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INSTALLATION GUIDE

# Salto Orion



**SALTO WECOSYSTEM**

# Contents

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AT INITIAL SITE SURVEY AND INSTALLATION

# Considerations

### Passing Pedestrians

Pedestrians passing too close to an Orion Camera may initiate the recognition sequence. There are situations where this may be unavoidable, for example, busy corridors. However, in such cases, it may be advantageous to slightly adjust the dimension at which the sensor is triggered, requiring users to stand slightly closer to the camera. This can help reduce unnecessary load upon the network.
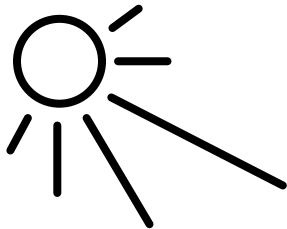
### Lighting Conditions

Camera positions must be carefully considered at pre-installation survey prior to fitting Orion Cameras outdoors or in indoor locations that are subject to bright sunlight or very bright artificial lighting. Ensure that cameras are positioned such that users will never have bright or direct light behind them. Consider how lighting conditions may vary through the day and throughout the year; for example, the sun position will change significantly from summer to winter. The Orion Camera requires a minimum lighting level of 10 Lux in the vertical plane, 600mm from the Orion Camera. In low lighting conditions, (e.g. outdoors at night) lighting should evenly illuminate the user's face.
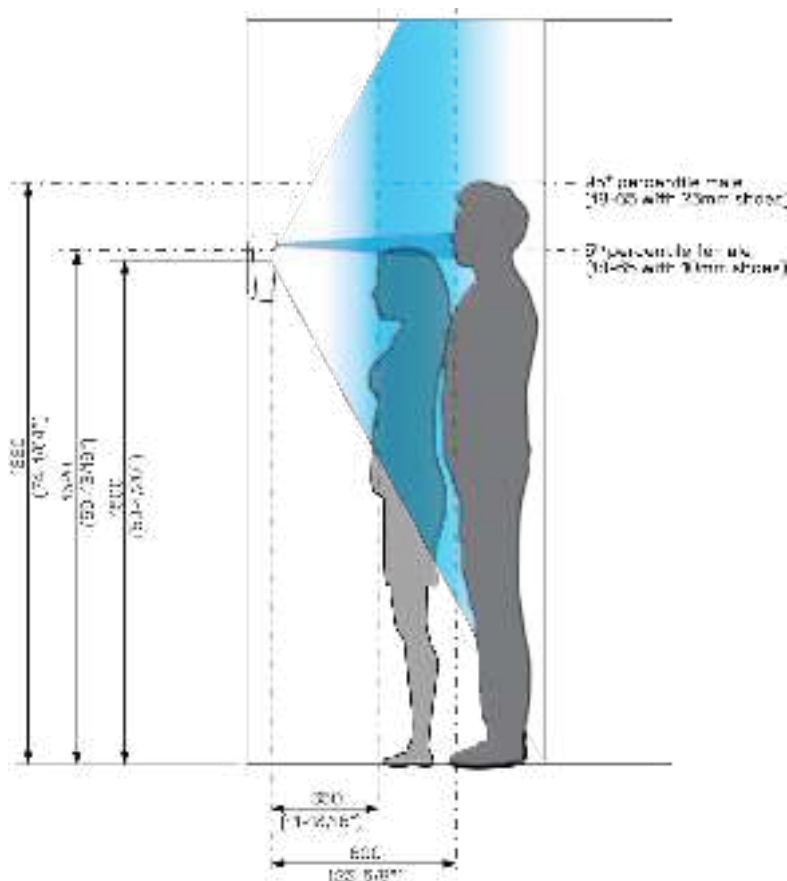
### Passing Vehicles

Vehicles passing too close to the Orion camera may initiate the recognition sequence. In a situation such as a busy road this could cause unnecessary load upon the network. Cameras should be positioned such that there is a minimum of 2m between the Orion Camera and any adjacent roadway.
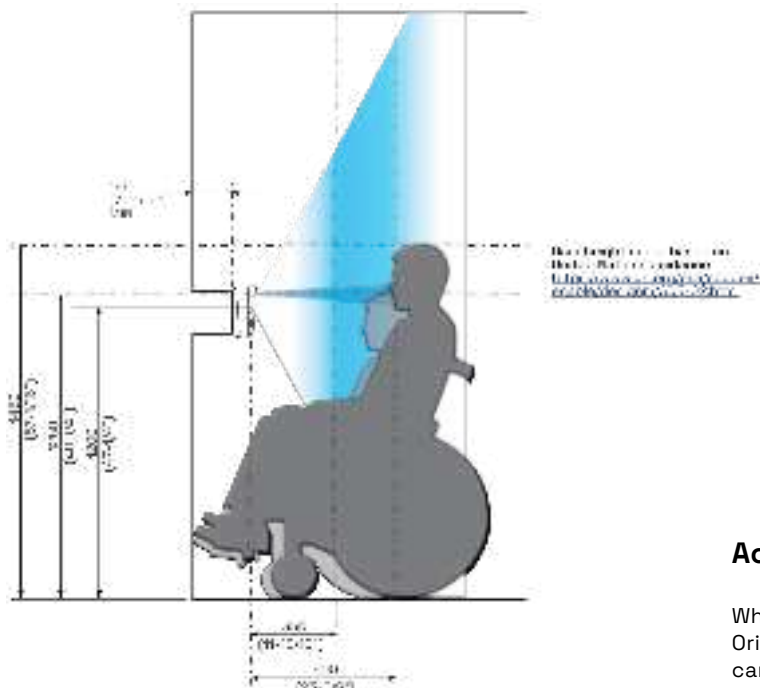
# Considerations



## Positioning

It is important to position the Orion Camera at the specified height. The camera is designed to operate optimally for a user population from 5th %ile adult females, to 95th %ile adult males and at a range from approximately 300mm to approximately 600mm.
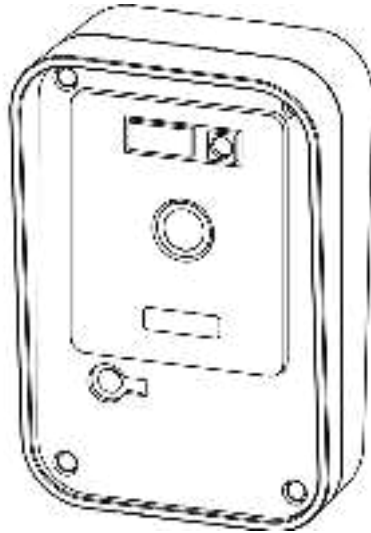


## Accommodating Disabilities

Where an access point is wheelchair accessible, the Orion Camera will need to be set slightly lower, or two cameras should be fitted.
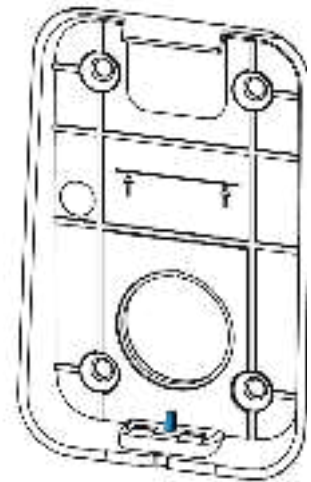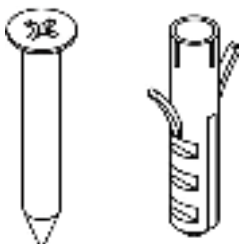
# What's in the box?
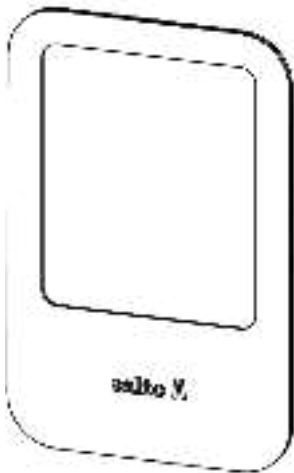
**Orion C
Face Plate**

**Orion C
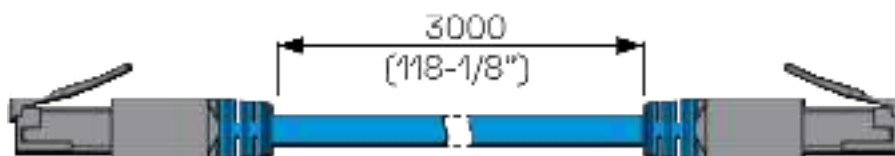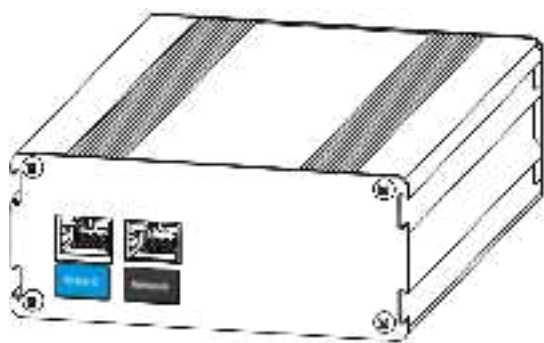Camera**

**Orion C
Wall Mount**

(X4)          (X4)
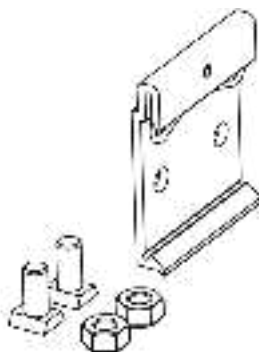
**Bung**

3000
(118-1/8")

**Orion C 3 meter Cat6 shielded cable**
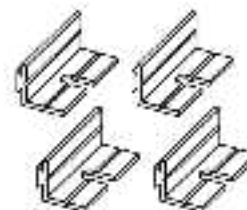
# What's in the box?

**Orion CU
(Control Unit)**

**Orion CU
(Control Unit)
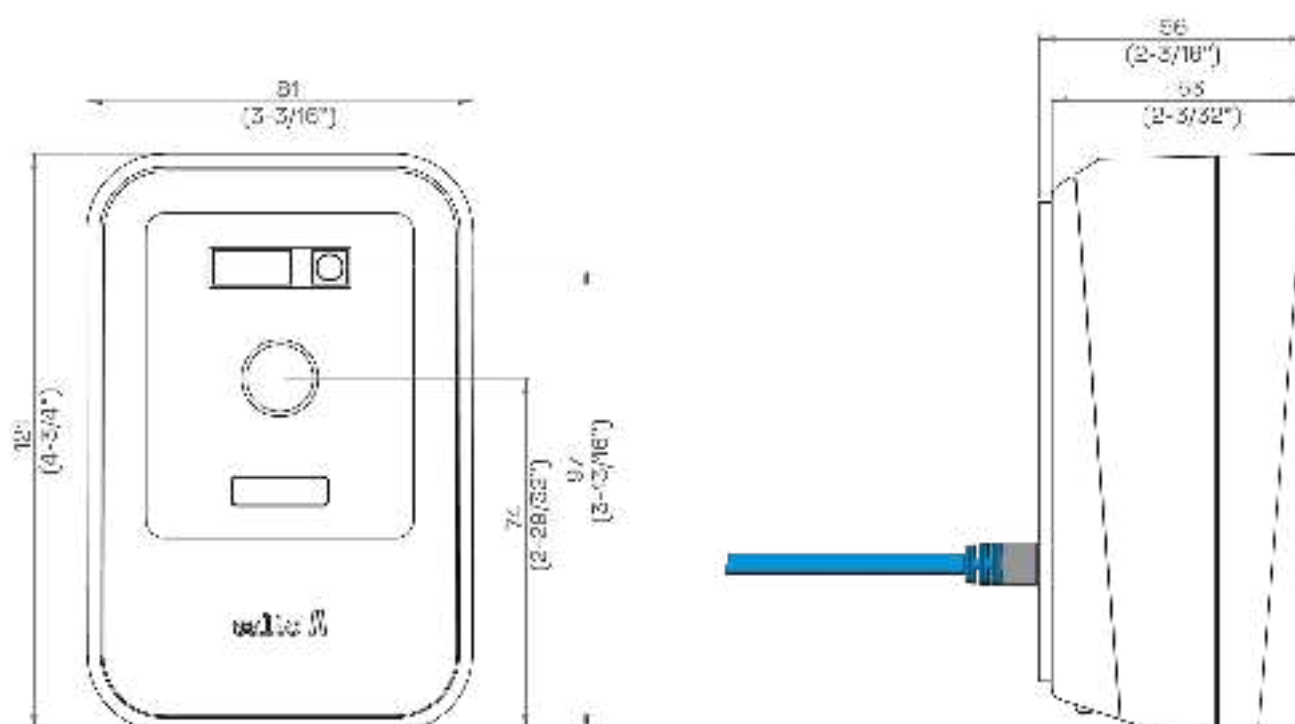DIN mount**

**Orion CU
(Control Unit)
Fixing plates**

(X4)          (X4)

# Orion
# Camera
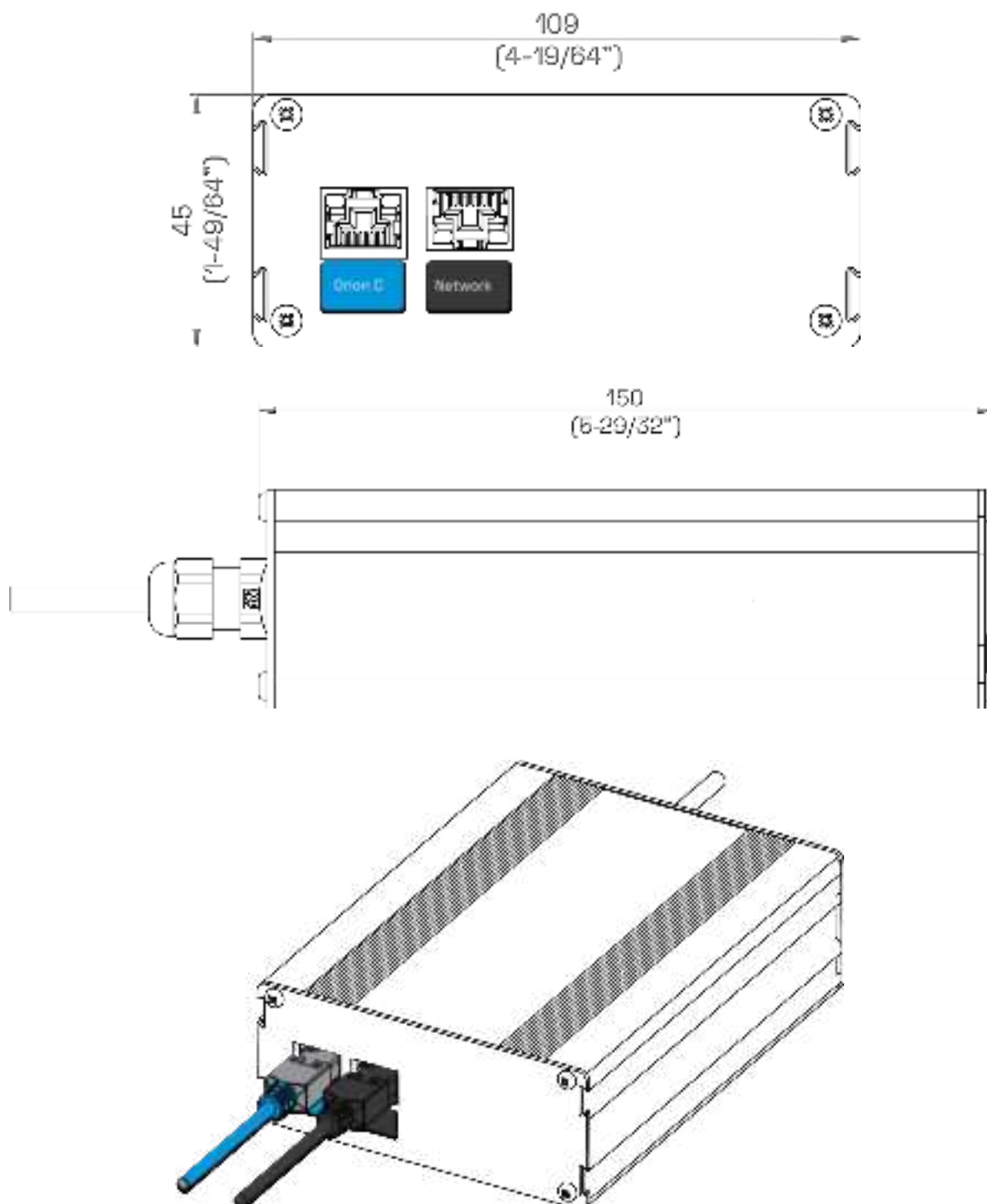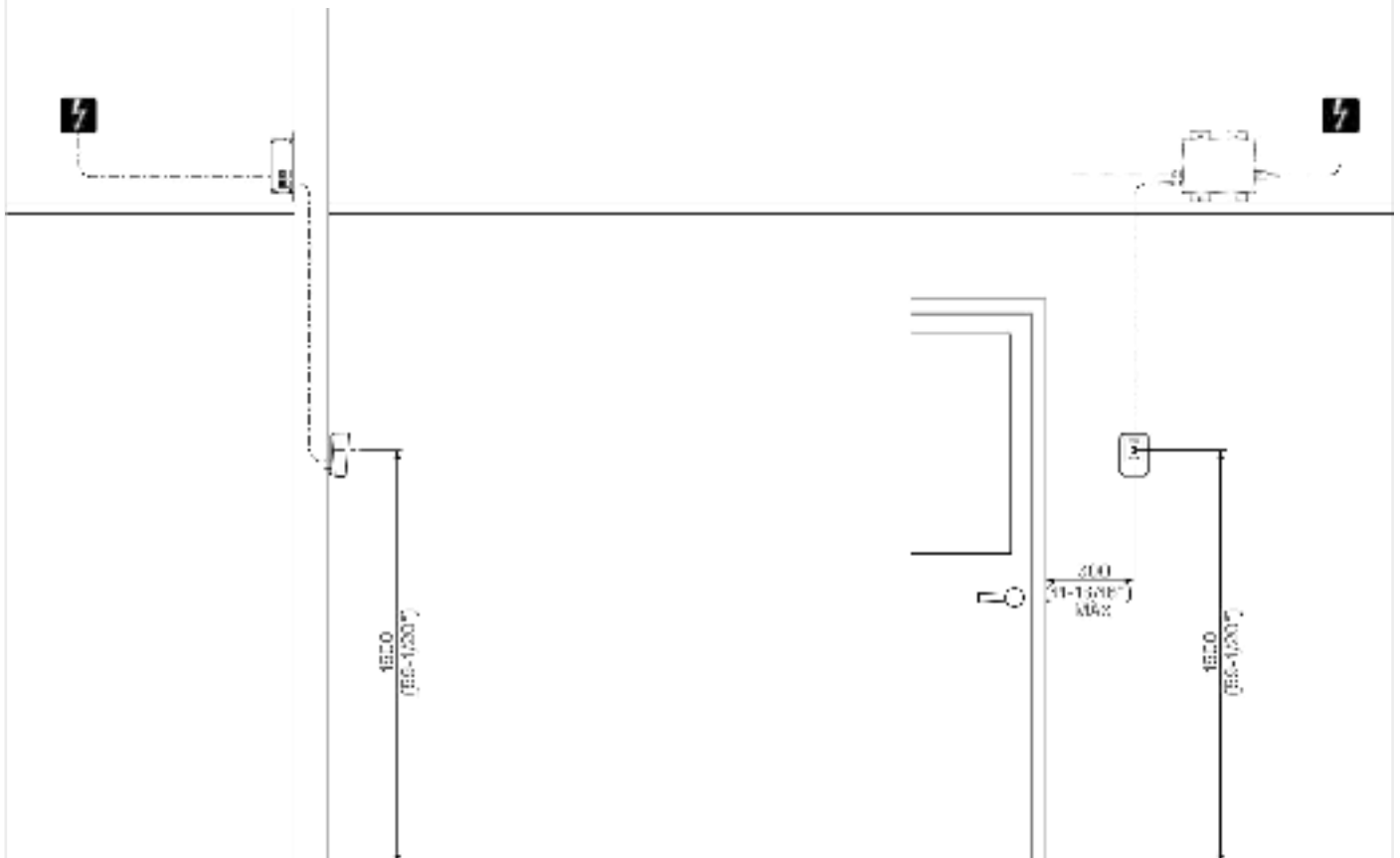
# Orion
# Control Unit

# Placement

Installation of a Control Unit above a ceiling behind the locked door (not in the corridor or space outside the locked door), using the provided Orion C 3 metre-long cable.

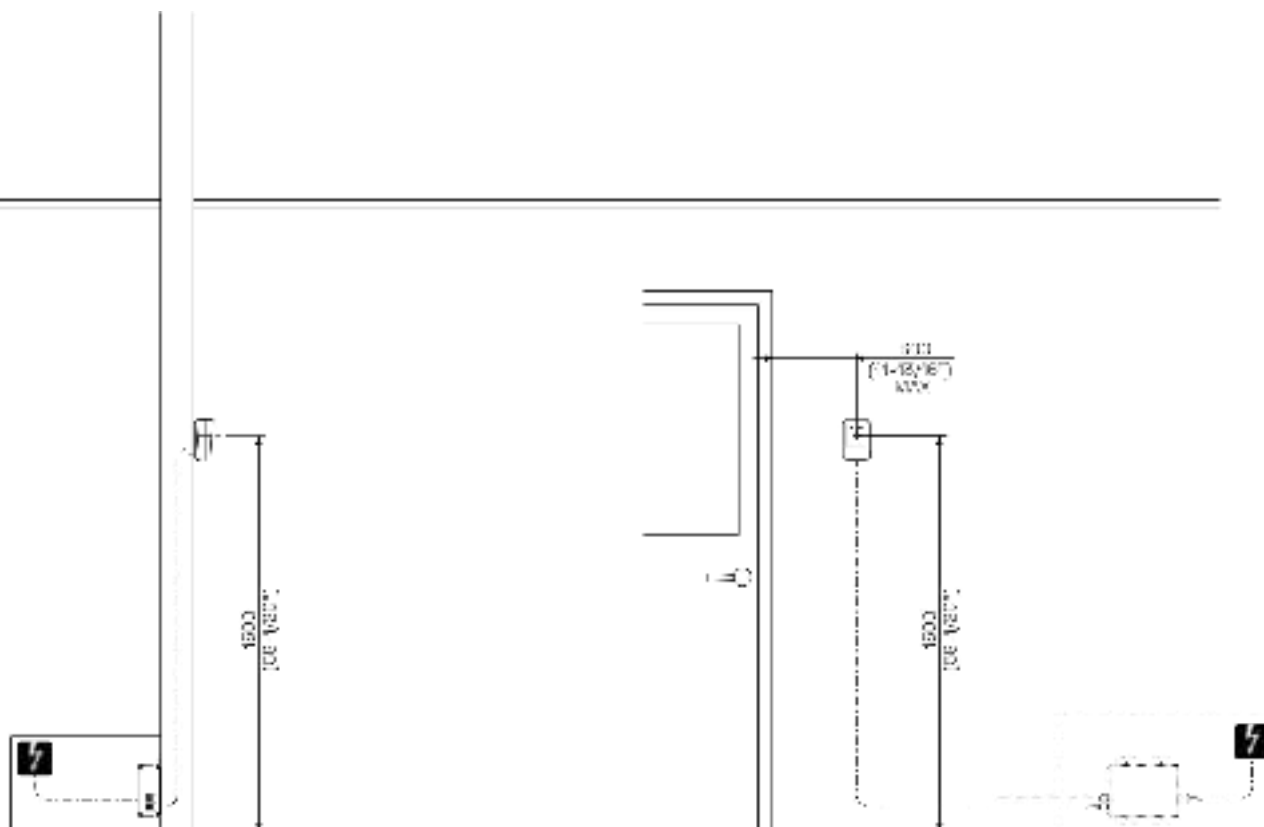# Placement

Installation of a Control Unit in a cabinet behind the locked
door (not in the corridor or space outside the locked
door), using the provided Orion C 3 metre-long cable.

# 01
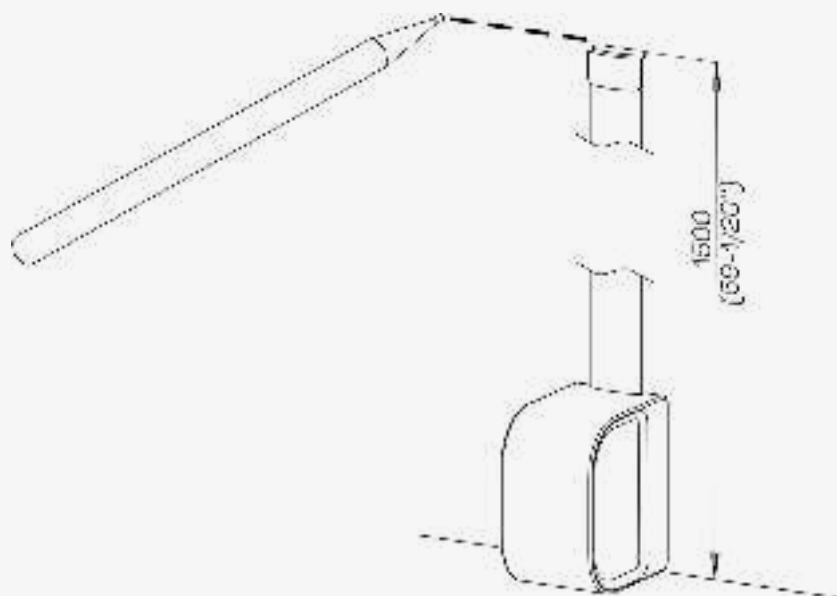
Mark a line 1500mm
from the floor.

# 02

Using the window, position the Camera Wall Mount at the correct height and mark the hole centres.

Ensure the wall mount is positioned horizontally using a spirit level.

**03**

Drill 4 holes for the mount points and the access hole for the RJ45 cable.

**04**
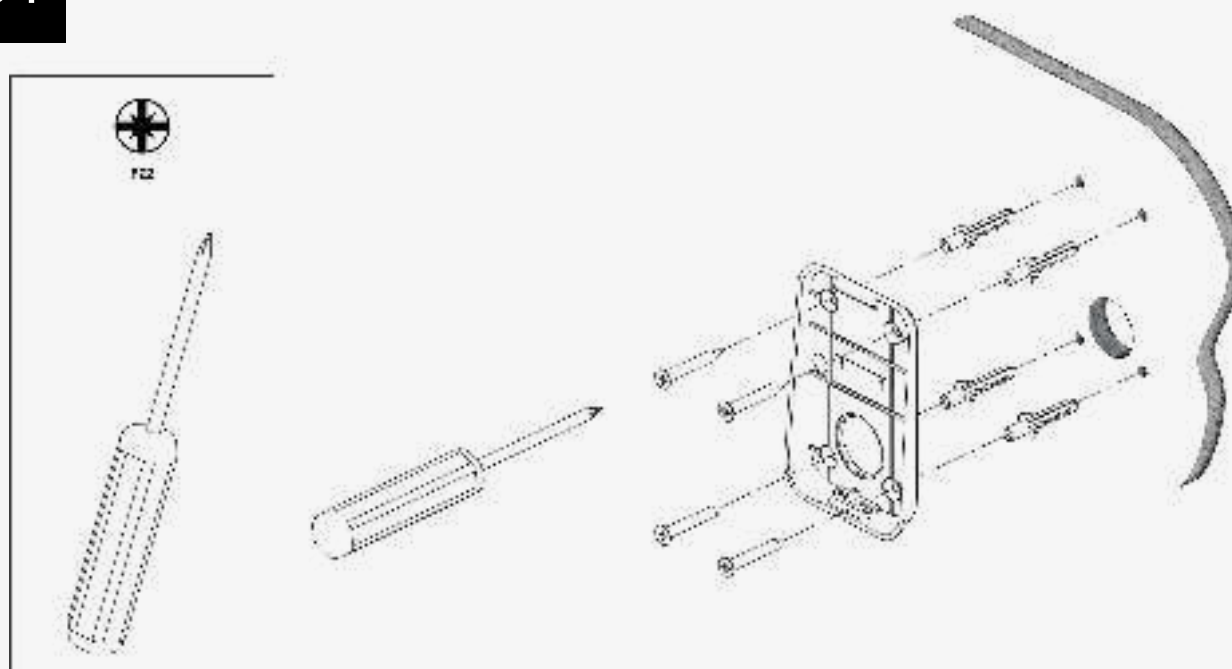
Mount the Orion C Wall Mount using the wall Plugs and Screws.

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## 05

INSTALLATION

T8H
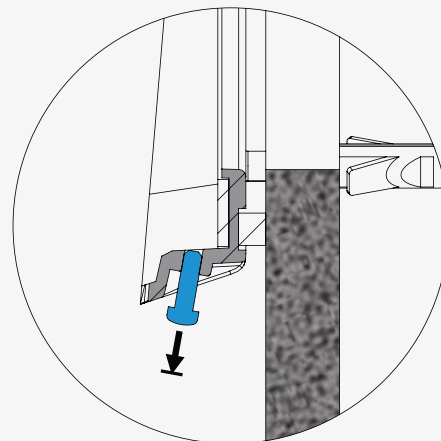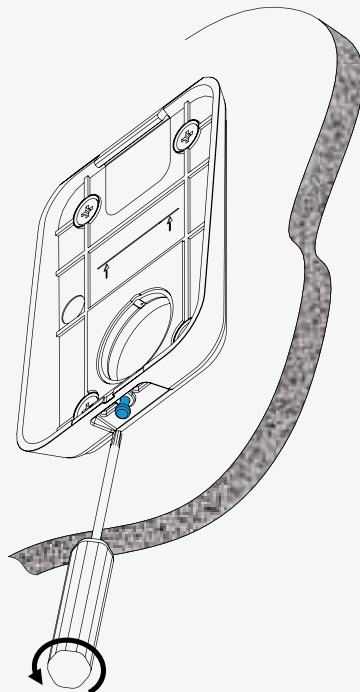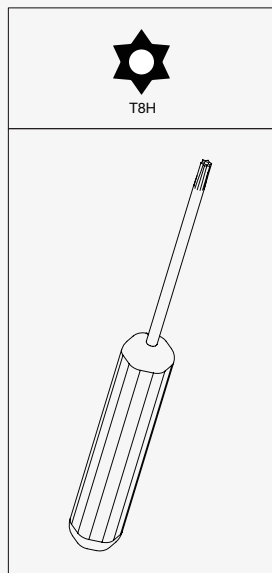
Using a T8H security screwdriver, gently loosen the security screw until it is clear of the inside wall.
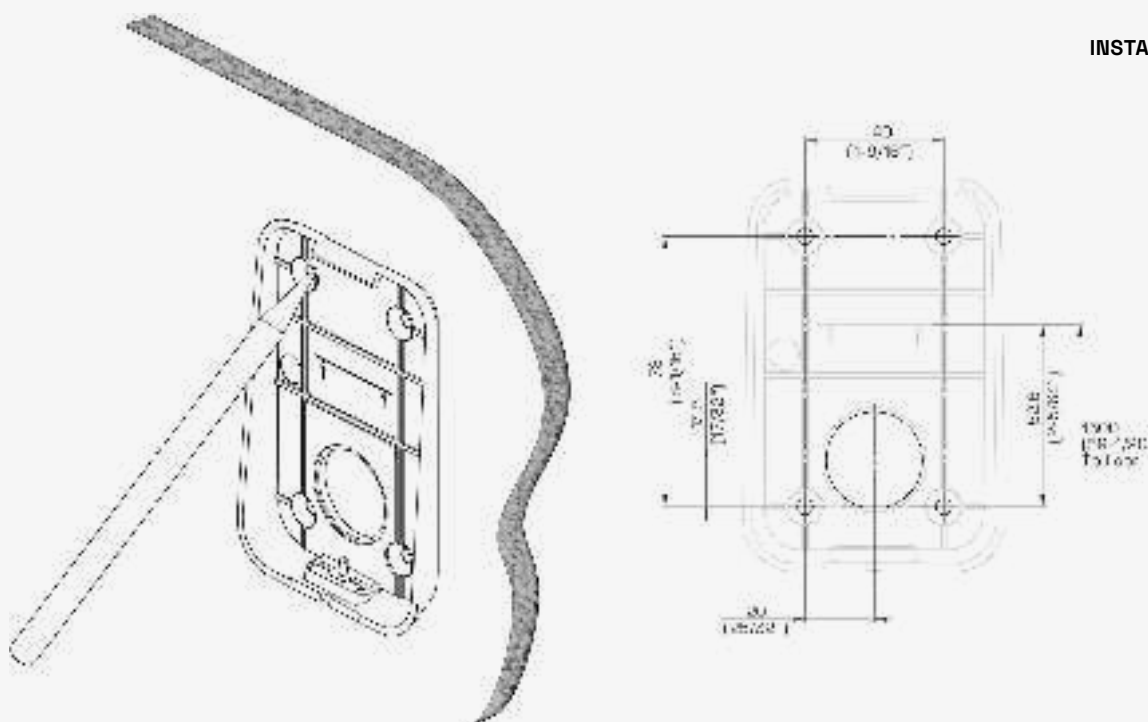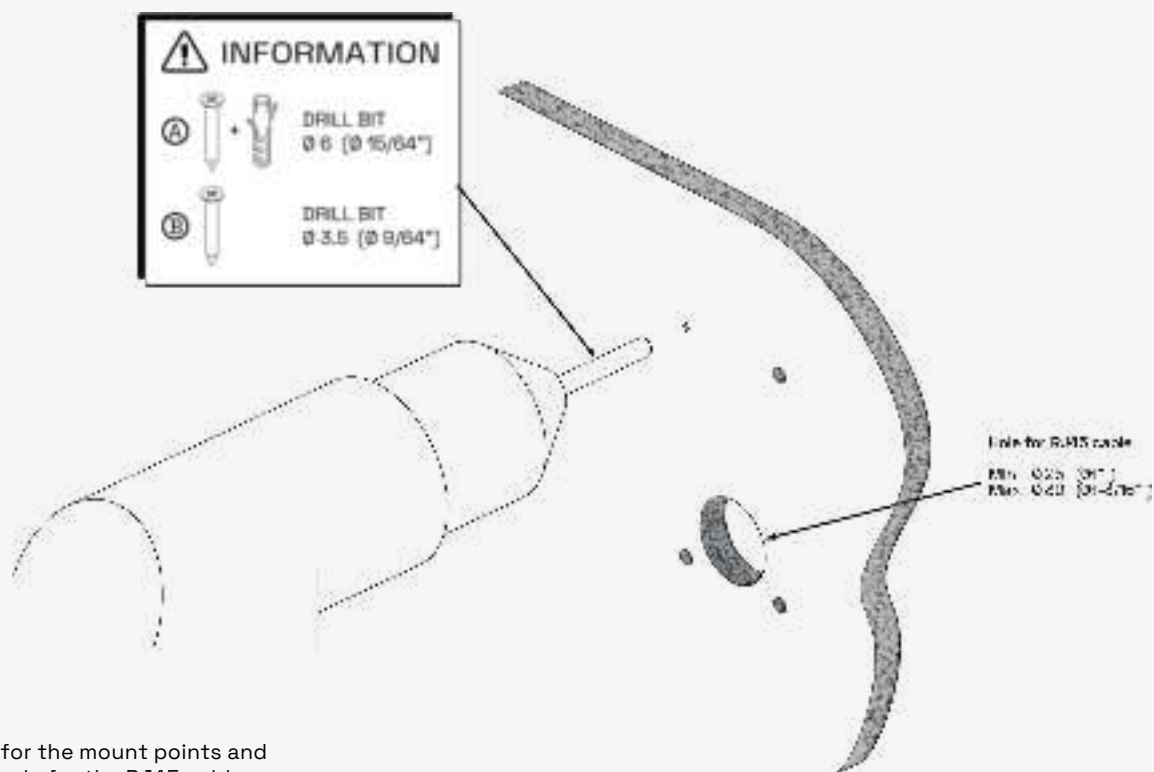
Avoid using electric screwdrivers to minimise damage to the device.

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INSTALLATION

⚠ WARNING:
Minimum
bend radius
60 mm (2-3/8")

Minimum bend radius for the
RJ45 cable is 60 mm (2-3/8")
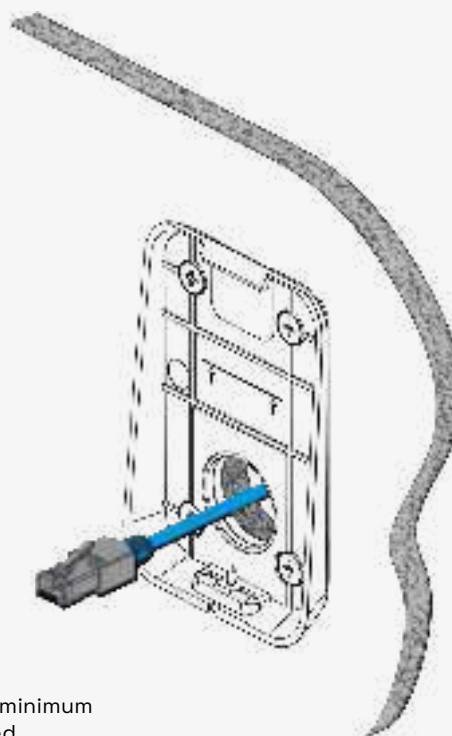
Route the RJ45 Cable to the Camera Wall Mount making sure the minimum bend radius of 60mm is observed. A larger bend radius is preferred.

Ensure there is no strain on the cable connection.

## 07
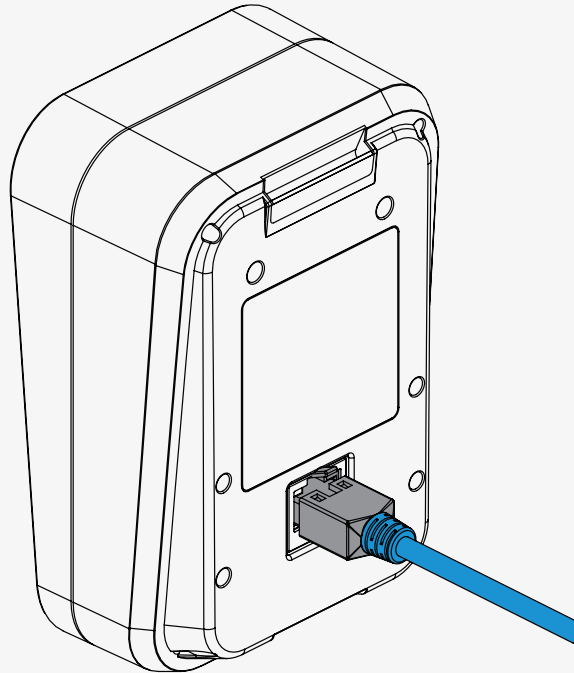
Plug the RJ45 cable into the Orion Camera.

## 08
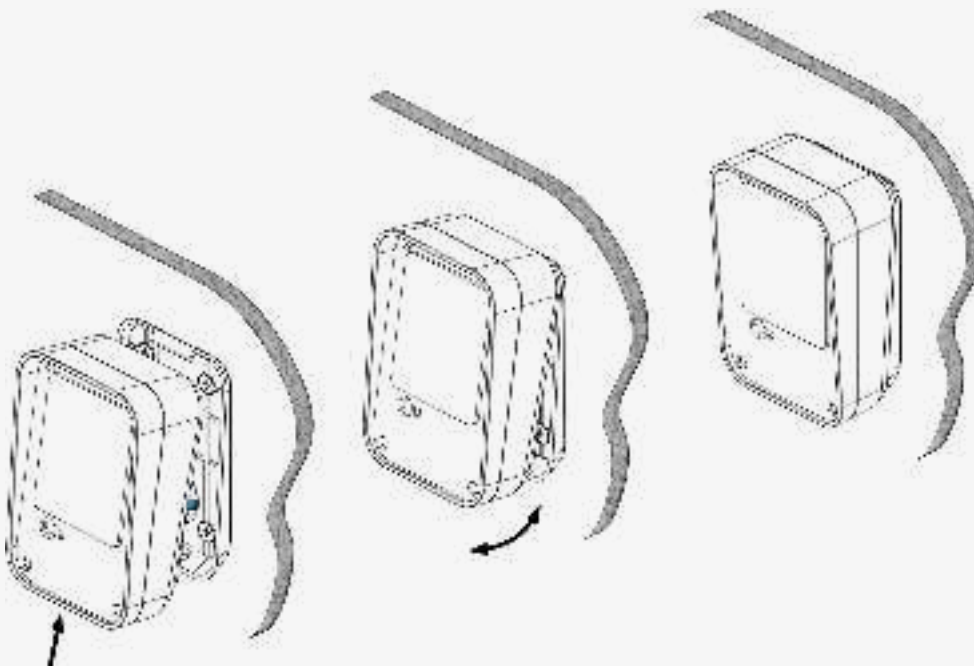
Locate the Wall Mount tongue into the slot on the top of the Orion Camera casing.

Rotate Camera and snap into the Wall Mount.

Ensure there is no strain on the cable connection.

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# 09

Using a T8H security screwdriver, gently  tighten the security screw until it is fully inserted.

Avoid using electric screwdrivers to minimise damage to the device.

**STOP**
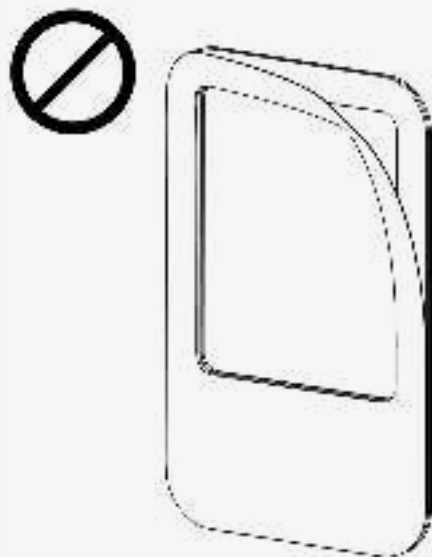
DO NOT Remove backing!

**WARNING:** Face Plate must only be attached after commissioning.

**10**
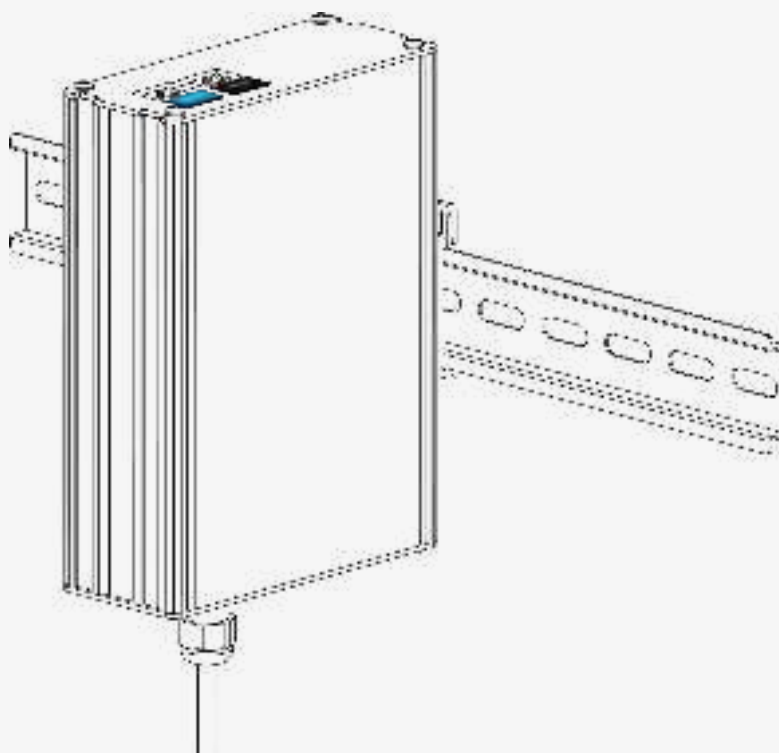
Control Unit Din Rail
Mounting Option

**11**
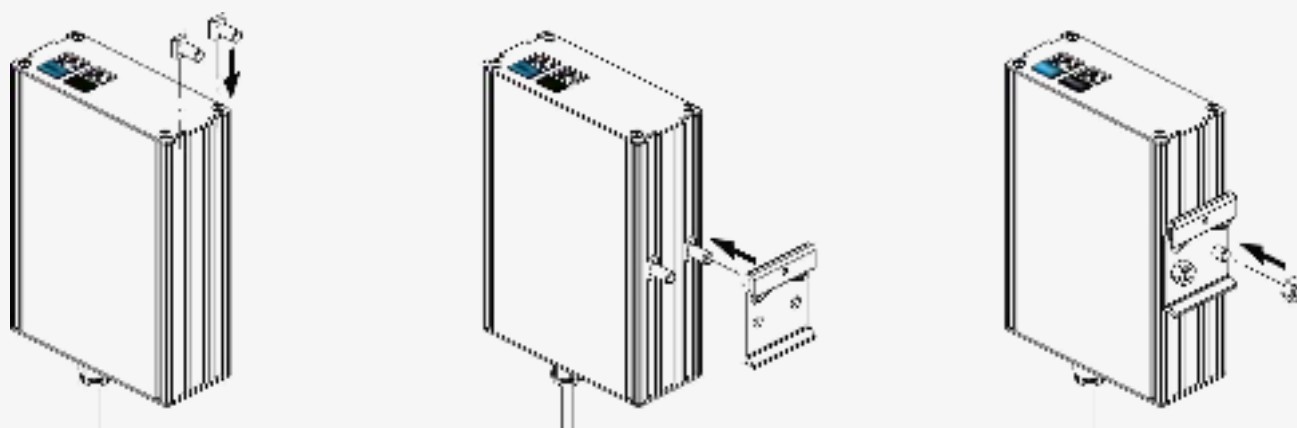
Orion CU Din Rail
Type assembly

**12**

**13**

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**14**
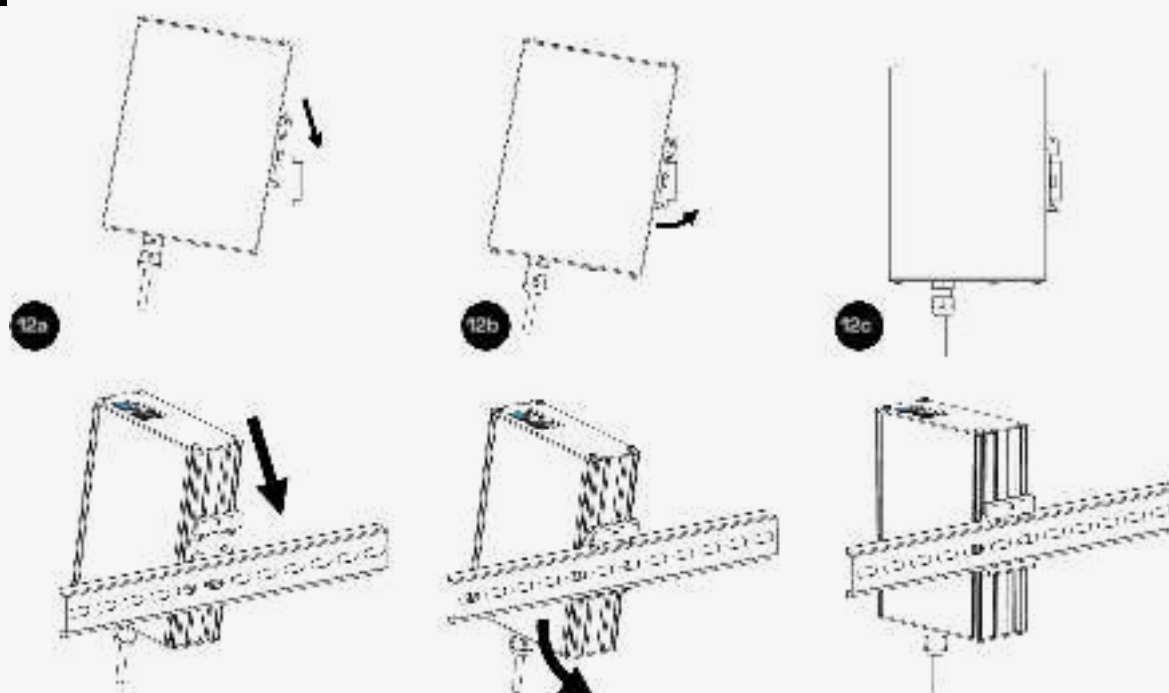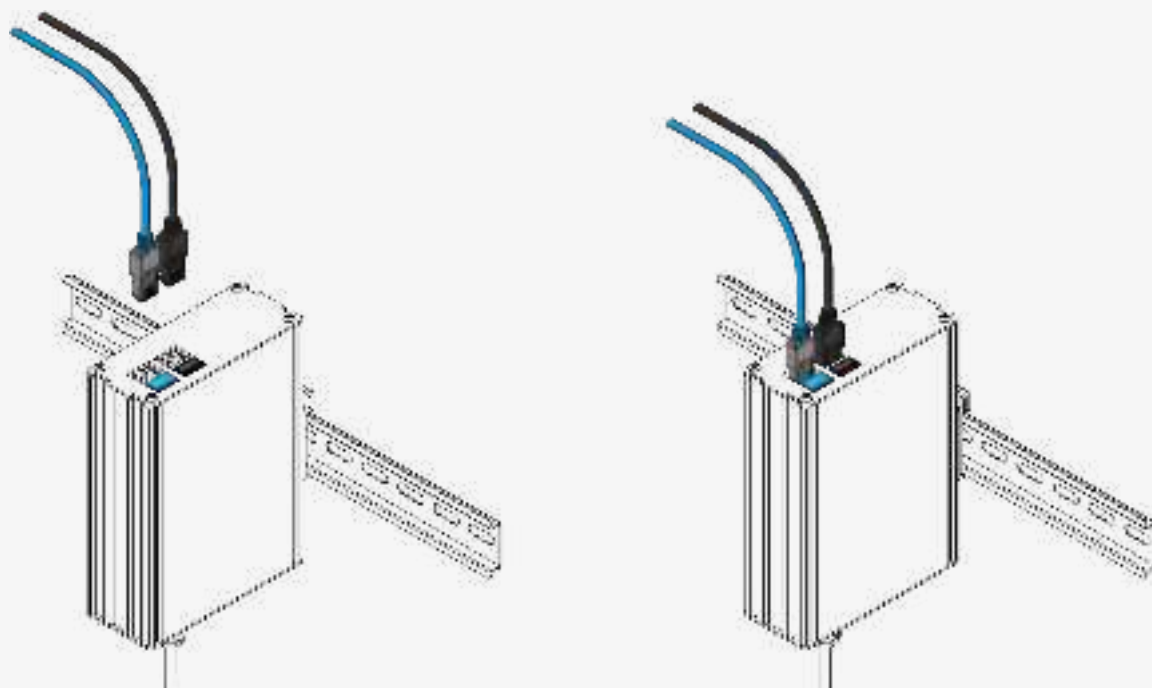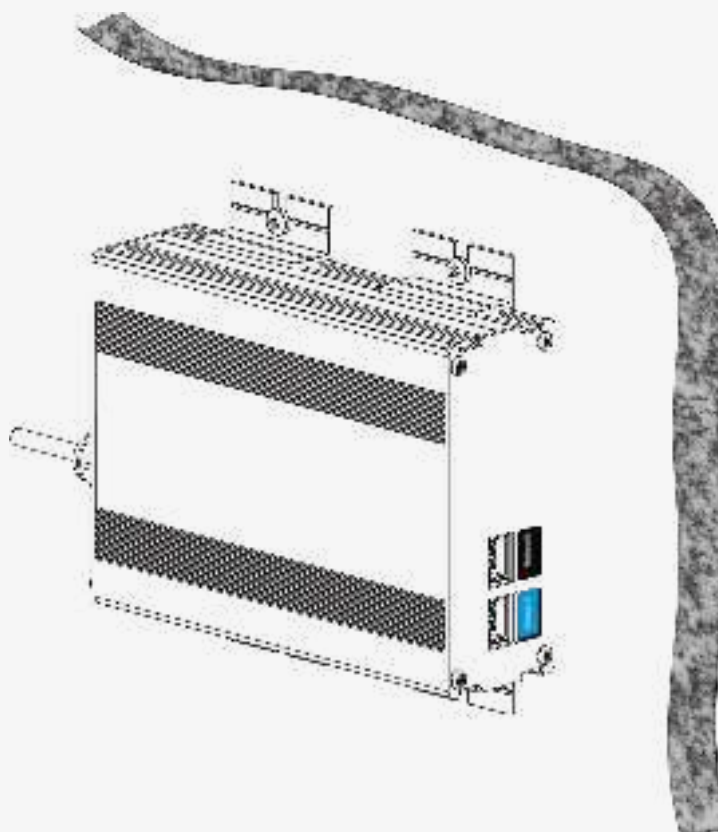
Control Unit Wall
Mounting Option

**15**
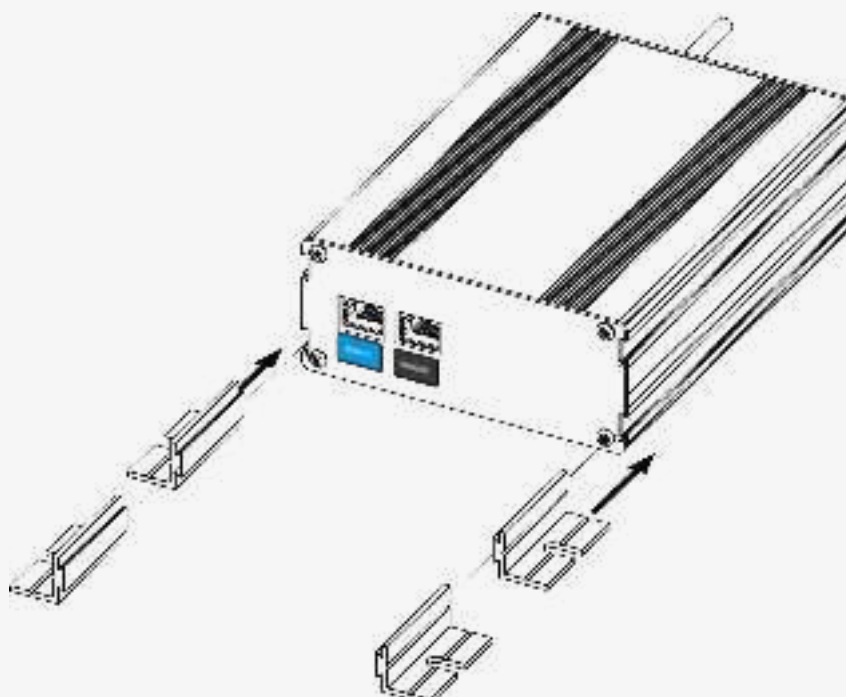
Orion CU Wall mount
assembly

**16**

INSTALLATION



**17**

INSTALLATION

## 18

## 19
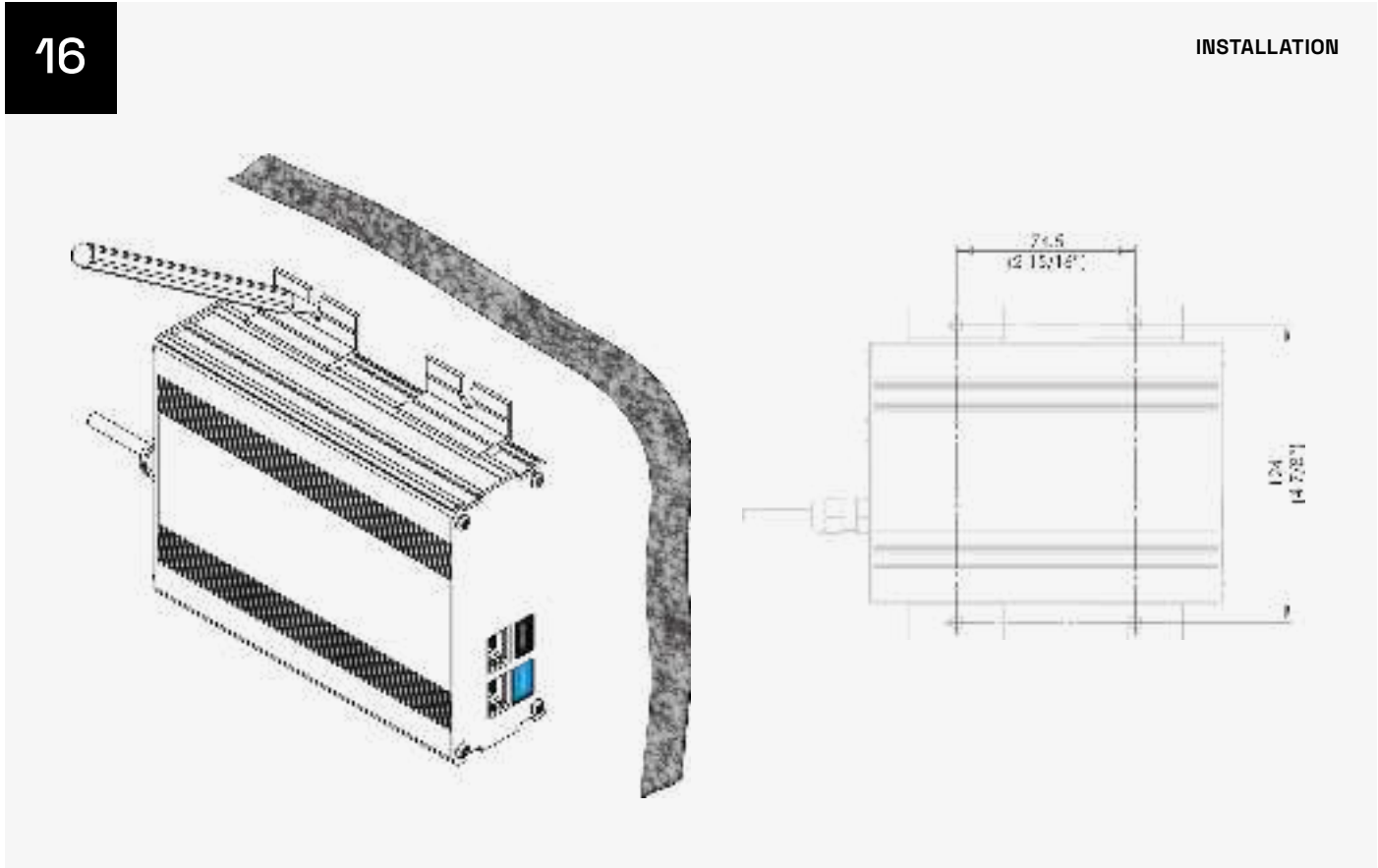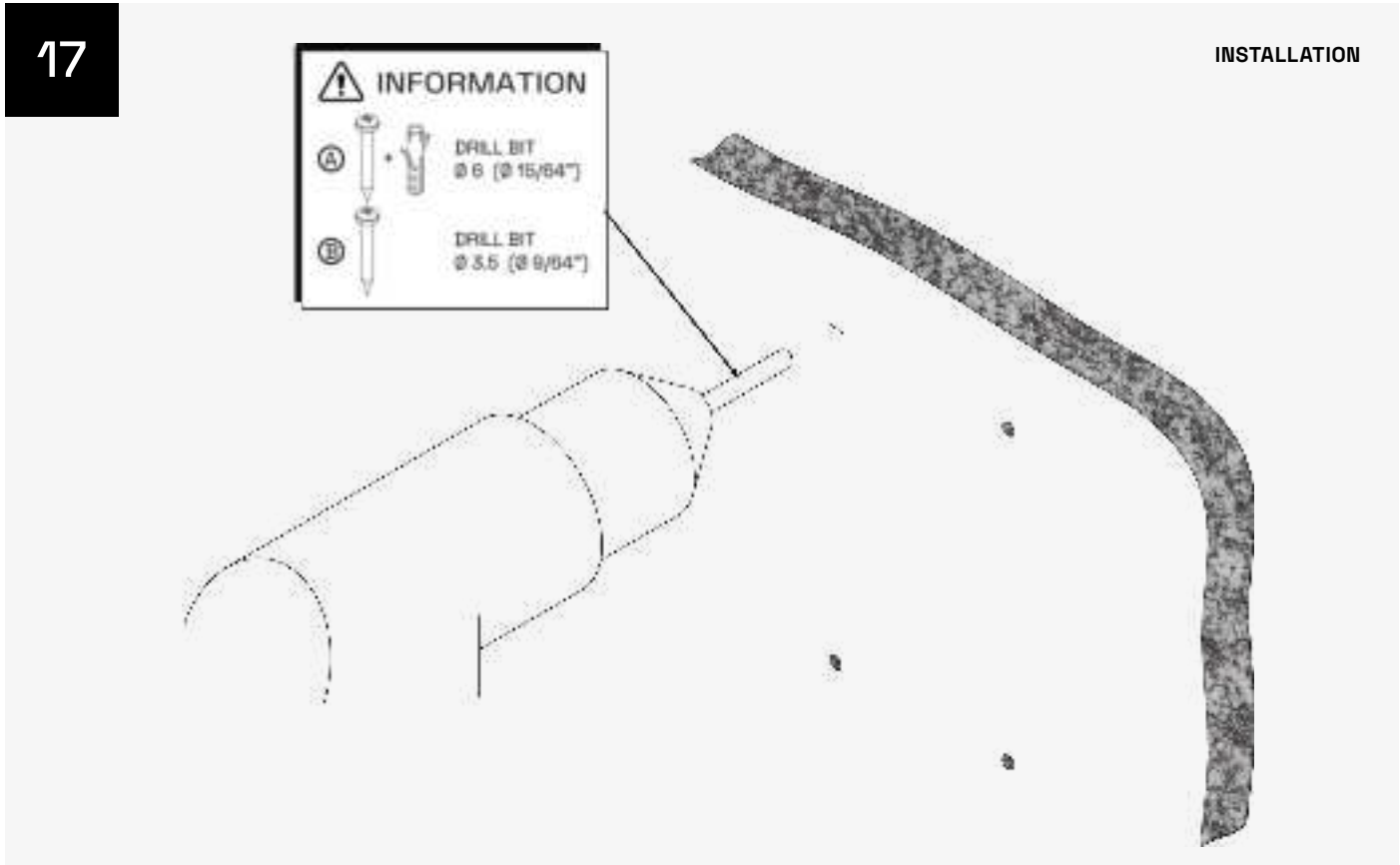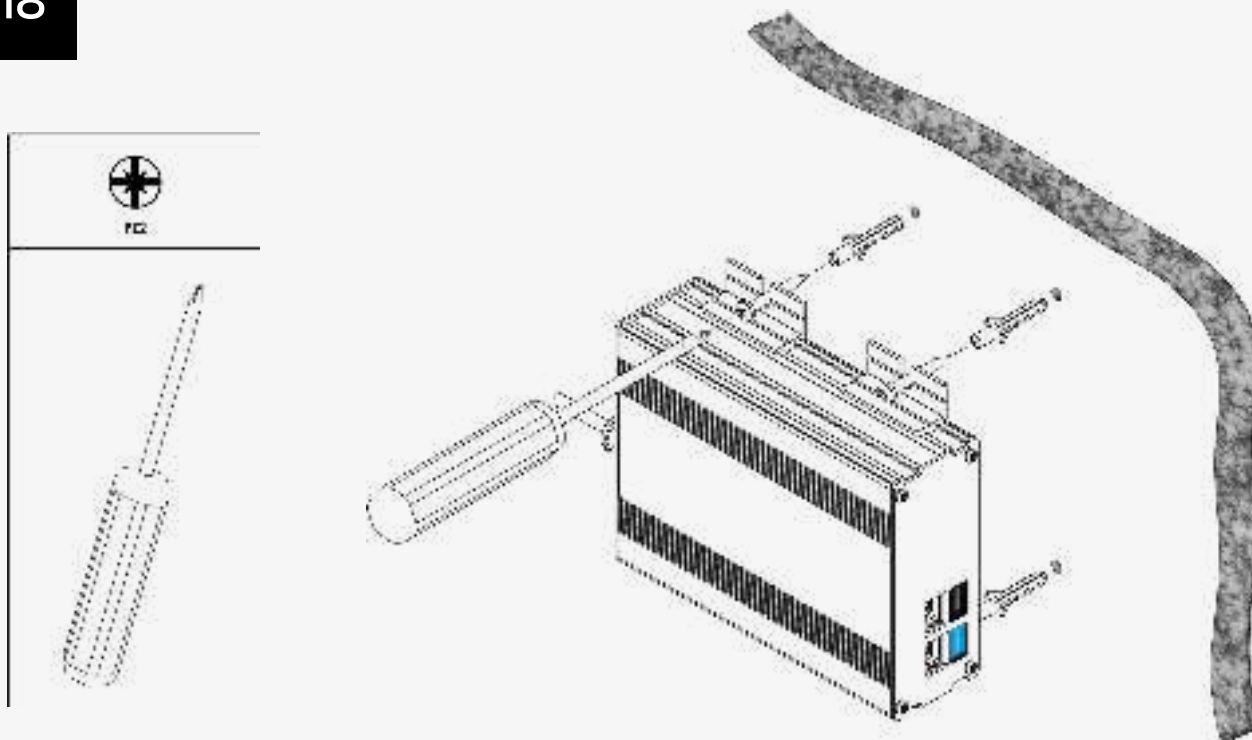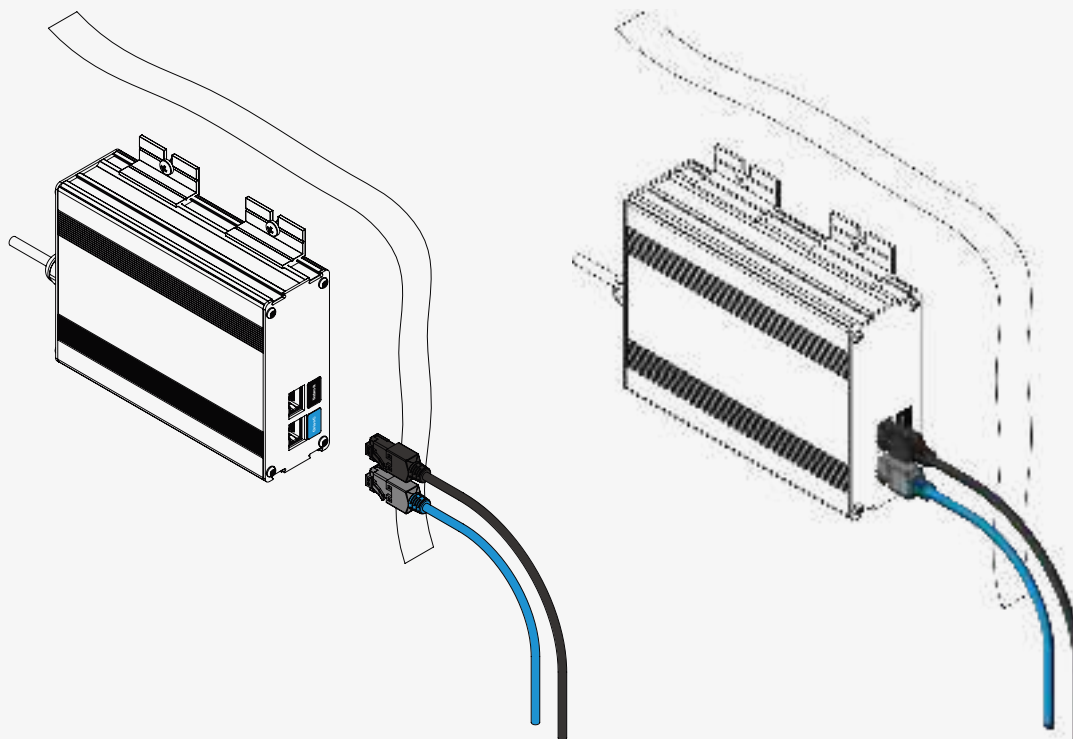
## 20 Power on the system
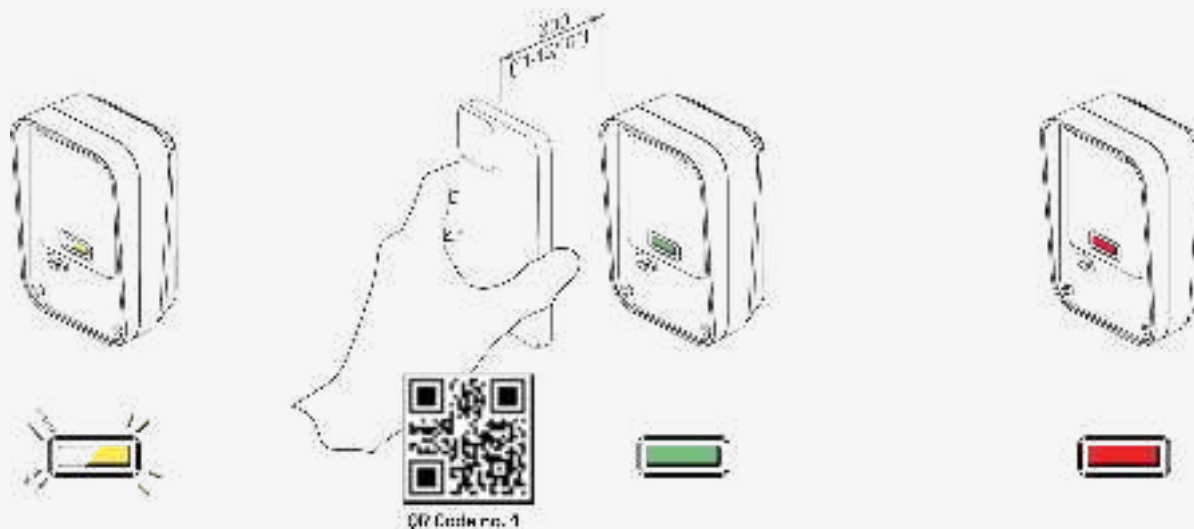
Power on the system. Status displays dim blue during starting-up. Status then displays flashing yellow. Status displays continuous yellow when detector is activated (including by the screen protector film).

Display QR code no.1 to camera at a distance of 300mm. Status displays solid green to indicate successful test.

Status displays red if an issue is detected. Depending on the severity of the issue, the program may restart, but will return to flashing yellow when the QR code is moved away or the program has restarted.

## STOP
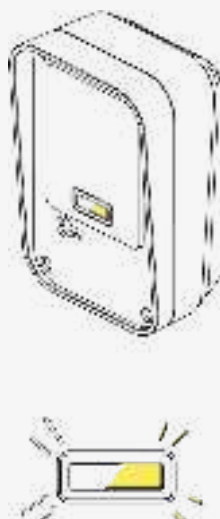
DO NOT Power off. Leave system on in readiness for commissioning

Status display returns to flashing yellow to indicate precommission standby mode.

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## 21
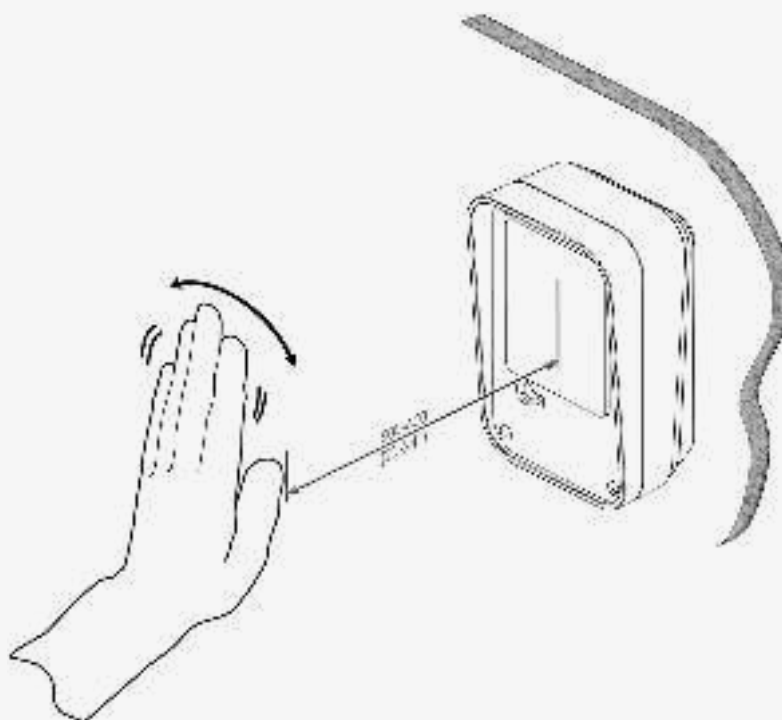
Place your hand at the selected detection distance. Status displays flashing yellow until an object is detected. If status changes to continuous yellow when the hand is at the selected detection distance, the sensor is adjusted correctly.

## 22
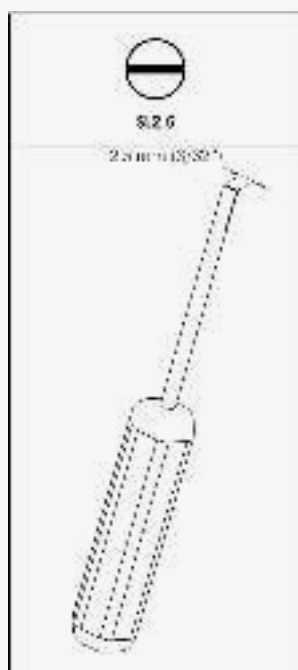
If necessary, adjust the sensor by carefully turning the potentiometer adjuster head as shown.

Gently insert the screwdriver. The adjuster head has a crossed slot, but a flat screwdriver works best.

Be sure to engage the screwdriver with one of the slots before attempting to turn it. Turn very small amounts to adjust. Take care not to damage the head of the adjuster



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For instructions regarding commissioning the Orion Server, please go to the Orion Software User Manual.

## 24
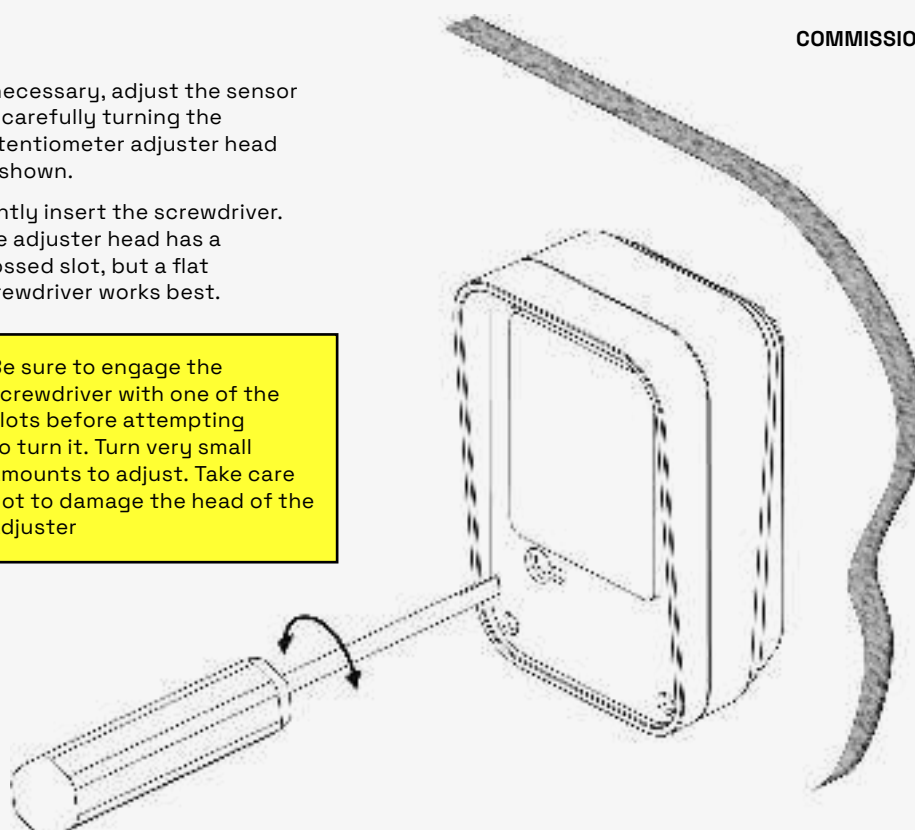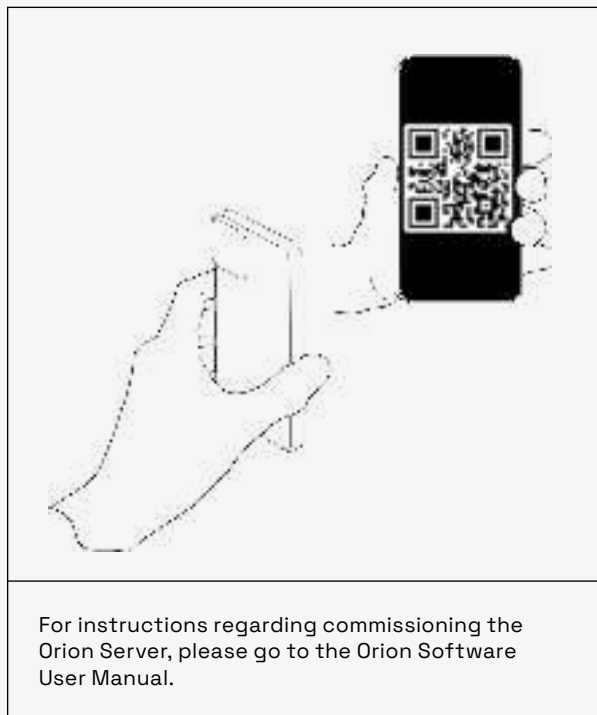
The Orion Console allows each Orion Camera to be paired with its associated SALTO door using a uniquely generated QR code.



Orion Console Login screen: Commissioners of the Orion System will be provided with a URL and login credentials for the Orion Console. Go to the URL. From the globe symbol select preferred language. Click the login button.

Orion Console Credentials Entry page: Enter login credentials for the Orion Console.

Orion Console Sites Selection page: If granted authority to access more than one Orion site (customer building or site), select the appropriate site from the drop-down menu.

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Server tab: Click the "View" button to select the server into which the Orion Camera is being commissioned.

Details tab: The "Details" tab provides details about the server. Click the "Orion Devices" tab to manage and add Orion Devices.

Cameras: The "Orion Devices" tab displays the cameras already commissioned to the server. Filter between cameras in "pending", "ready" and "faulty". Click the "Add Orion Devices".

Add Orion Device screen: Use the drop down list to select the SALTO door with which to associate the camera.

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Once the correct SALTO door as been selected, click "pair".

If an incorrect door was selected, use the "Delete" button. Then, use the "add Orion Device" button again to access the list of doors, and select the correct one.

QR code screen: Click "Pair". A unique QR code will be generated. If the correct door has been selected, show the QR code to the Orion Camera. This will initiate the pairing, and the camera will display a sequence of colours on the LED status indicator lights (see below).

Orion Devices tab: The QR code will disappear once the commissioning of this camera is complete.

# 27
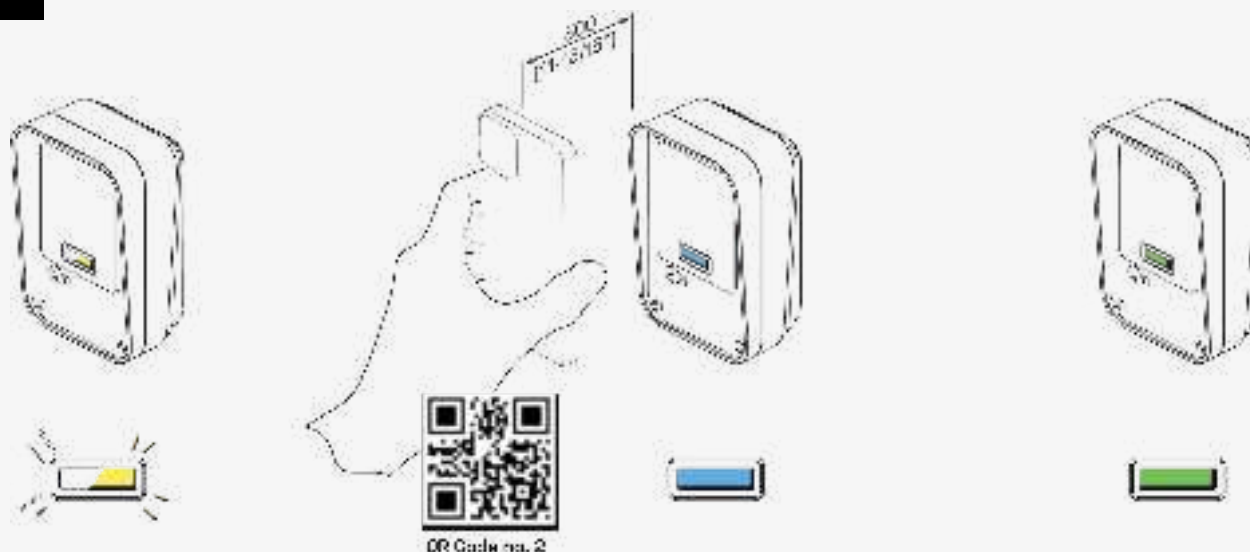
Orion system powered on and status flashing yellow.

Display QR code no.2 to camera at a distance of approximately 300mm. Status flashes blue to indicate that a commission request is being sent to the Orion Server.

Flashing green indicates a successful commission response from the Orion Server.

# 28
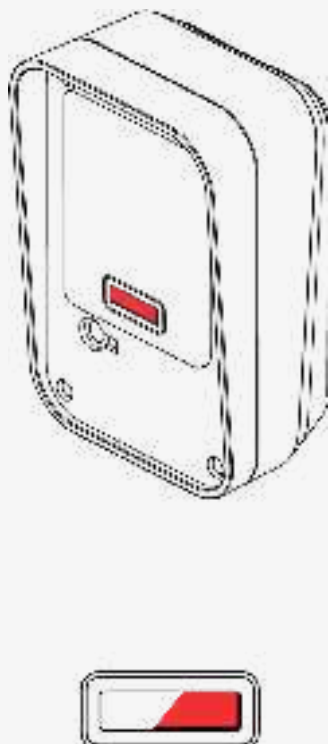
**Note**

Red being shown during this process indicates an error. If this error is encountered during a commission request to the server, the status indicator will first show red then blue to indicate that it will re-attempt the request. This red-blue cycle will repeat up to 5 times until there is a green light indicating a successful commission response from the Orion Server.

If there is no successful response after 5 attempts, the camera will return to flashing yellow. In this case check the network configuration and the server status.

Once commissioning of the Camera is complete the camera status indicator LED will turn off and then show a flashing blue light whilst the Camera is initializing. This will turn to continuous white once initialization is complete.

## 29
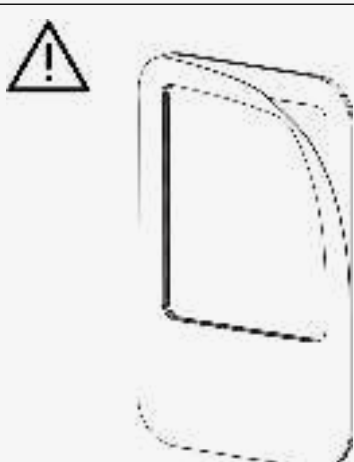
**WARNING:** After attaching to the camera casing the distance sensitivity cannot be adjusted. A final layer of protection and integrity is provided by this cover. Therefore, take special care to ensure that the cover is stuck correctly to the full surface of the camera casing.

Once the sensor is correctly adjusted, replace the bung. Then remove the adhesive backing and apply the metal cover to the front of the camera casing.



# SALTO WECOSYSTEM
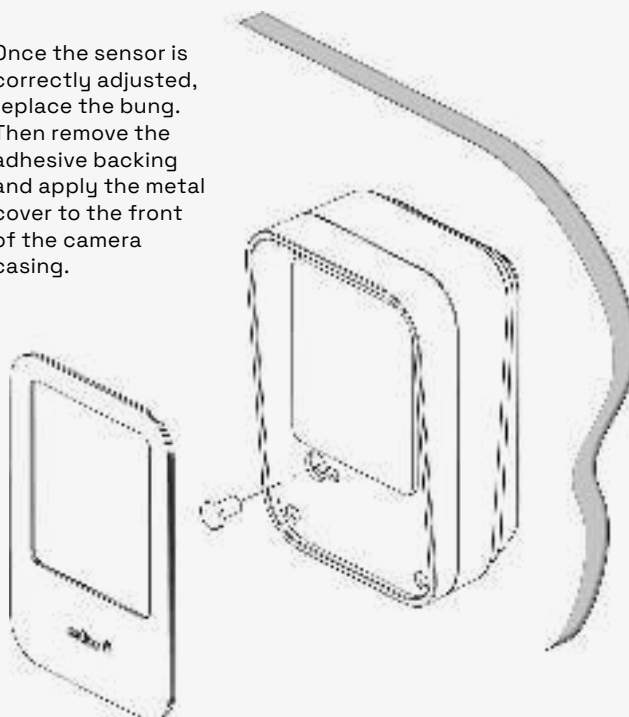
# Specifications and Requirements

## POWER

|  | MAX | TYP |
|---|---|---|
| Input Voltage (Camera) |  | 5V |
| Input Voltage (Control Unit) |  | 12V |
| Current Consumption (System) | 415mA@12V | 12V |

## CABLE REQUIREMENTS

|  | TYPE | MAX LENGTH |
|---|---|---|
| External Power Supply | 2 core | 3m |
| Control Unit to Camera | Orion | 3m |
| Control Unit to Server / Network Switch | Cat 5e | 100m |

## OPERATING CONDITIONS

|  | MIN | MAX |
|---|---|---|
| Temperature | 0°C | 60°C |
| Humidity | 0% | 80% non-condensing |

## NETWORK CONFIGURATION

| ITEM | REQUIREMENT |
|---|---|
| VLAN | An isolated IPV4 (V)LAN is required for all Cameras and Locks. |
| Physical Characteristics | Cat 5e or Cat 6 network with Gigabit switches. |
| IP Subnet | Must be large enough to allocate addresses to all locks, camera units and servers/controllers<br>Must not be in the range: 172.31.255.0/24 |
| Outbound Ports | Restrict to:<br>123 - NTP<br>443 - HTTPS/TLS<br>8883 - MQTT / mTLS<br><br>Should also only permit Orion servers to access outbound ports.<br>Orion devices do not require access outside of the VLAN. |
| DHCP | DHCP is required to provide IP addresses to Orion devices.<br>The Orion server must have a **reserved IP address** that cannot change once Orion devices have been commissioned. |
| DNS | Orion Server will require access to DNS. Details should be provided by the DHCP server. |
| Cameras per server | No physical limit. Consideration needs to be given to the number of concurrent access requests that can be expected. Further details can be found on the Salto Support site.<br><br>The server specification given below is capable of providing a sub 2 second response time for 70 concurrent requests over a 10 second timeframe. |
| Server CPUs / Memory | Min. 3.2 GHz 8 Cores 32GB Memory<br><br>This number of concurrent requests is directly affected by the number of real cores (not virtual cores). |
| Server Processor Architecture | Intel / AMD x64 **must support** AVX2 instruction set.<br><br>Supported processors: AMD Ryzen 7 and 9, Threadripper, Intel Core i9, Core i7.<br><br>This is only a guide, confirm the processor supports AVX2. |
| Storage | Mirrored SSD - 480GB<br>Strongly recommend that physical storage is encrypted. |
| Operating System | Ubuntu Server Minimal Install 24.04 LTS<br><br>The install process will harden the server installing and configuring a firewall and OS updates.<br><br>The server specified above is sufficient to have Windows 11 Pro installed with Hyper-V. Proaccess Space can be installed on the Windows operating system with Orion installed in a Hyper-V virtual machine with Ubuntu Server minimal. |
| Access Control System | For Integration with SPACE (Space minimum version 6.9 with SPACE) OPT-0018 (SHIP interface). |