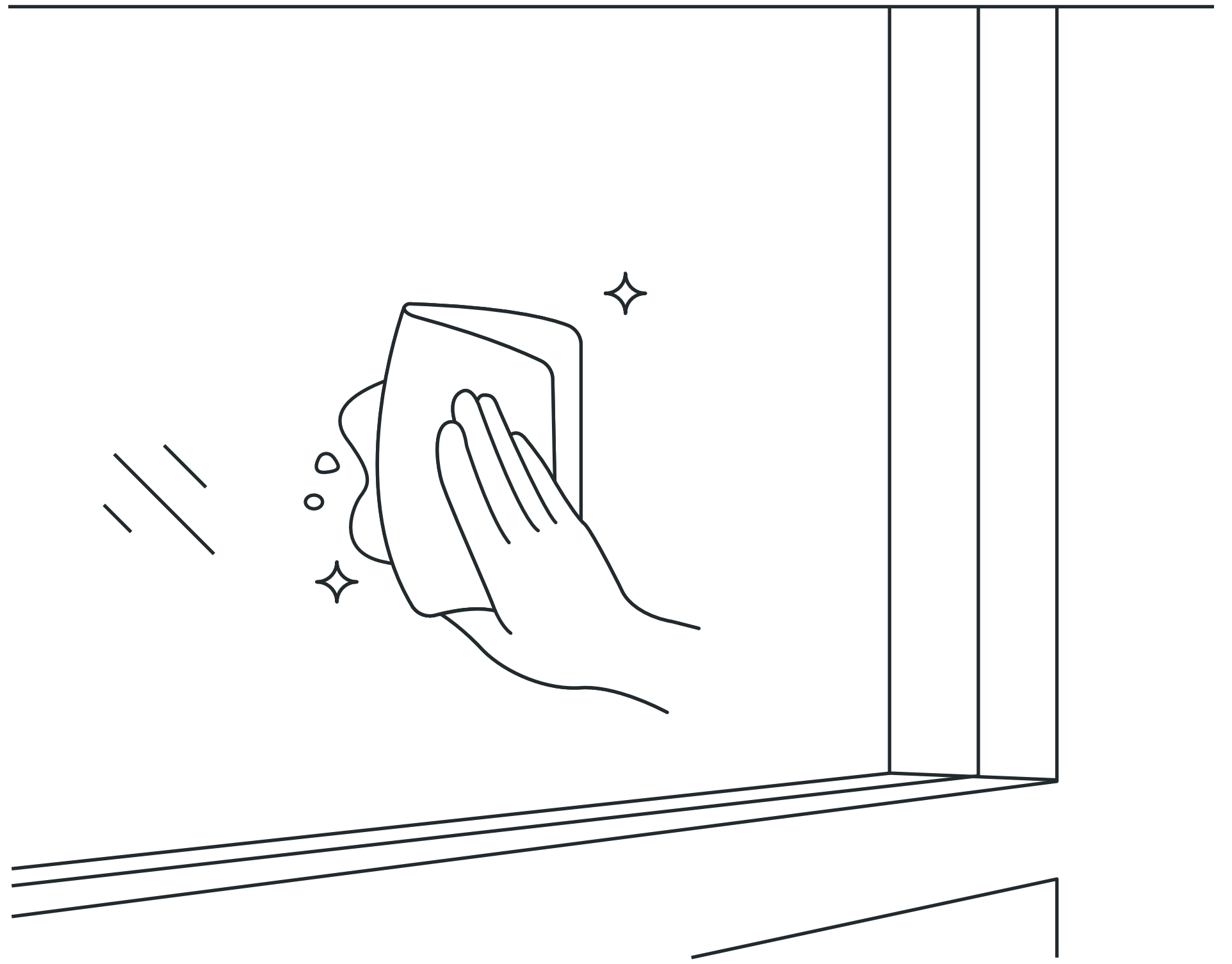
Power & Connectivity

All DPUs require power over ethernet and internet connectivity.

Step 1: Clean The Surface

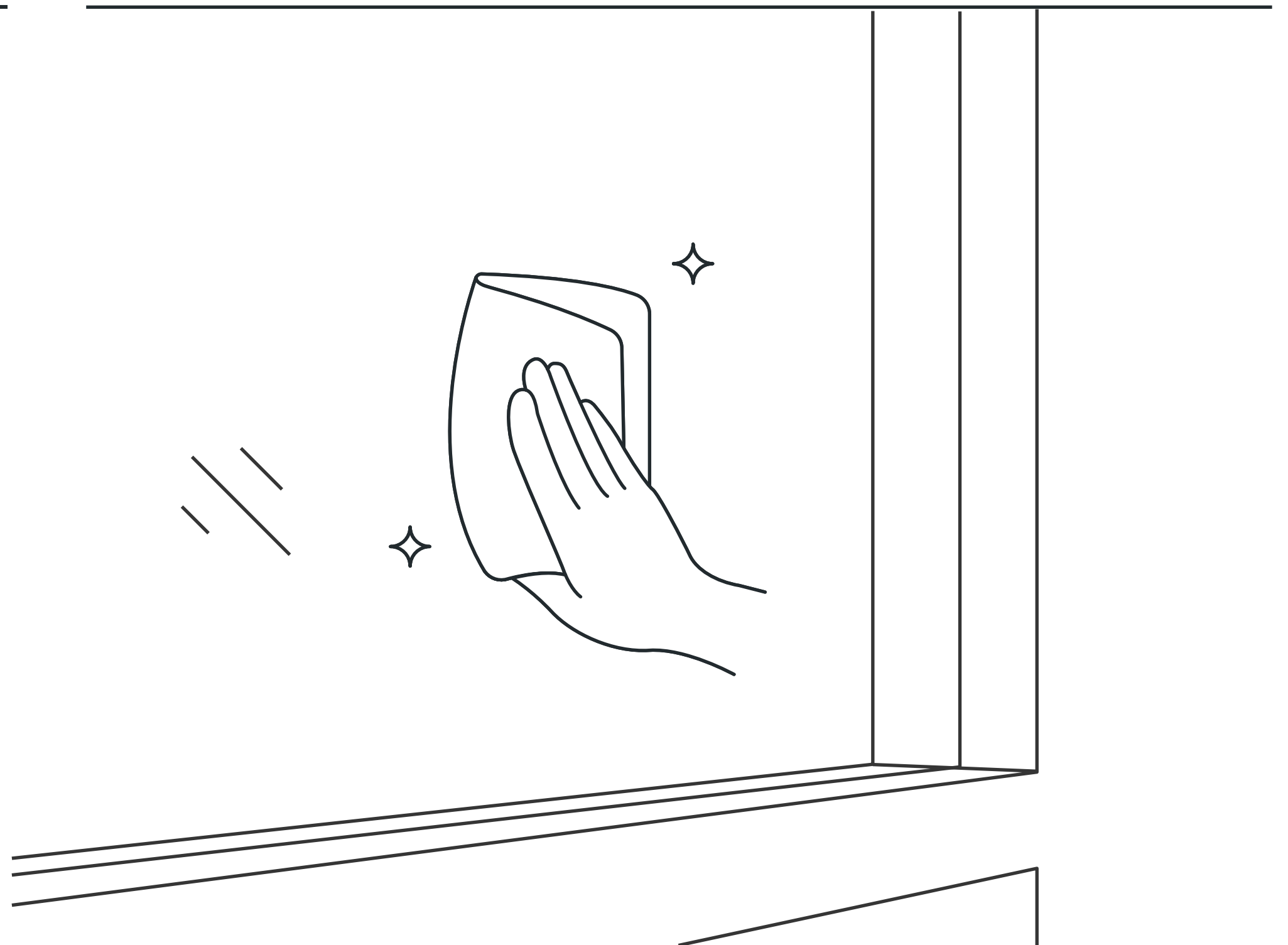
To obtain optimum adhesion, the bonding surfaces must be clean and dry. Wipe the surfaces with a mixture of approximately 70:30 isopropyl alcohol (IPA)/water solution.

Warning: The Glass/Metal Adhesive Mount is designed for use on glass and metal surfaces only. DO NOT USE ON ANY OTHER SURFACE TYPES.



Step 2: Dry The Surface

Wipe the surface dry with a clean lint free microfiber towel or cloth.



Step 3: Attach to Wall Surface

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.

Use a hand roller to apply very firm pressure across all front surfaces (indicated with grey shading in illustration) of the Glass/Metal Adhesive Mount for at least 15 seconds.

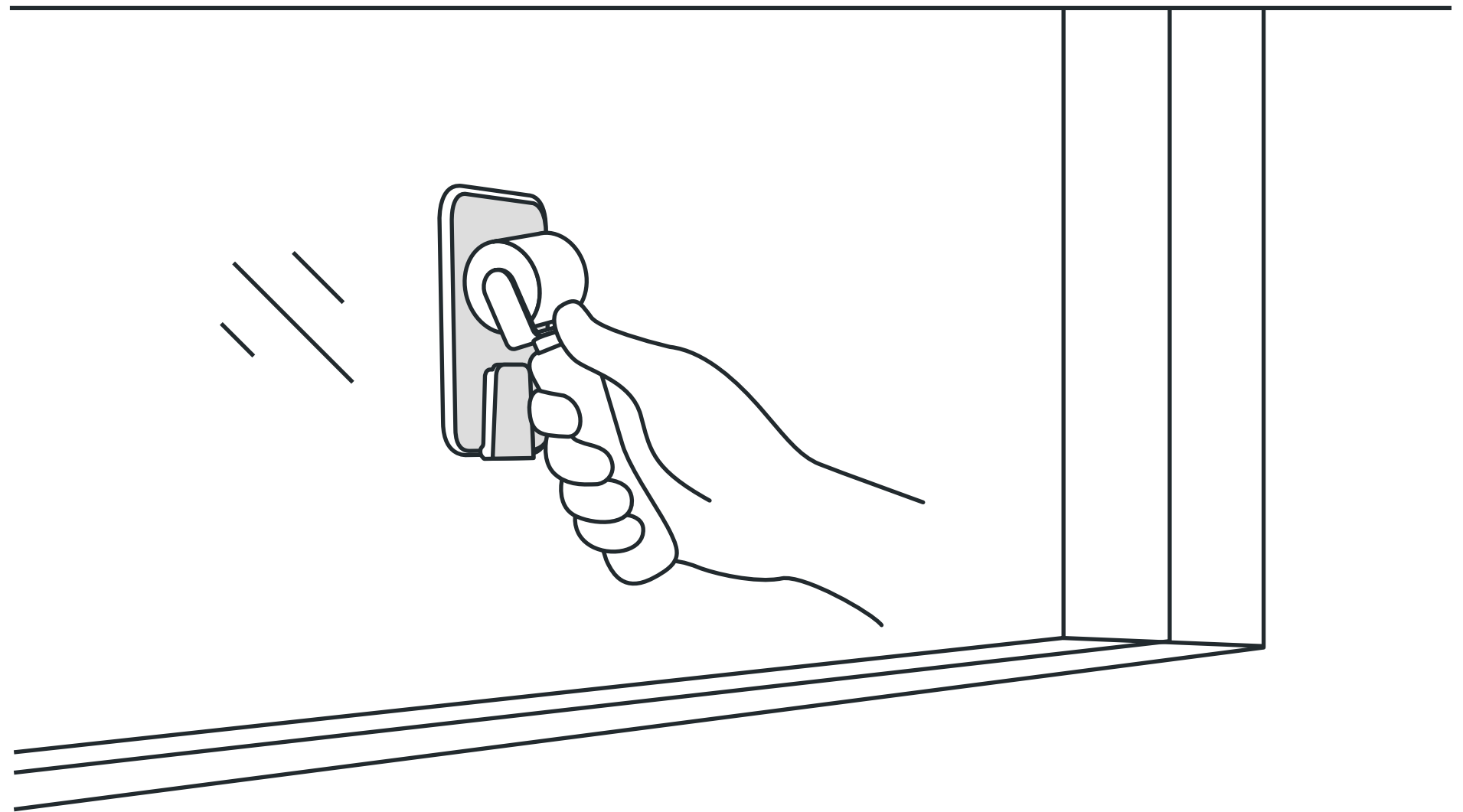
Use of roller is recommended to ensure proper adhesive bonding and to prevent risk of device falling.

Roller Source:

McMaster-Carr

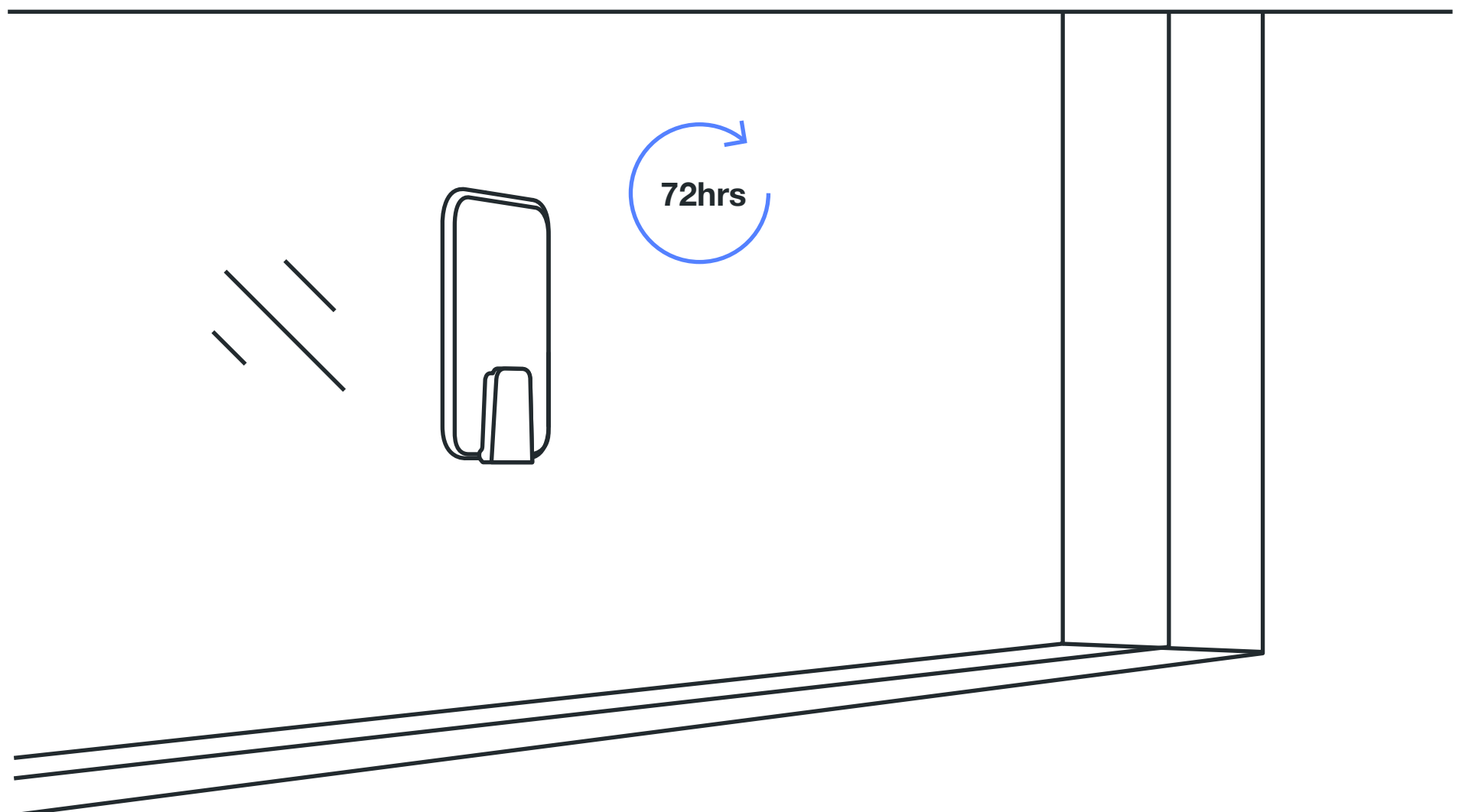
Part Number - 62395T69

www.mcmaster.com



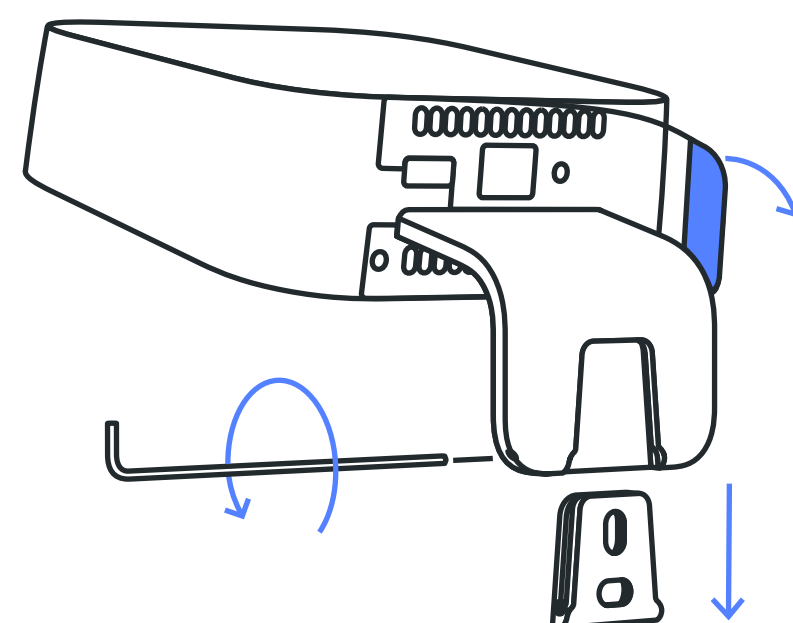
Step 4: Wait For The Adhesive To Set

Before mounting the DPU, the adhesive on the Glass/Metal Adhesive Mount must cure at room temperature for at least 24 hours to achieve 90% strength. We recommend waiting 72hrs to achieve 100% strength.



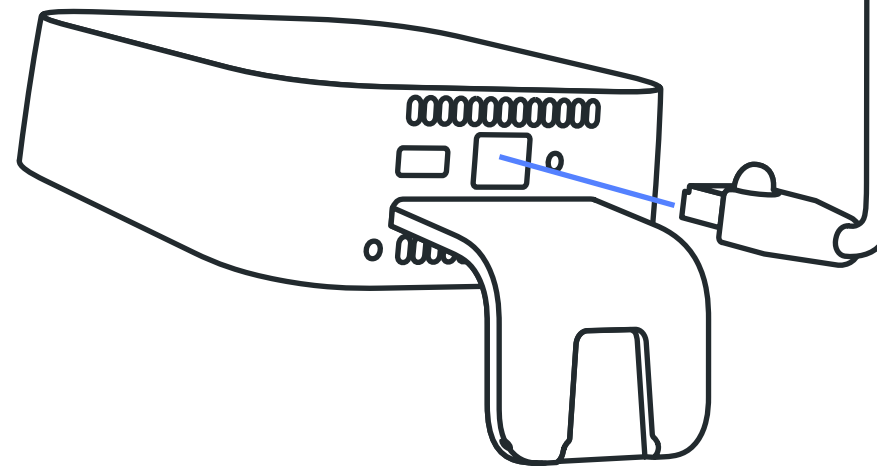
Step 5: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



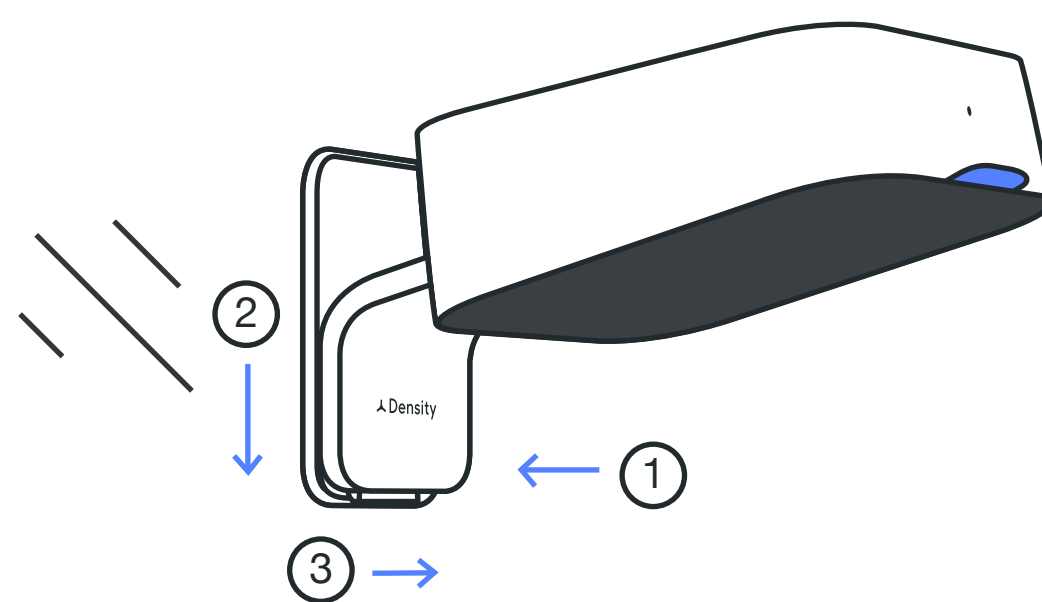
Step 6: Power Up The DPU

Plug in the ethernet cable. The DPU will automatically power up and the LED indicator on the front of the unit will turn white.



Step 7: Mount The DPU

To mount, align the bottom of the DPU approximately 1/8in (0.3cm) above the bottom edge of the Glass/Metal Adhesive Mount. Move the DPU directly towards the glass/metal wall so that the DPU and Glass/Metal Adhesive Mount are overlapping. Slide the DPU downward, then all the way over to the right.

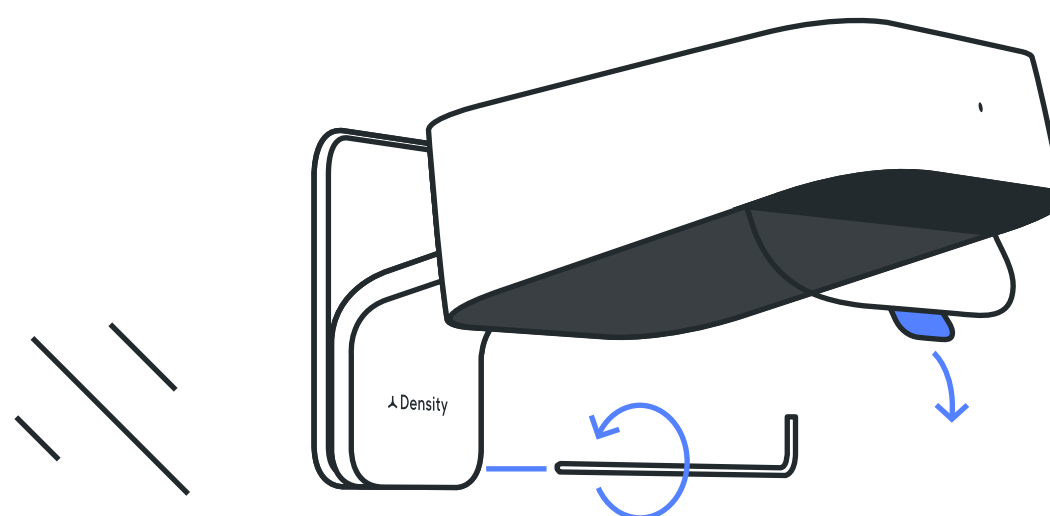


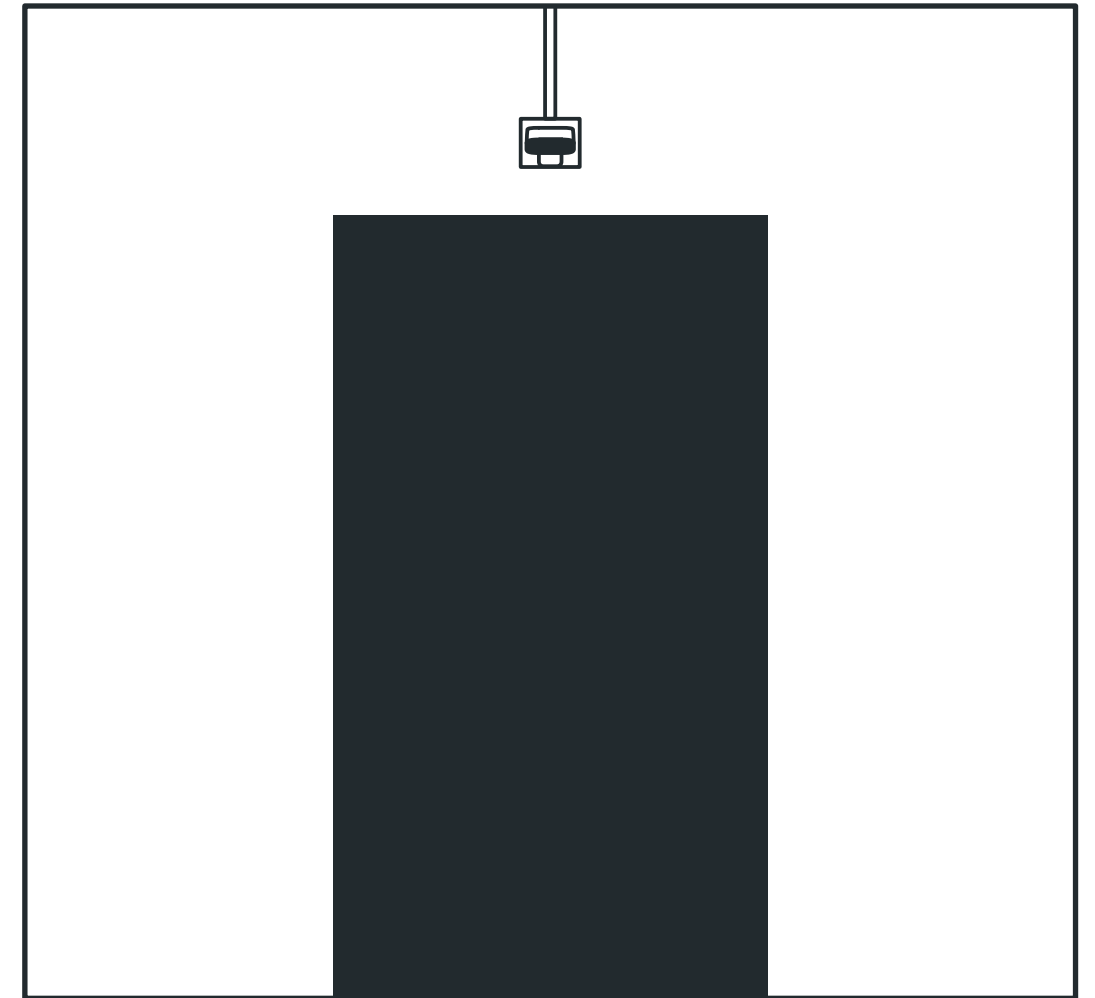
Step 8: Lock DPU and Peel Film

Lock the DPU to the Glass/Metal Adhesive Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Warning: When using the Glass/Metal Adhesive Mount, the set screw MUST be tightened all the way to ensure the unit does not fall off the wall.

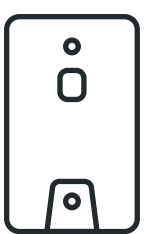
Make sure the black sensor window remains free of dust and smudges during operation.





Junction Box Mount Kit *(available for order)*

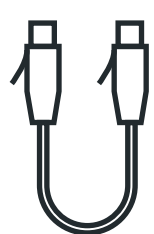
- m. Junction Box Mount
- n. 2pcs Steel Slotted Oval Head Screws
- o. 6in (15.2cm) Cat 6 Flat Ethernet Cable
- p. RJ45 Female to Female Keystone Coupler
- q. RJ45 Punch-Down Keystone Jack
- d. Hex Key (1.5mm)



m



n



o



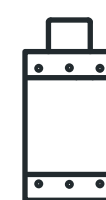
p



q



d



Materials Not Included in Kit

- Ethernet Cable (Cat 5e or later)
- Flathead Screw Driver or Bit
- Junction/Outlet Box

Power & Connectivity

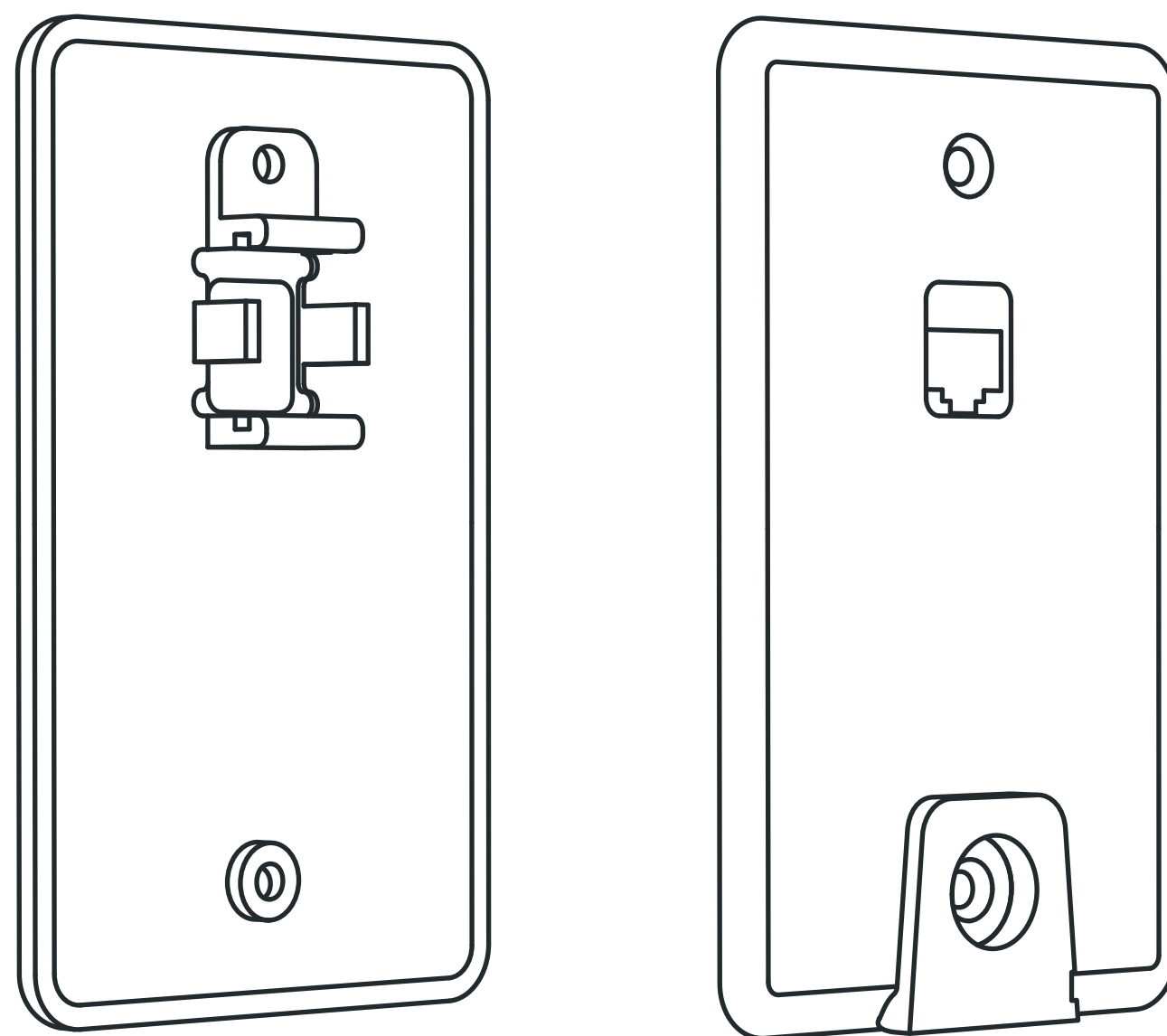
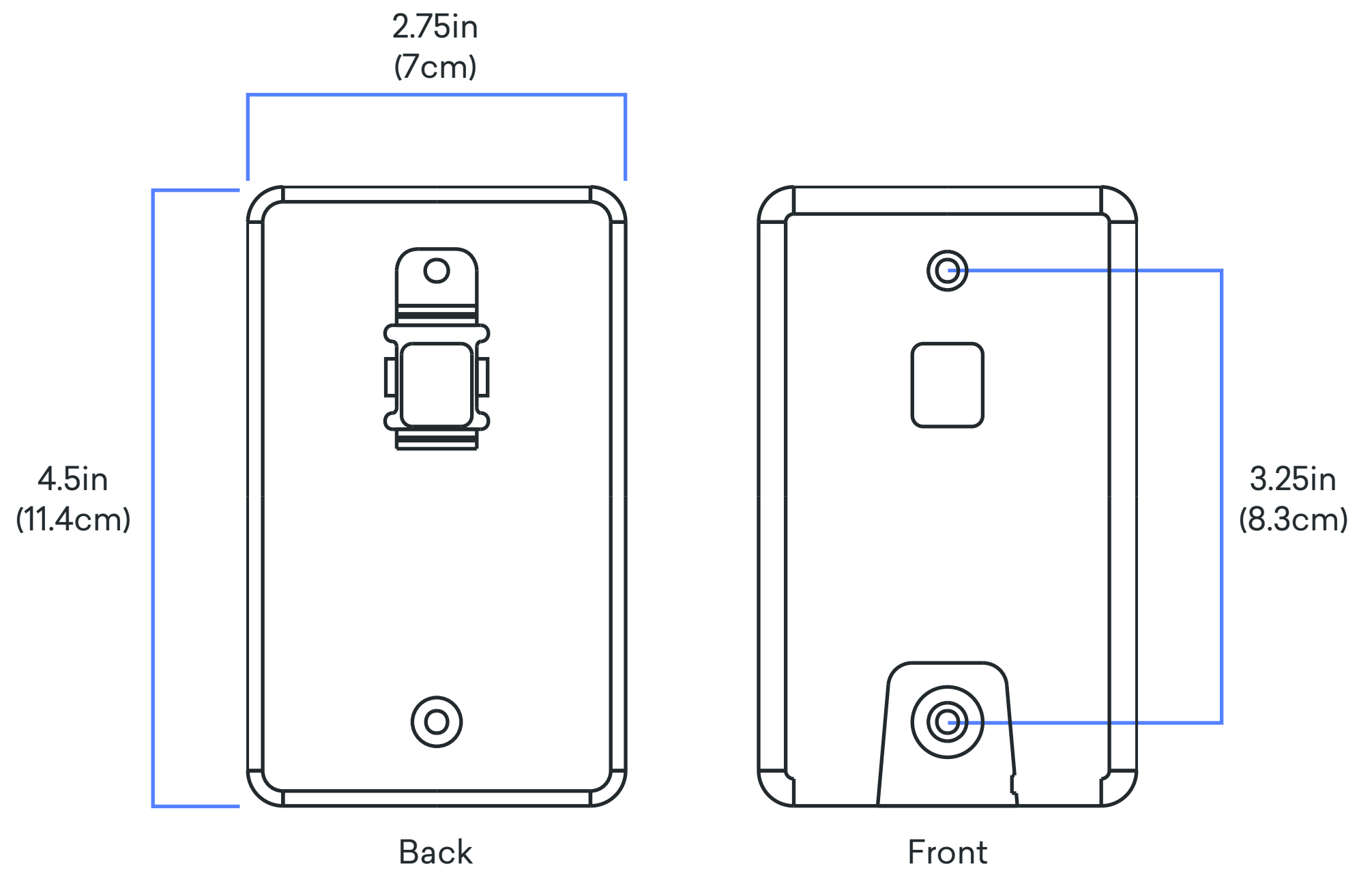
All DPUs require power over ethernet and internet connectivity.

Junction Box Mount Specs

The Junction Box Mount has a hole spacing of 3.25in (8.3cm) that aligns with most standard single gang junction/outlet boxes.

Confirm hole spacing is compatible with whatever junction/outlet box you are using.

Before installing, refer to and follow the supported mounting height and clearance requirements in section 3.



Step 1: Connect Cable and Keystone

Snap the provided RJ45 Punch-Down Keystone Jack (Figure 1) or RJ45 Female to Female Keystone Coupler (Figure 2) into the Junction Box Mount. Attach the Cat 5e or greater ethernet cable (coming from the data/power source) into the RJ45 Keystone.

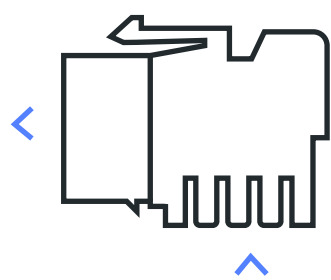


Figure 1

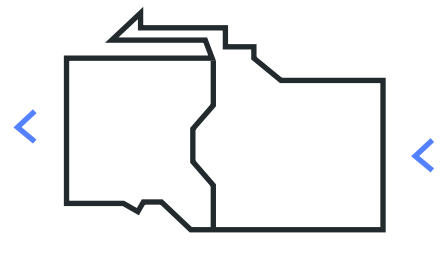
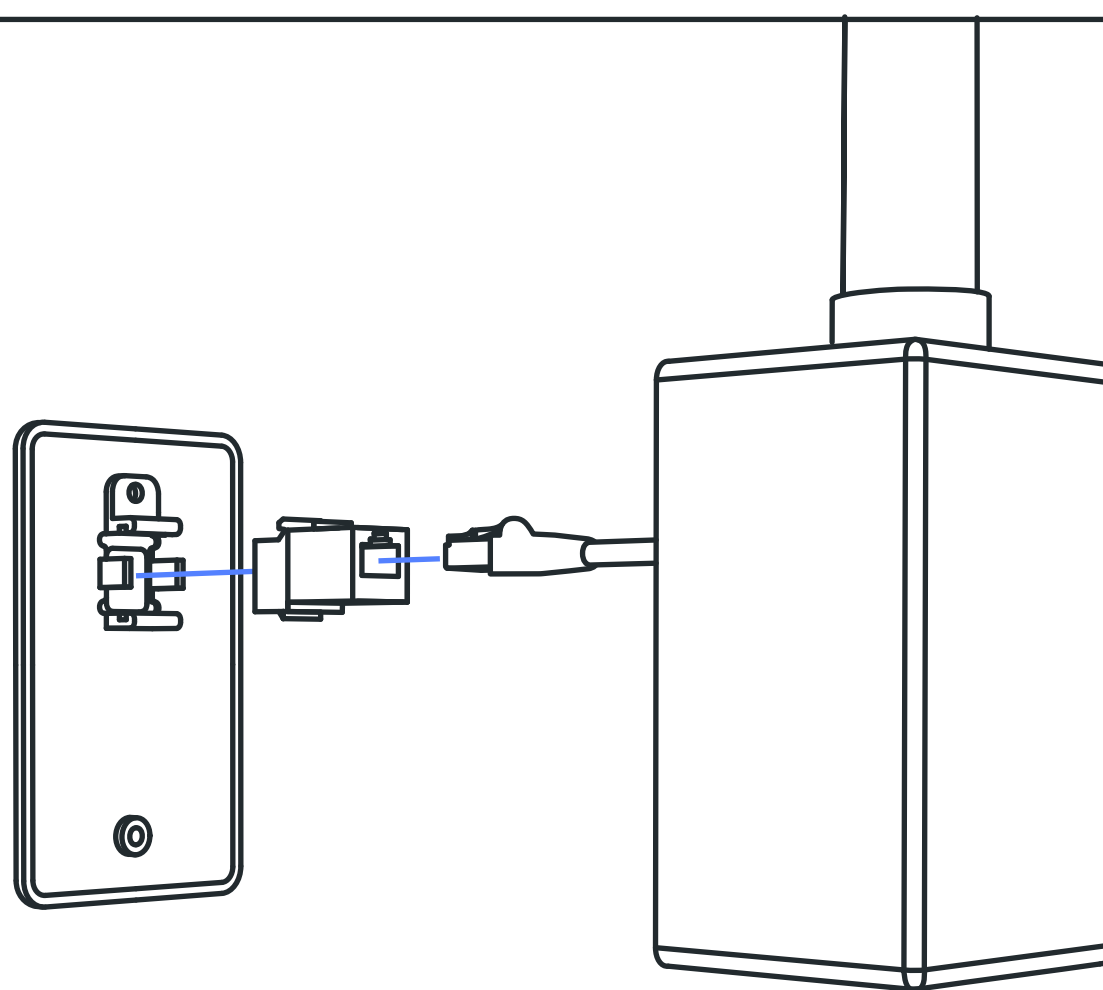
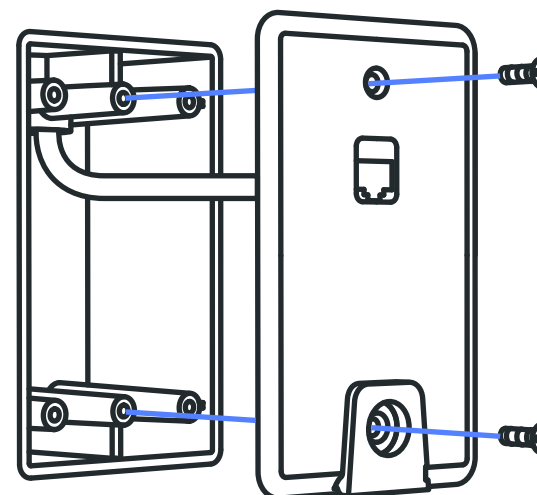


Figure 2



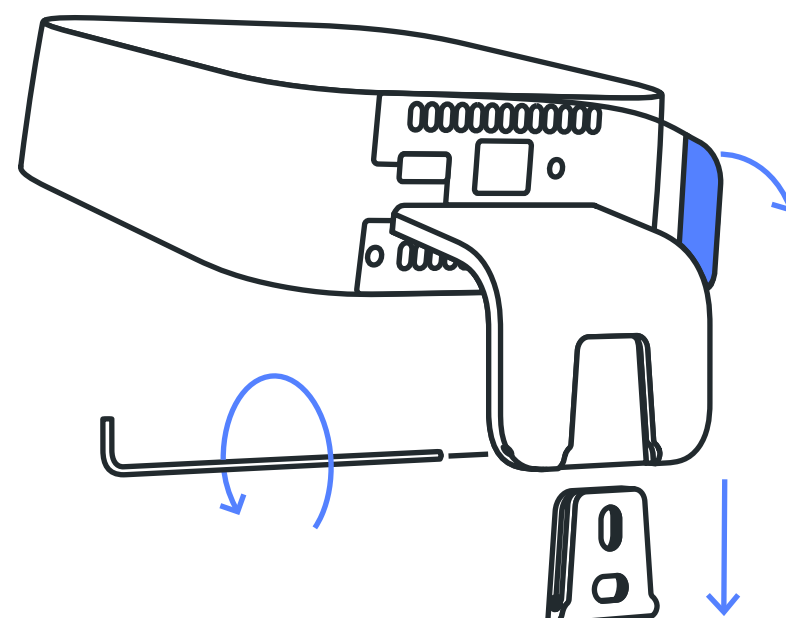
Step 2: Attach the Junction Box Mount

Use the two provided Slotted Oval Head Screws and attach the Junction Box Mount to the junction/outlet box.



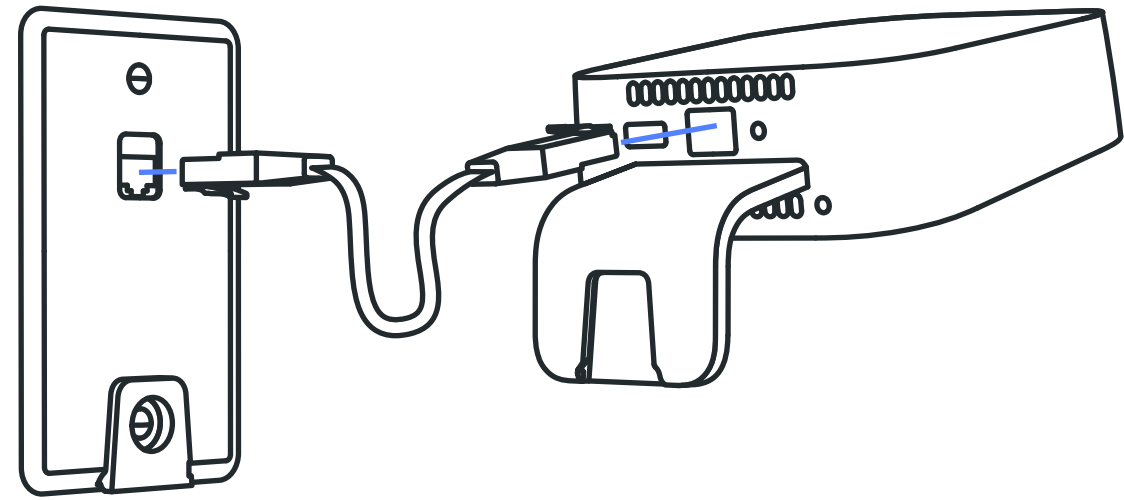
Step 3: Prepare The DPU

Remove the protective film on the back of the DPU. Use the provided hex key to release the Wall Bracket from the DPU.



Step 4: Power up the DPU

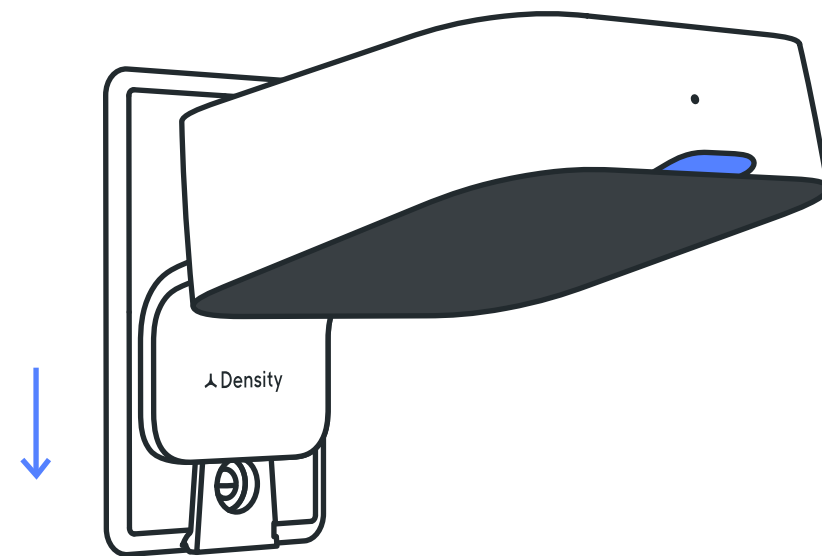
Plug one end of the provided 6in Cat 6 Flat Ethernet Cable into the RJ45 Keystone in the Junction Box Mount. Plug the other end of the Ethernet Cable into the RJ45 jack on the DPU. The DPU will automatically power up and the LED indicator on the front of the DPU will turn white.



Step 5: Mount the DPU

Slide the DPU downward onto the Junction Box Mount.

Do not paint the Junction Box Mount. The tolerances between the DPU and Junction Box Mount do not account for any paint build up.



Step 6: Lock DPU and Peel Film

Lock the DPU to the Junction Box Mount with the provided hex key by twisting the set screw all the way in. Remove the protective film on the black window.

Make sure the black sensor window remains free of dust and smudges during operation.

