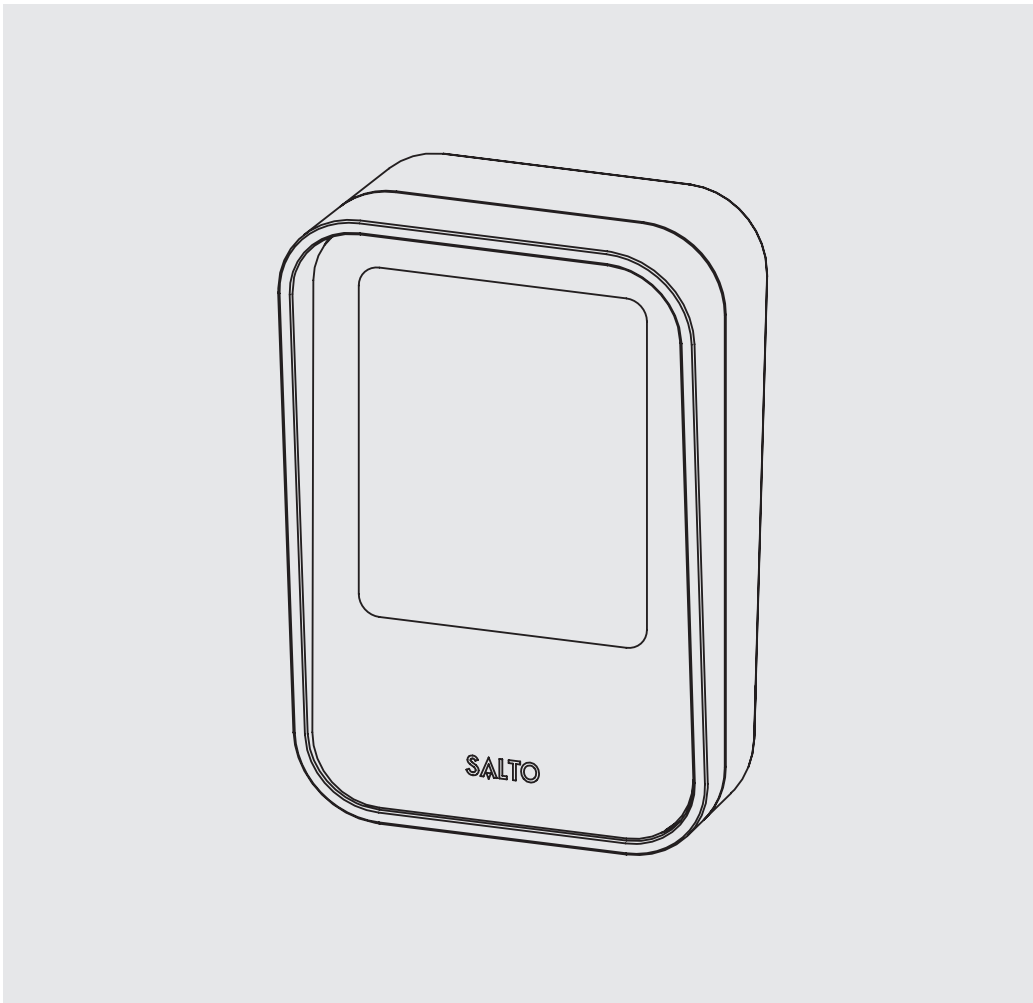


# Orion





# Contents

Considerations	03 - 04
What's in the box?	05 - 06
Orion Camera	07
Orion Control Unit	08
Placement	09 - 10
Installation	11 - 32
Commissioning	33 -41
Specifications and Requirements	42 -44

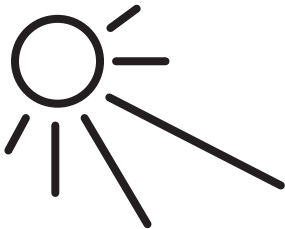
AT INITIAL SITE SURVEY AND INSTALLATION

# 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 100 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.

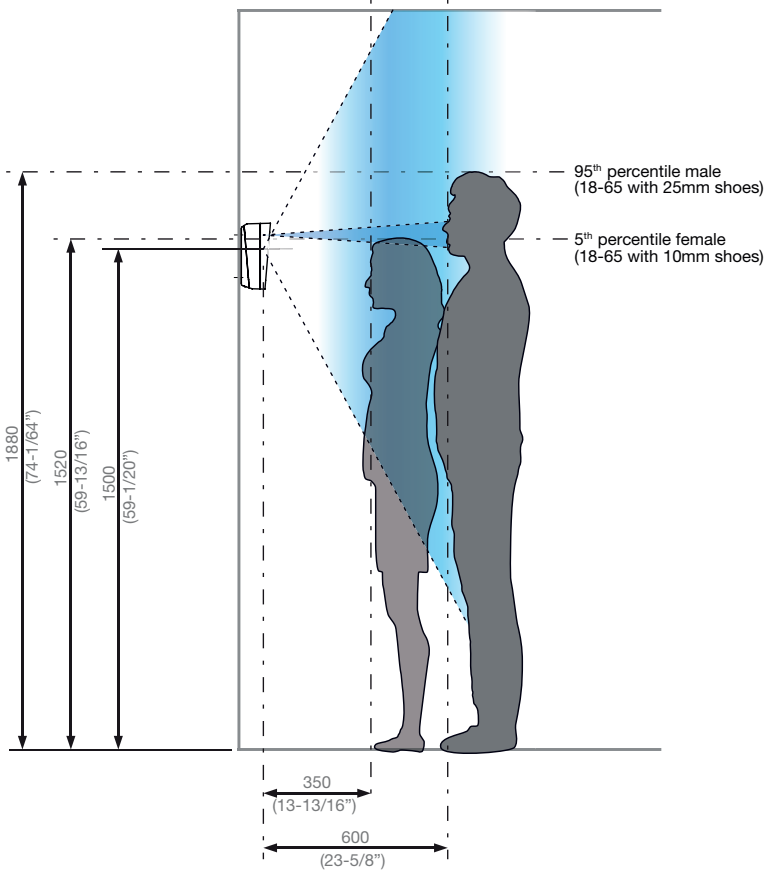


## Passing Vehicles

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 UCMc C and any adjacent roadway.

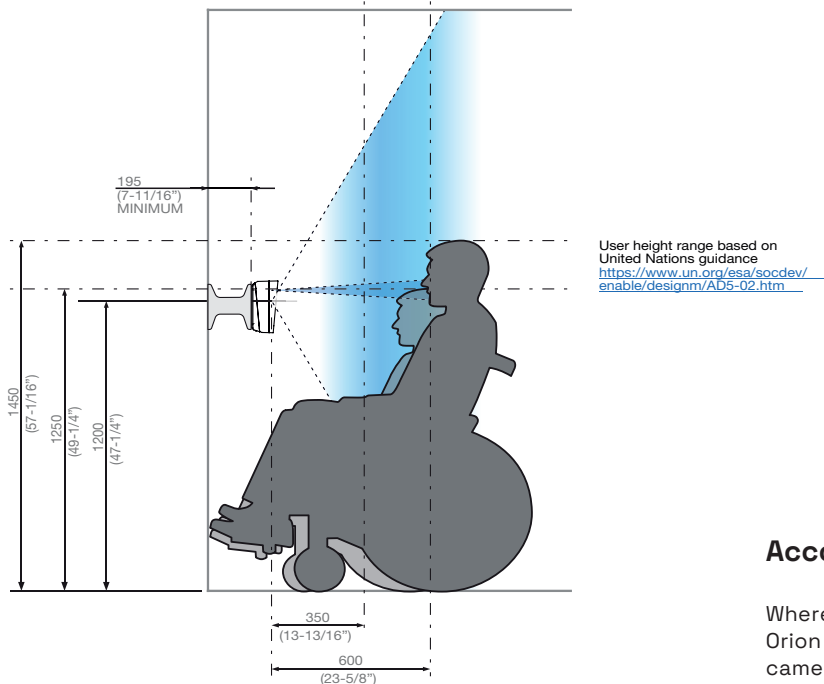
AT INITIAL SITE SURVEY AND INSTALLATION

# Considerations



## Positioning

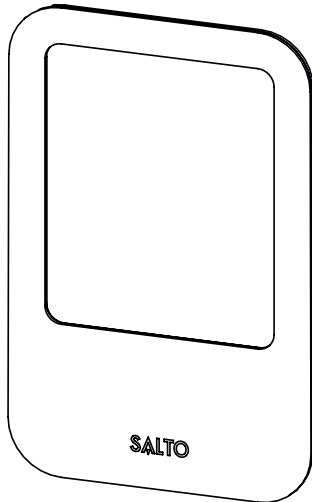
It is important to position the Orion Camera at the specified height. The camera is designed to operate optimally for a user population from 5th %ile adult females, to 95th %ile adult males and at a range from approximately 300mm to approximately 600mm.



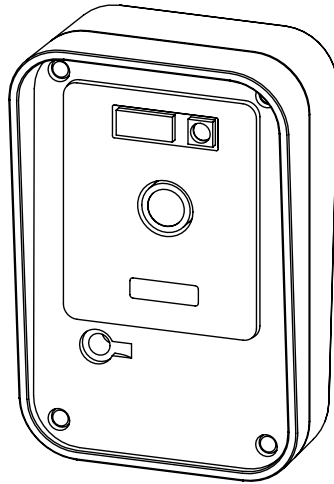
## Accommodating Disabilities

Where an access point is wheelchair accessible, the Orion Camera will need to be set slightly lower, or two cameras should be fitted.

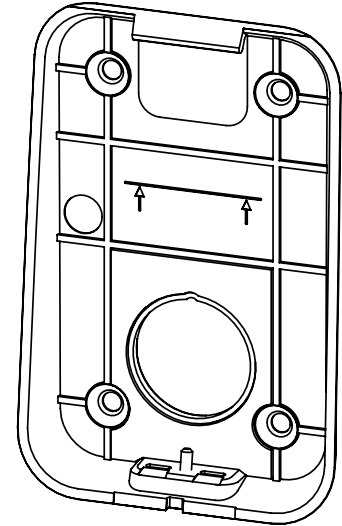
# What's in the box?



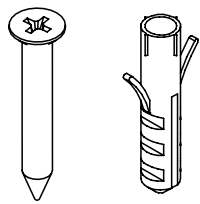
Orion C  
Face Plate



Orion C  
Camera

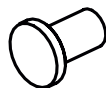


Orion C  
Wall Mount

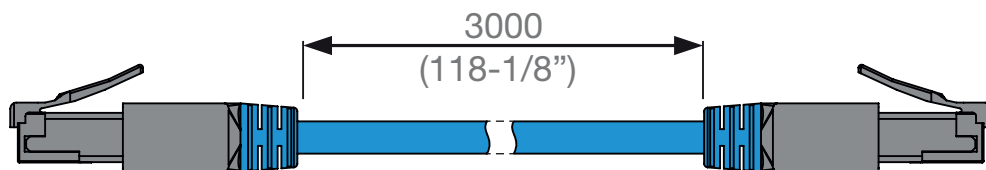


(X4)

(X4)

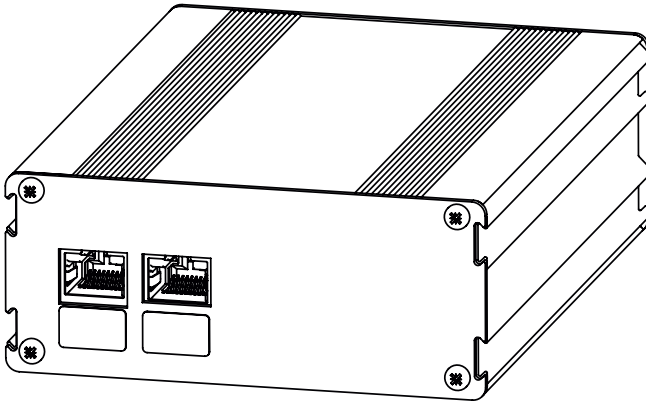


Bung

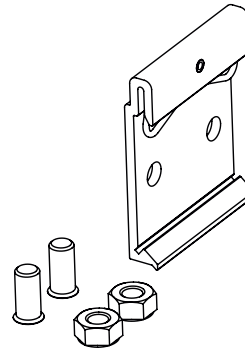


Orion C 3 meter Cat6 shielded cable

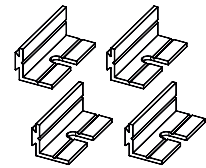
# What's in the box?



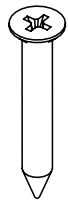
Orion CU  
(Control Unit)



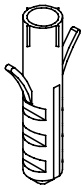
Orion CU  
(Control Unit)  
DIN mount



Orion CU  
(Control Unit)  
Fixing plates

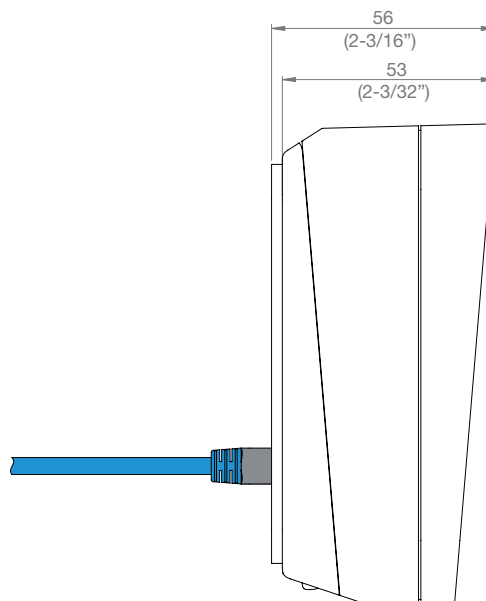
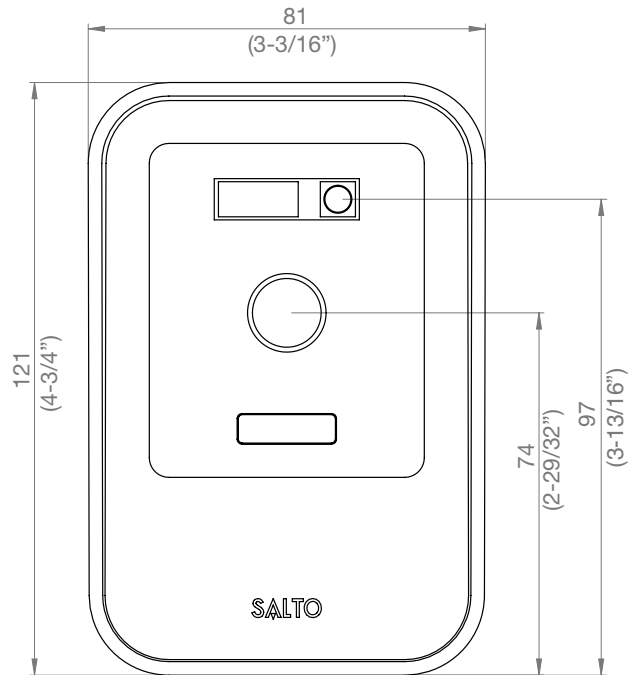


(X4)

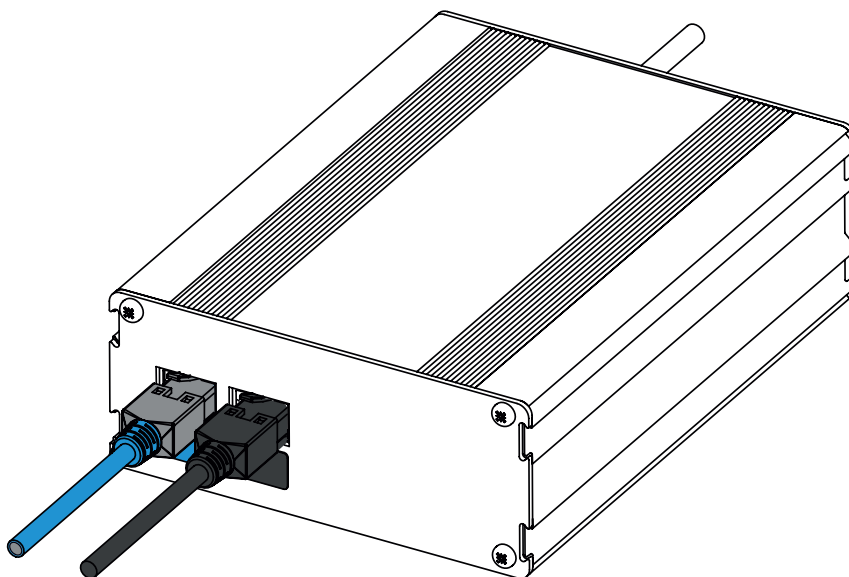
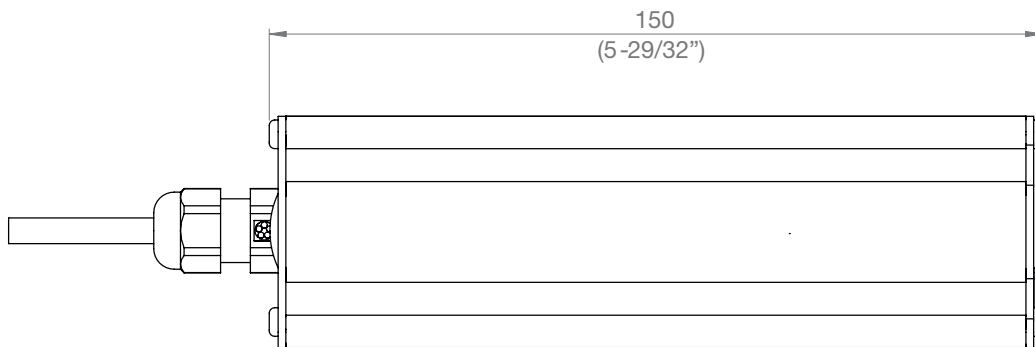
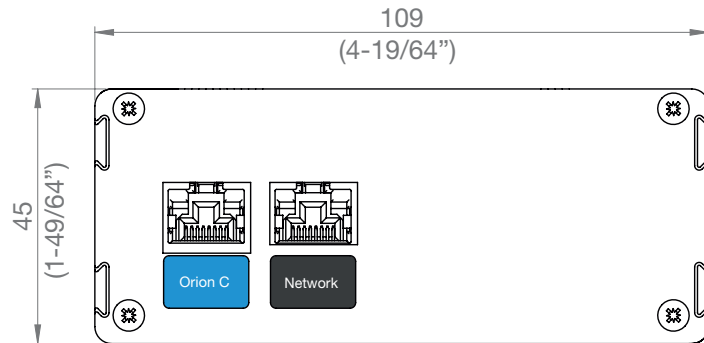


(X4)

# Orion Camera



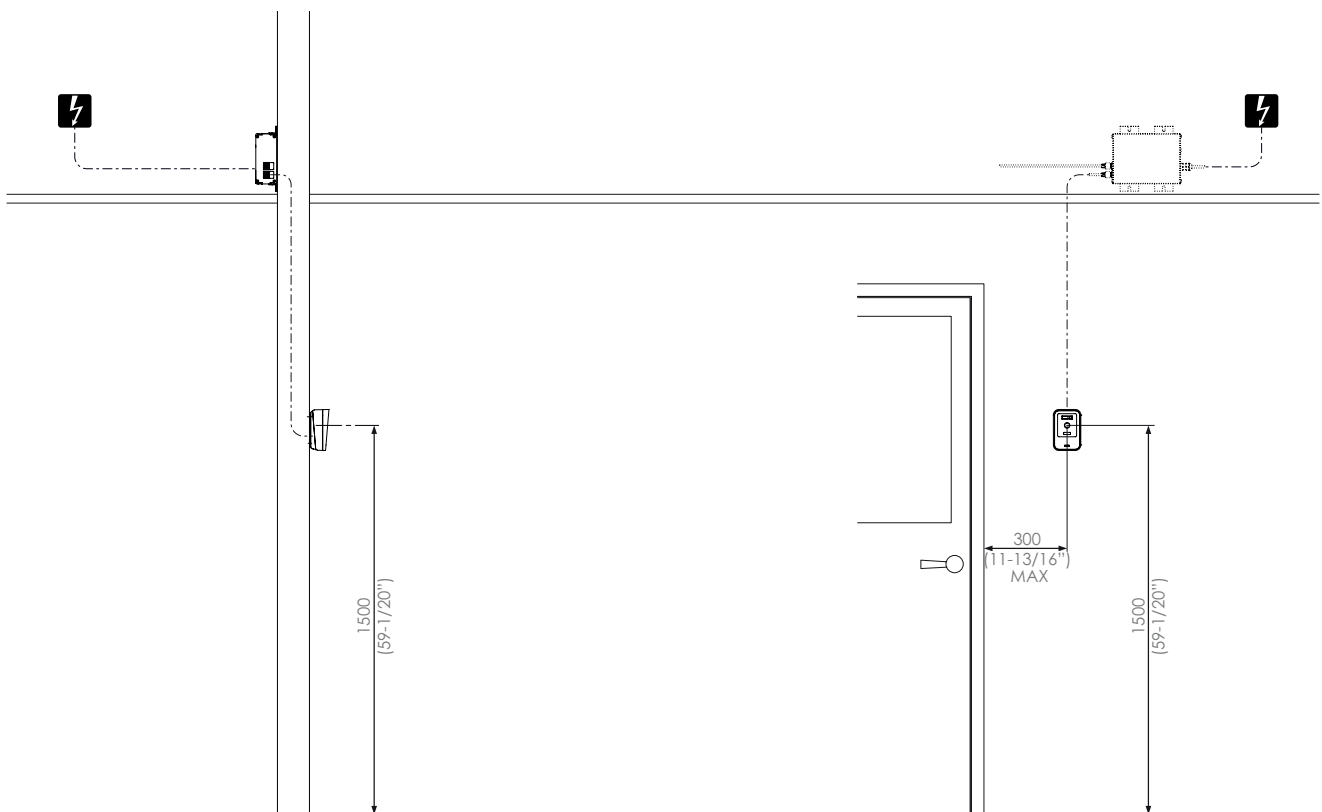
# Orion Control Unit





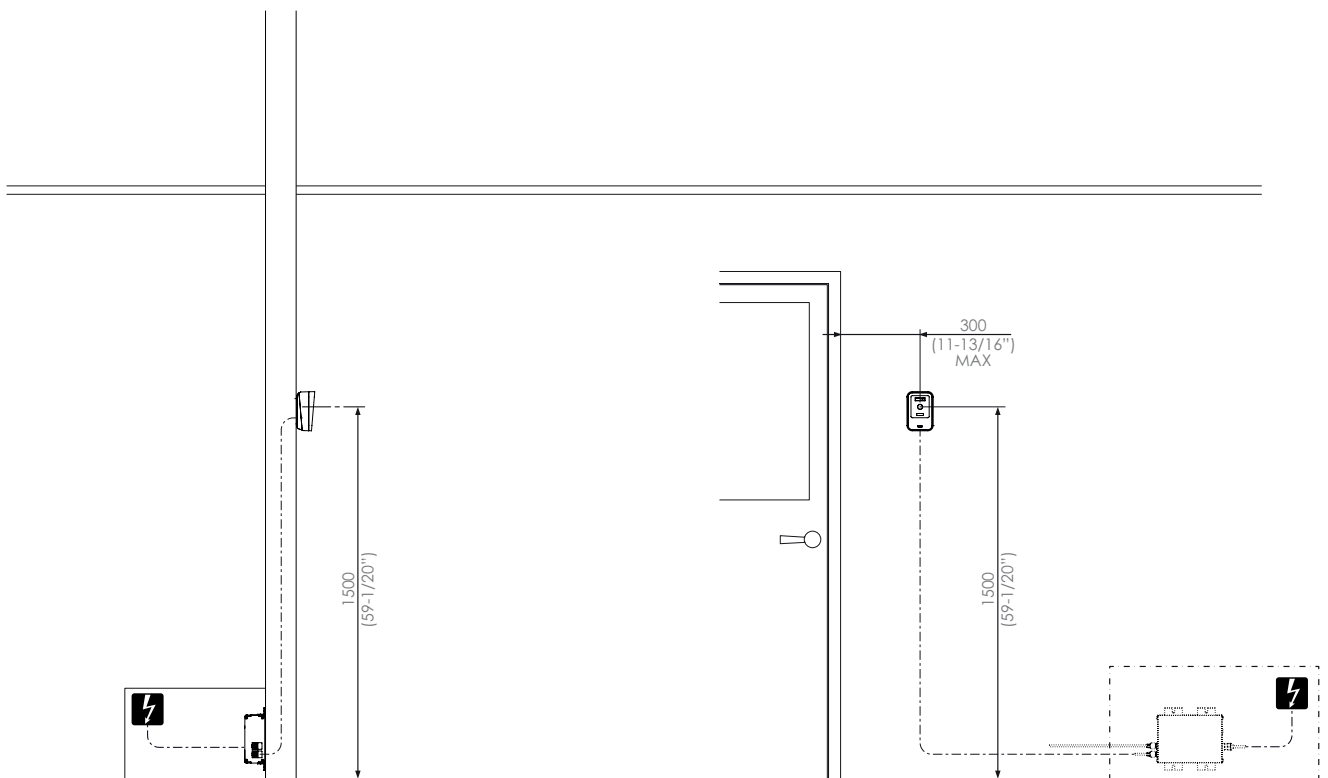
# Placement

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.



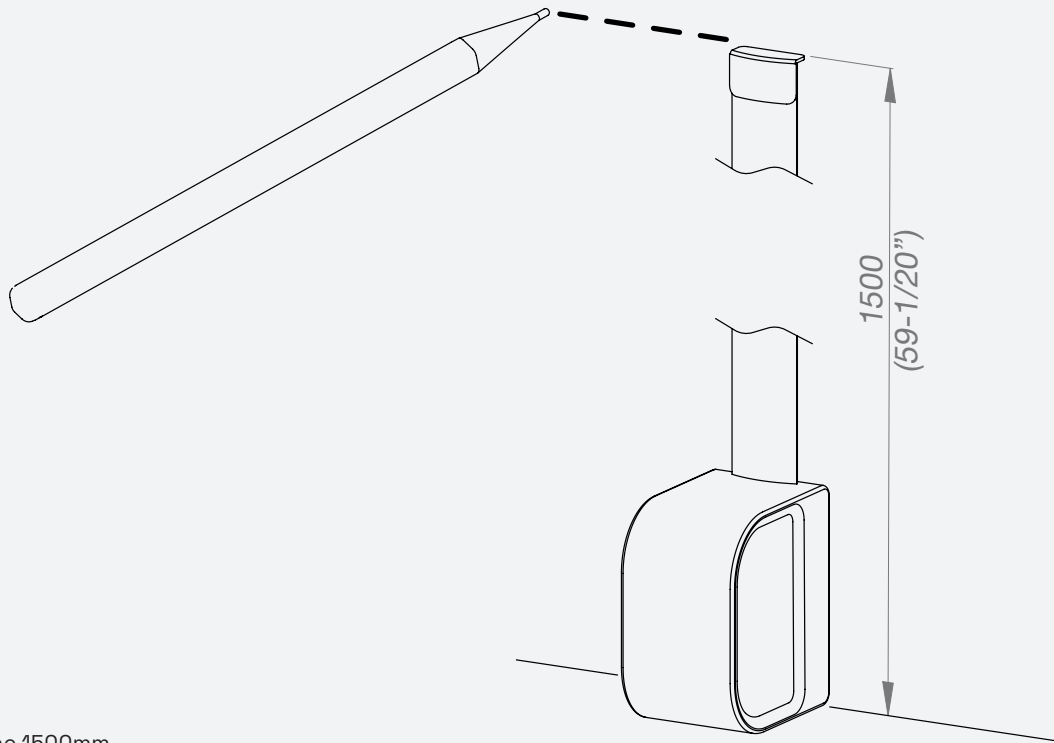
# Placement

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

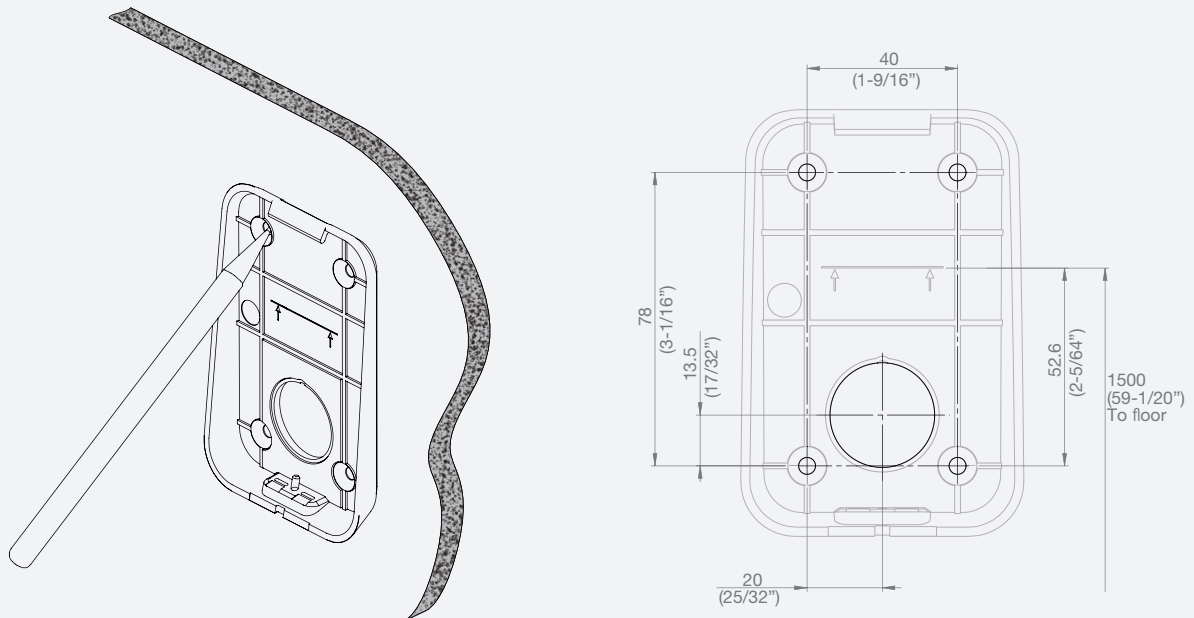
INSTALLATION



Mark a line 1500mm  
from the floor

02


INSTALLATION






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.

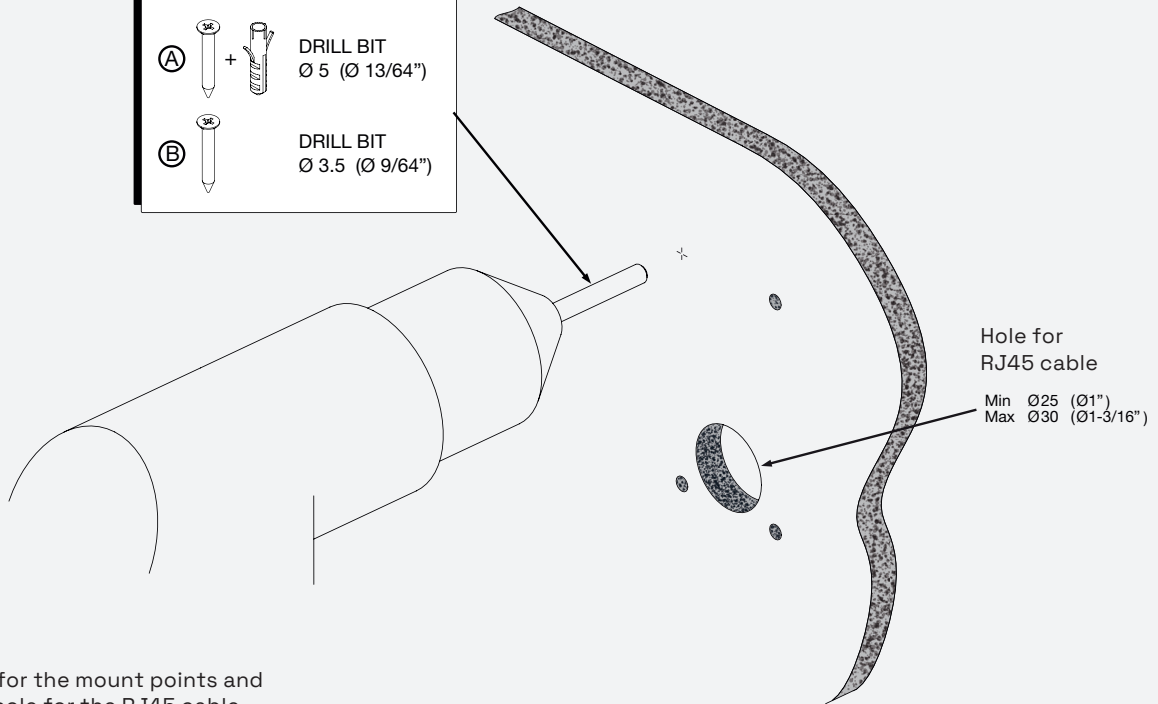
03

INSTALLATION

 **INFORMATION**

 +  DRILL BIT  
Ø 5 (Ø 13/64")

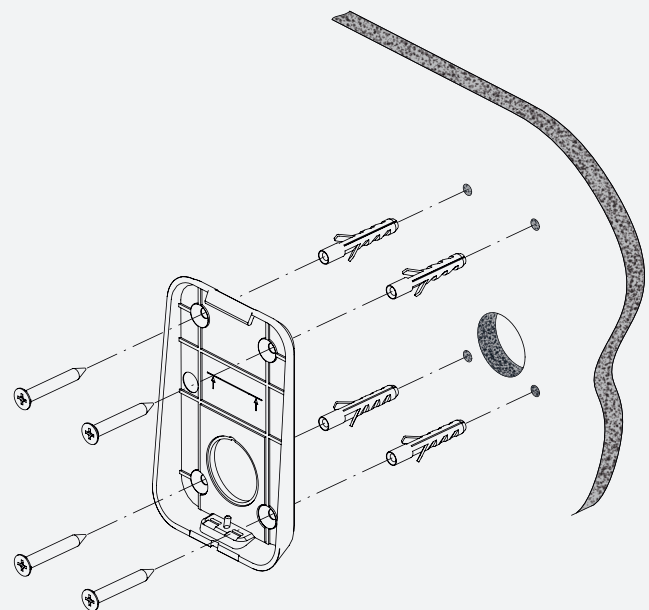
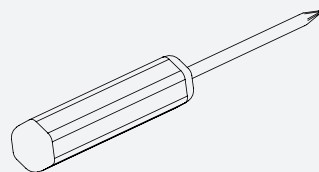
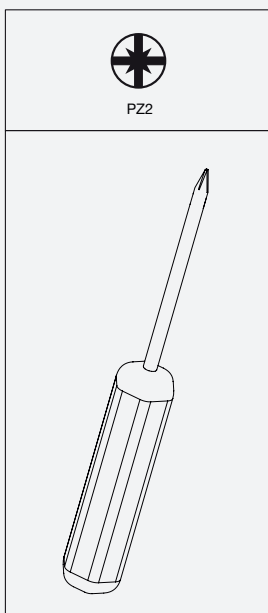
 DRILL BIT  
Ø 3.5 (Ø 9/64")



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

04

INSTALLATION

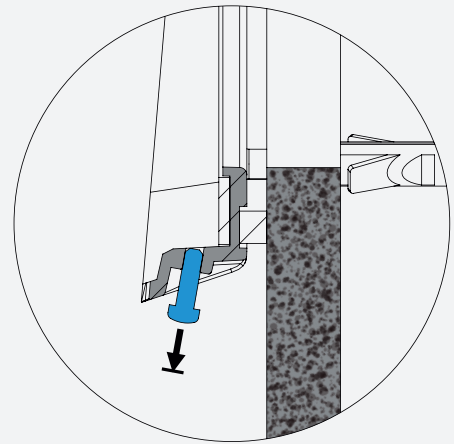
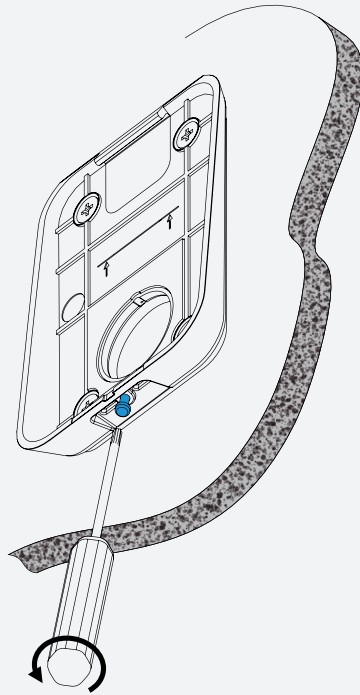
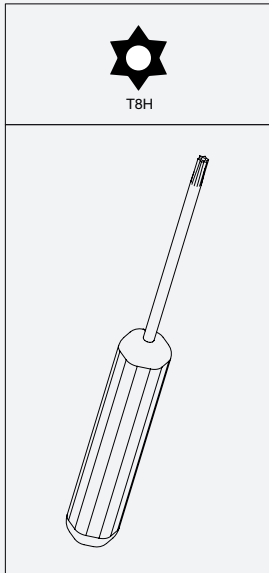


Mount the Orion C Wall Mount using the wall Plugs and Screws

05



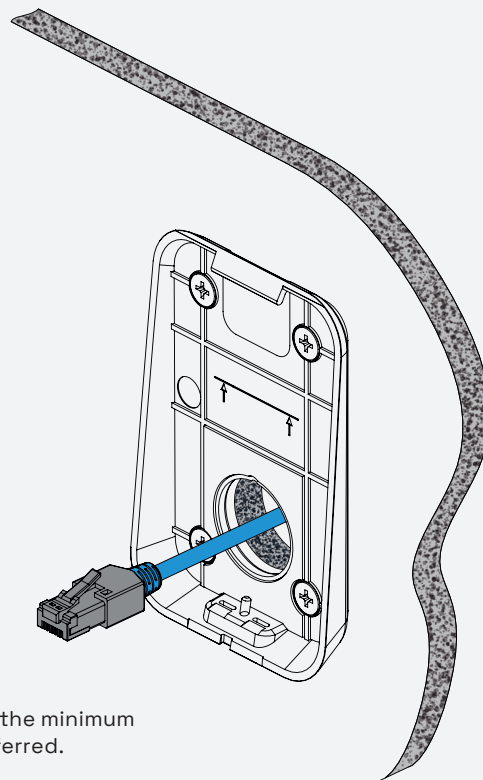
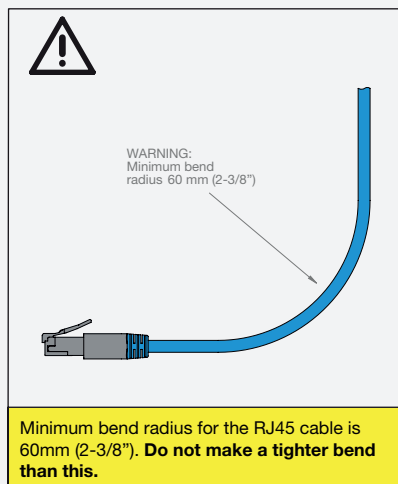
INSTALLATION



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

06

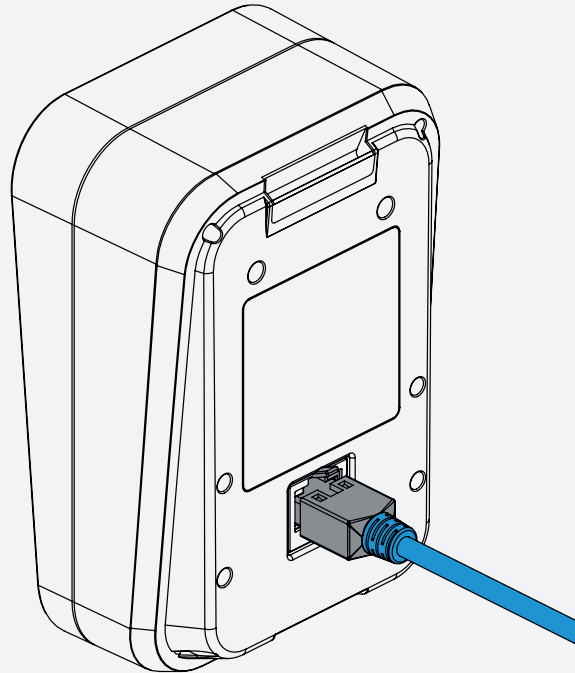
INSTALLATION



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

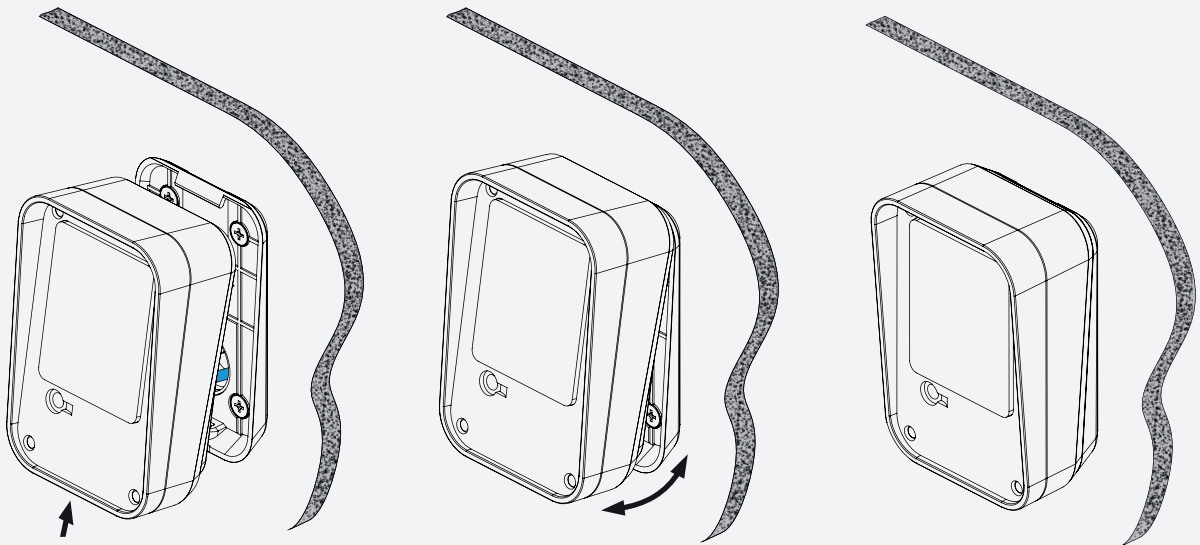
INSTALLATION



Plug the RJ45 cable into the Orion Camera.

08

INSTALLATION



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

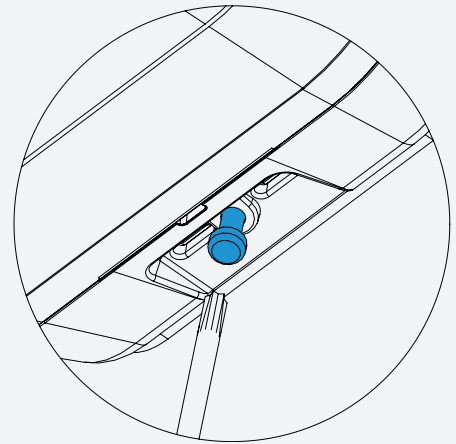
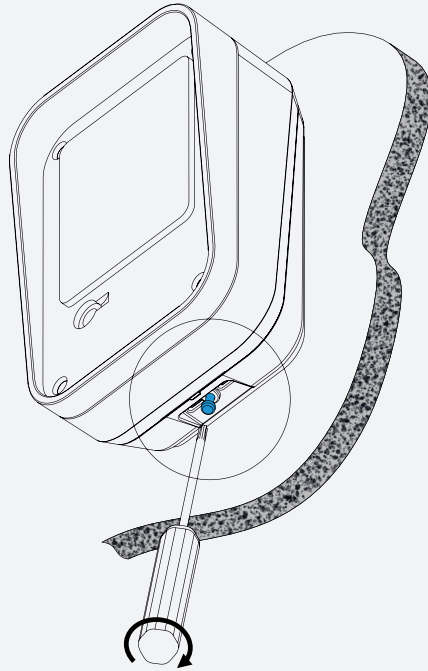
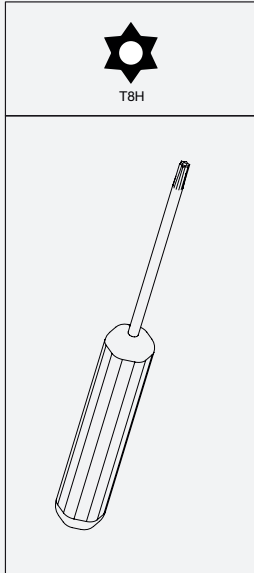
Rotate Camera and snap into the Wall Mount.

Ensure there is no strain on the cable connection.

09



INSTALLATION



Using a T8H security screwdriver, gently remove the security screw until it is clear of the inside wall.

Avoid using electric screwdrivers to minimise damage to the device.

STOP

INSTALLATION

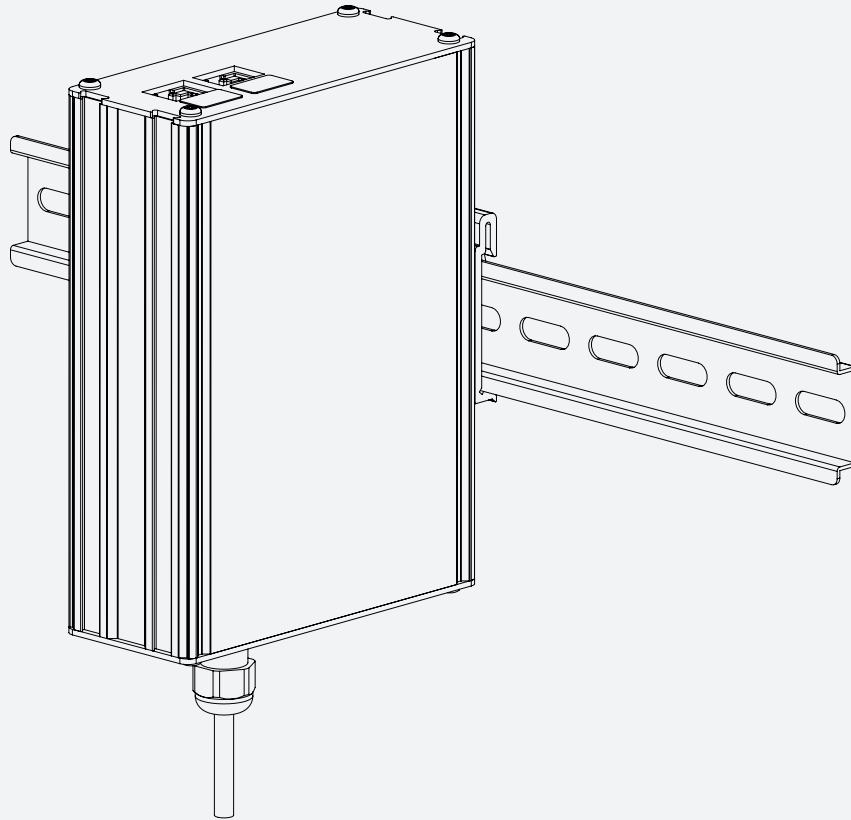


DO NOT Remove backing!

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

10

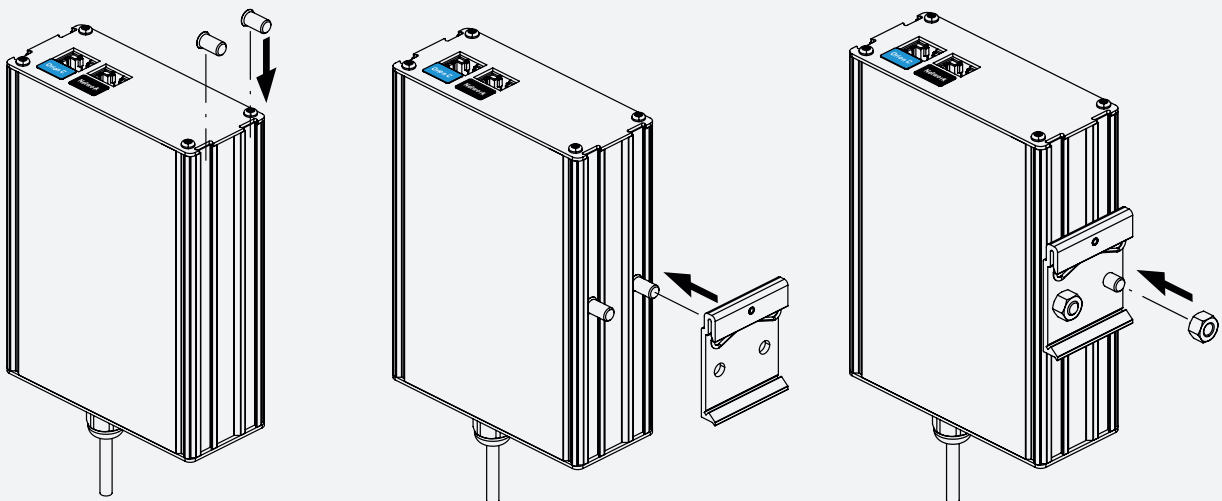
INSTALLATION



Control Unit Din Rail  
Mounting Option

11

INSTALLATION

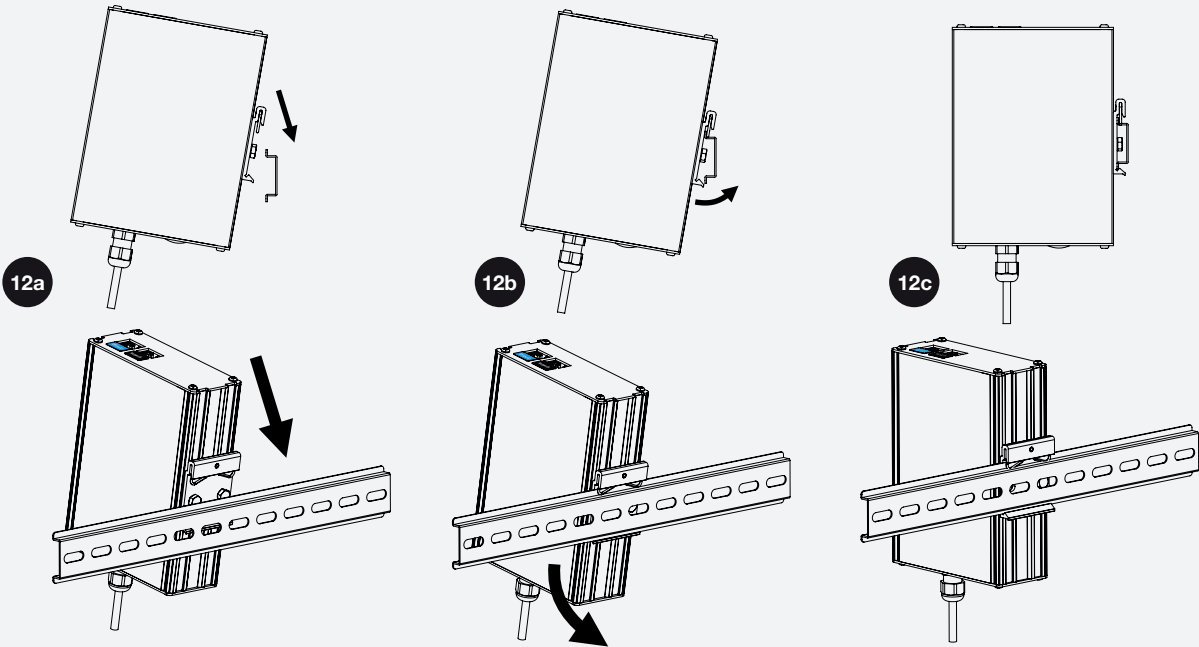


Orion CU Din Rail  
Type assembly



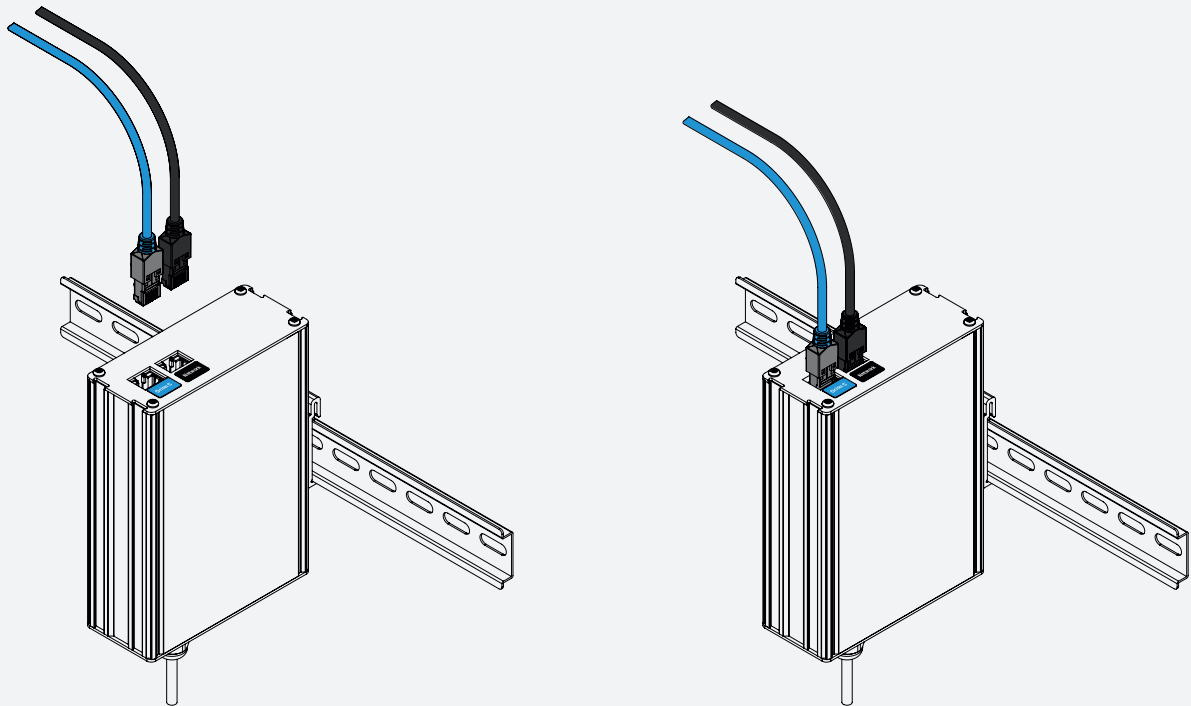
12

INSTALLATION



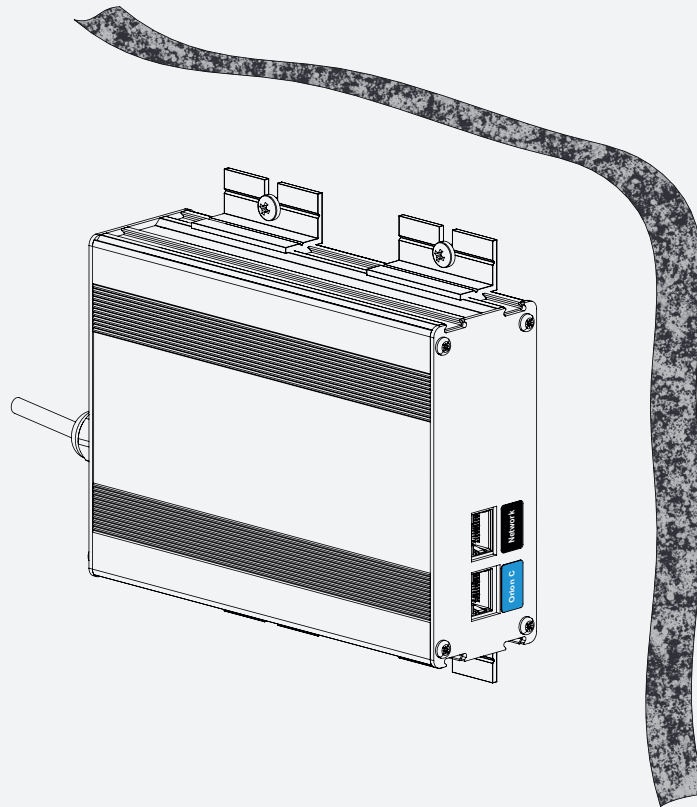
13

INSTALLATION



14

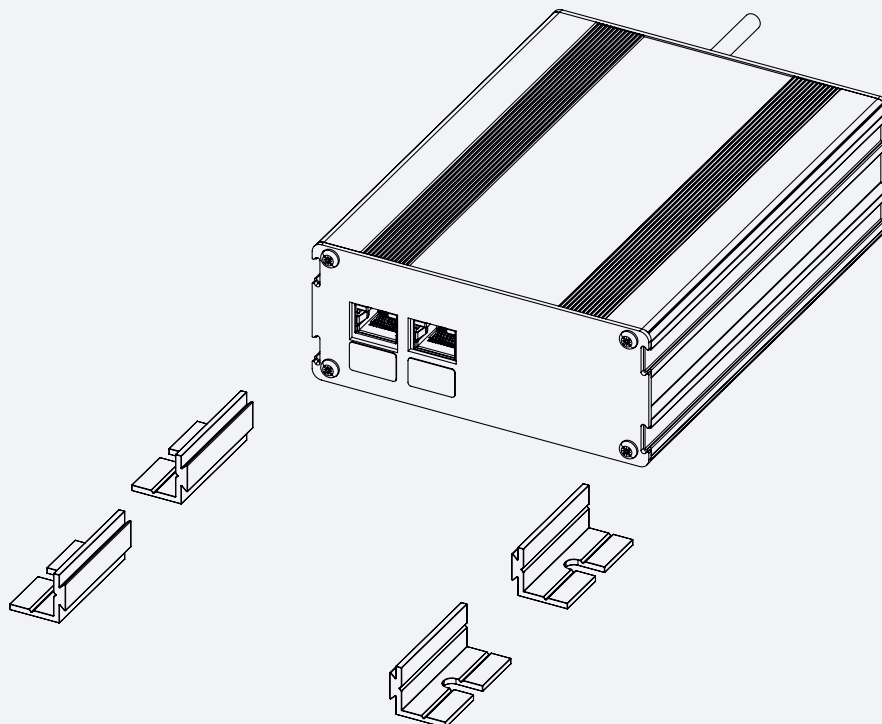
INSTALLATION



Control Unit Wall  
Mounting Option

15

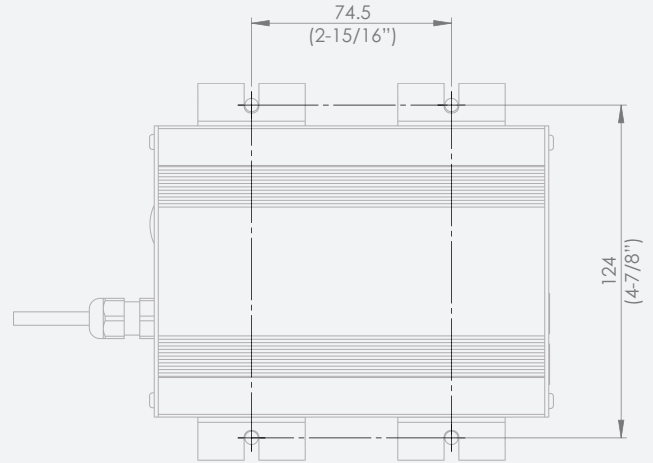
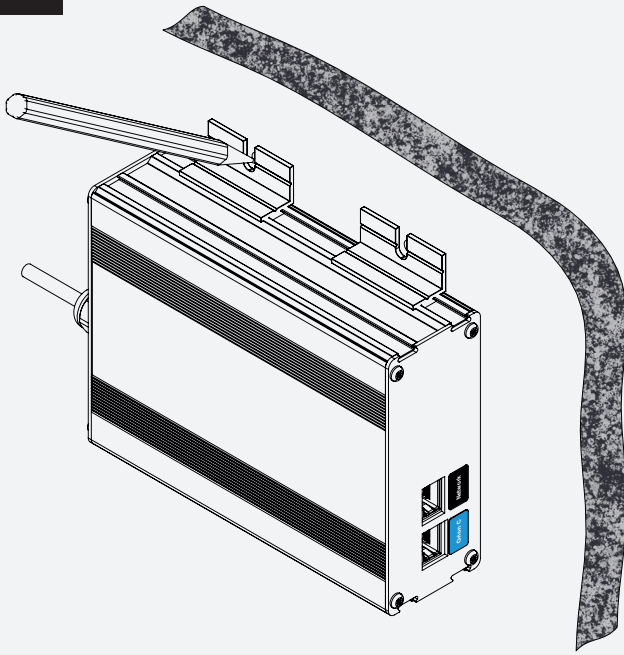
INSTALLATION



Orion CU Wall mount  
assembly

16



INSTALLATION




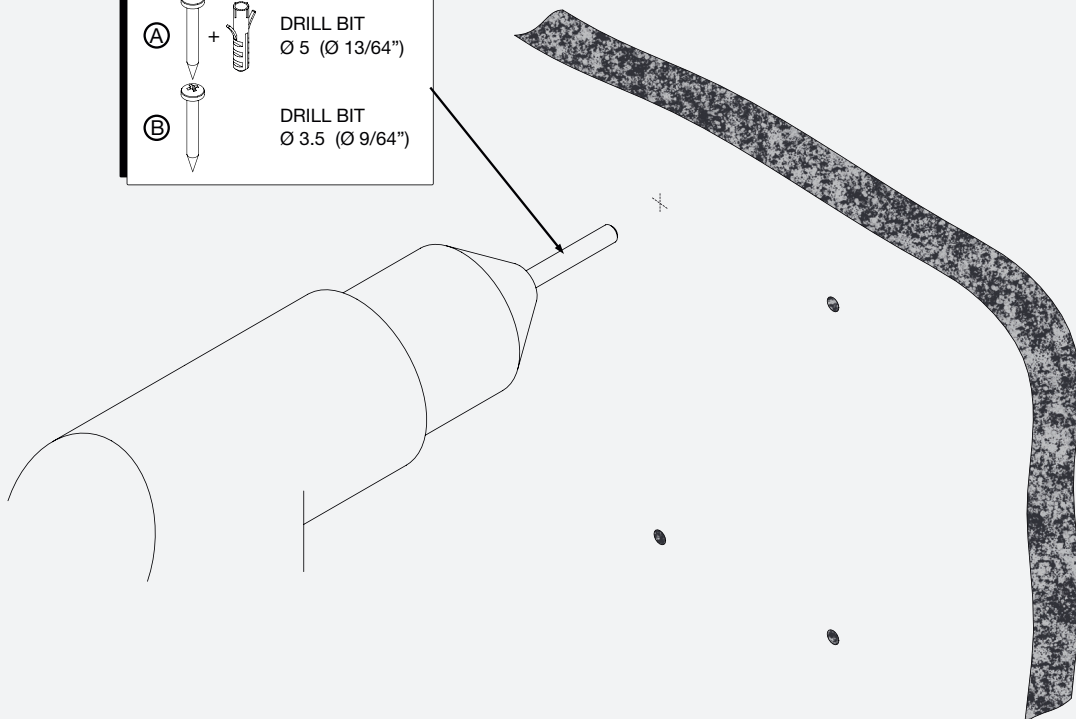
17

INSTALLATION

**! INFORMATION**

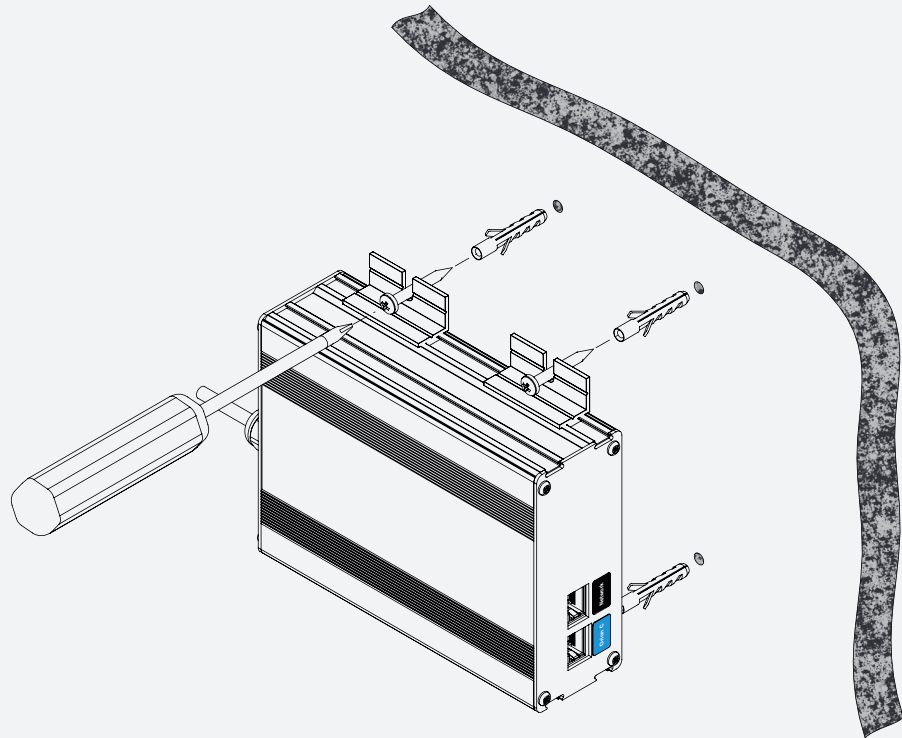
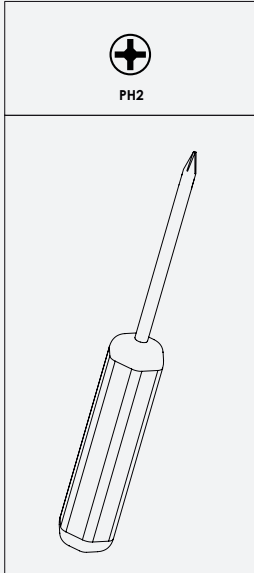
(A)  +  DRILL BIT  
Ø 5 (Ø 13/64")

(B)  DRILL BIT  
Ø 3.5 (Ø 9/64")



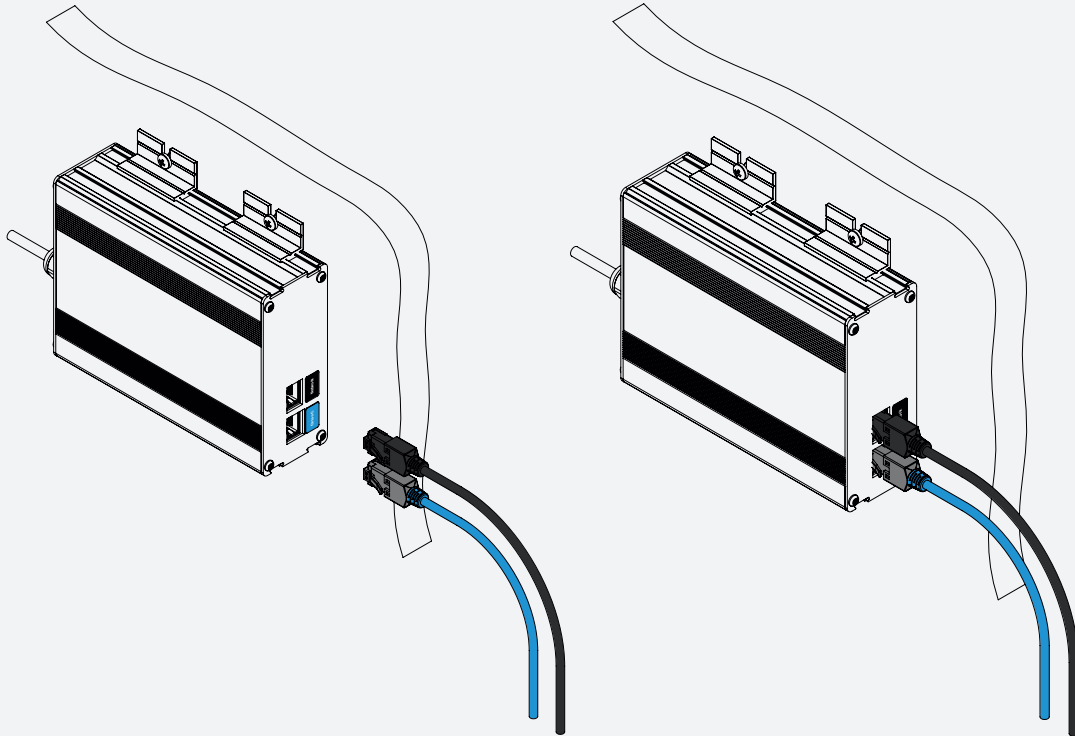
18

INSTALLATION



19

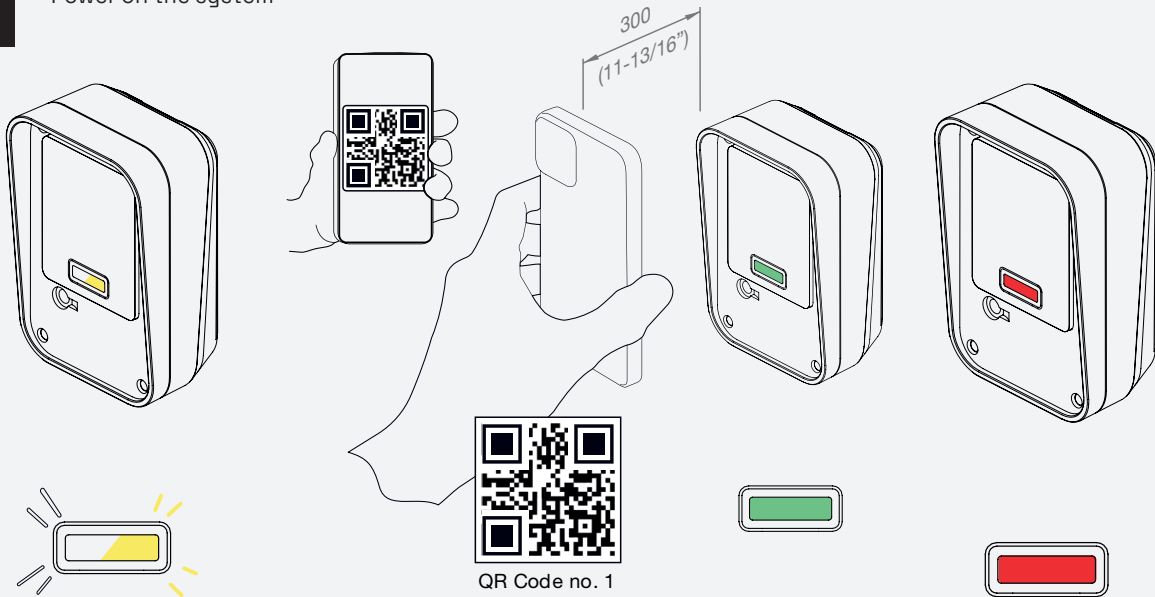
INSTALLATION



20

Power on the system

INSTALLATION



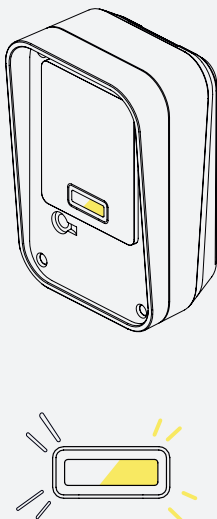
Power on the system and check for status alternating yellow and white.

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


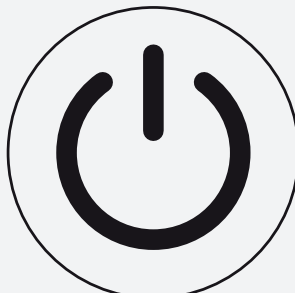
Status displays red if an issue is detected. Depending on the severity of the issue, the program may restart, but will return to flashing white and yellow when the QR code is moved away or the program has restarted.



INSTALLATION



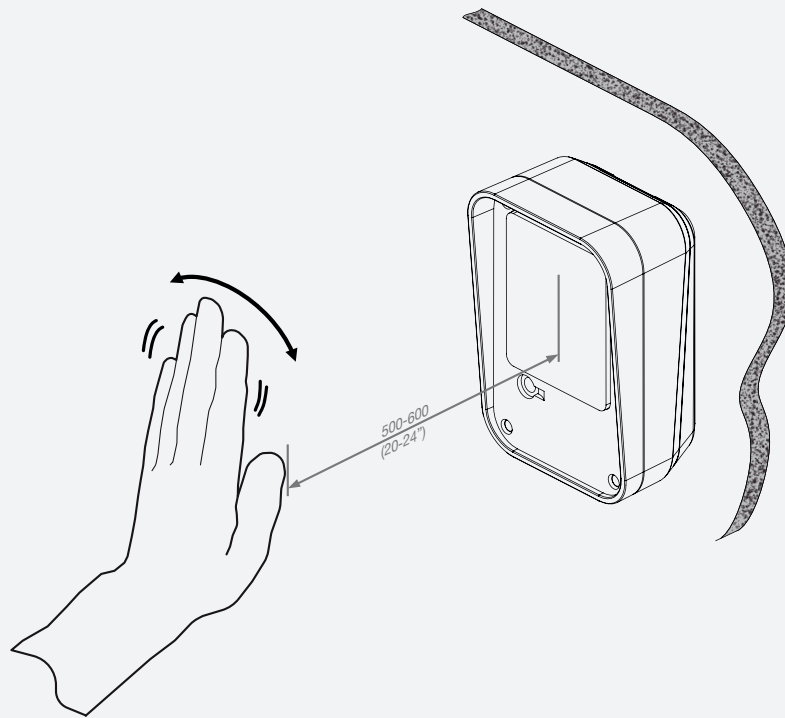
Status display returns to alternating yellow and white to indicate precommission standby mode.

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

21

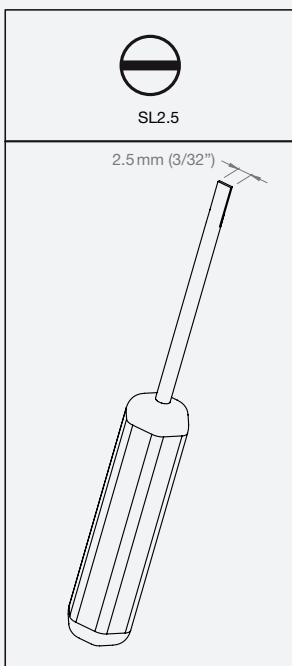
COMMISSION



Place your hand at the distance decided. Status light will flash yellow until an object is detected. If the status light changes to solid yellow, the sensor is adjusted correctly.

22

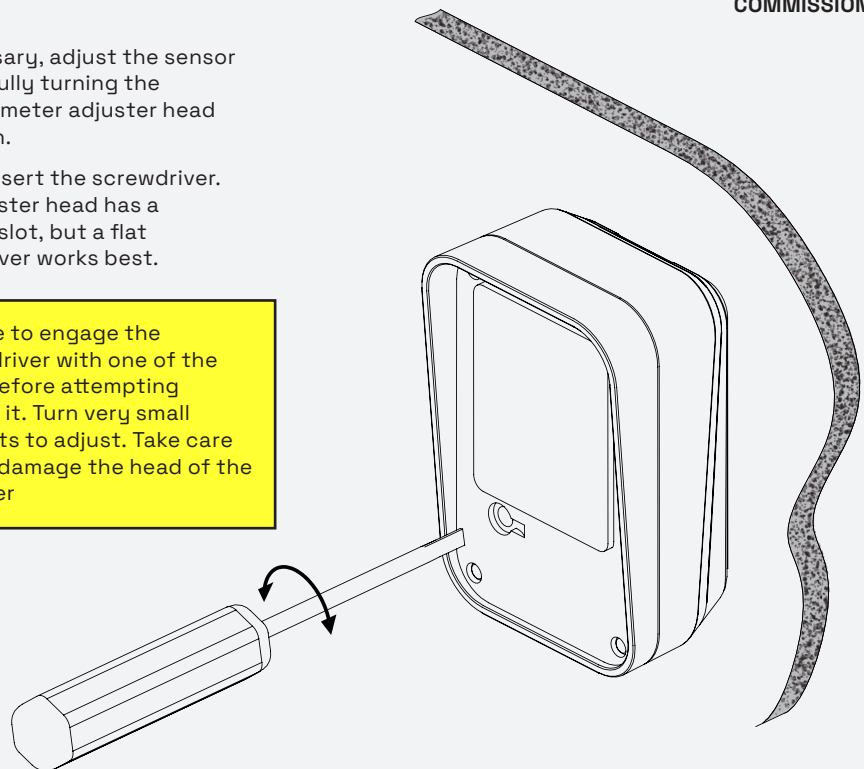
COMMISSION



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

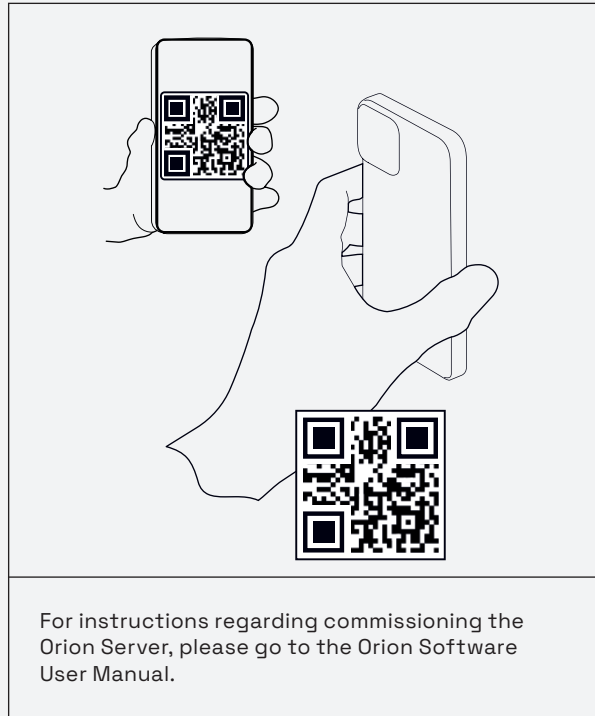
Gently insert the screwdriver. The adjuster head has a crossed slot, but a flat screwdriver works best.

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



23

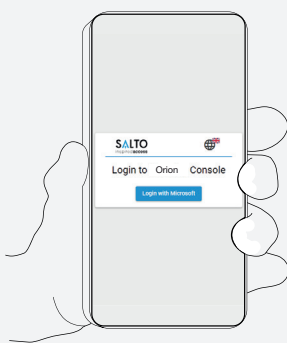
COMMISSION



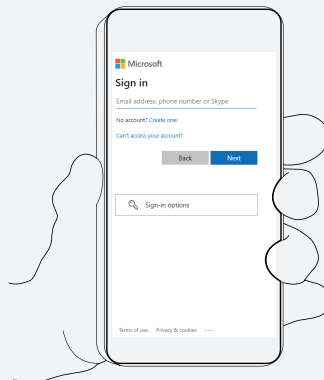
24

COMMISSION

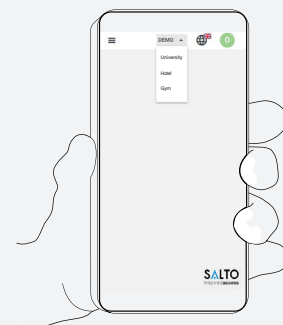
The Orion Console allows each Orion Camera to be paired with its associated SALTO door using a uniquely generated QR code.



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.



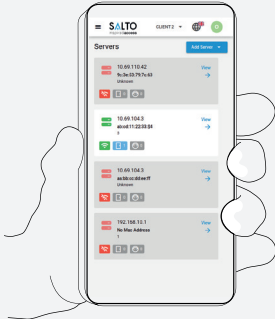
Orion Console Credentials Entry page: Enter login credentials for the Orion Console.



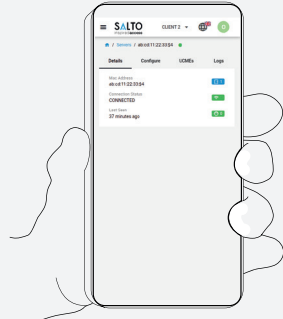
Orion Console Sites Selection page: If granted authority to access more than one Orion site (customer building or site), select the appropriate site from the drop-down menu.

25

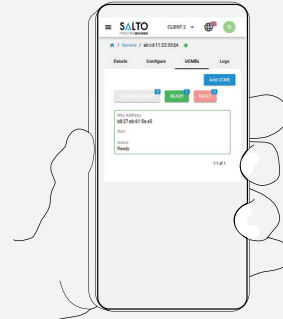
COMMISSION



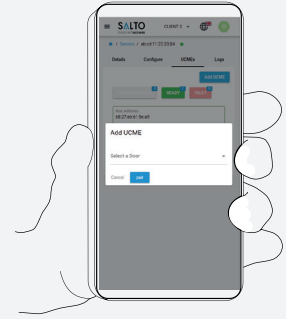
Server tab: Click the “View” button to select the server into which the Orion Camera is being commissioned.



Details tab: The “Details” tab provides details about the server. Click the “Cameras” tab to manage Orion Cameras, and to add a camera.



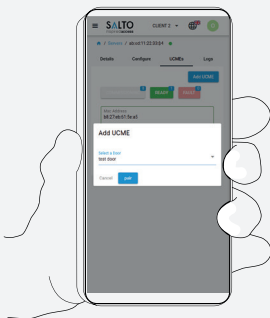
Cameras: The “Cameras” tab displays the cameras already commissioned to the server. Filter between cameras in commissioning, “ready” and “faulty”. Click the “Add Camera”.



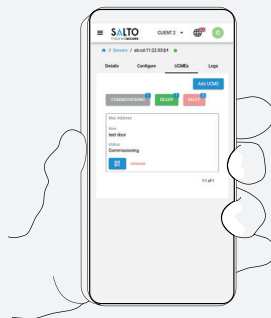
Add Camera screen: Use the drop down list to select the SALTO door with which to associate the camera.

26

COMMISSION



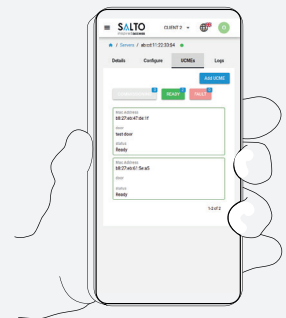
Once the correct SALTO door has been selected, click “pair”.



If the incorrect door was selected, use the “Remove” button. Then, use the “add camera” 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. To clear this and return to the “Cameras” tab, click “Clear”. 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).

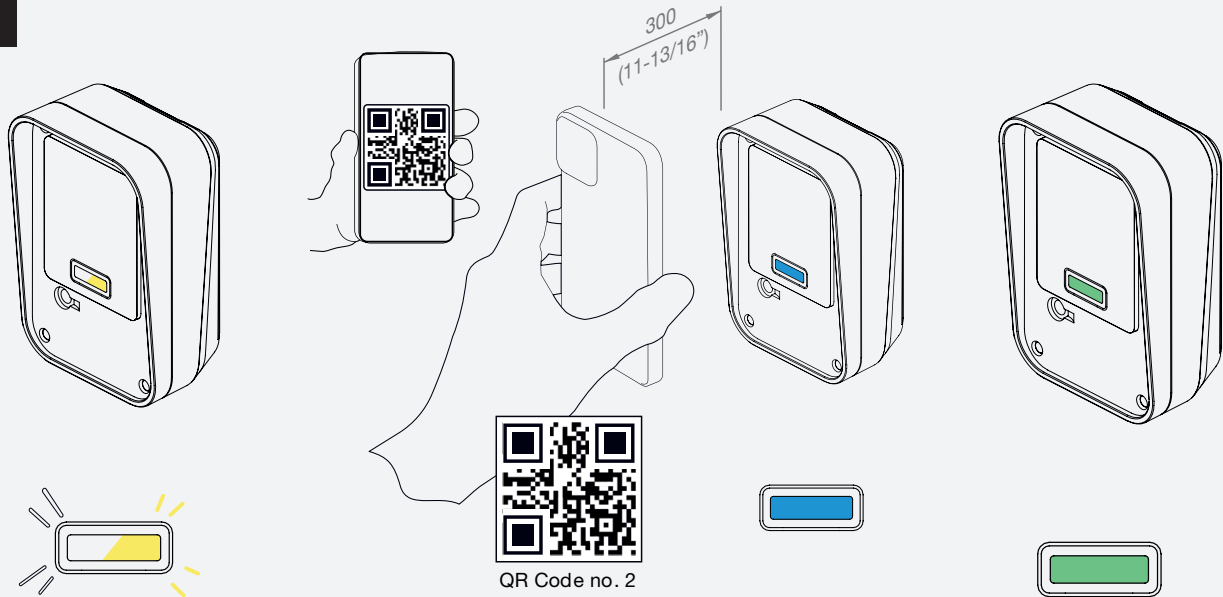


Cameras tab: The QR code will disappear once the commissioning of this camera is complete. Press the “Ready” button to check that the UCM has appeared on the ready list.



27

COMMISSION



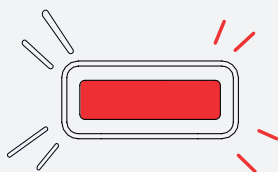
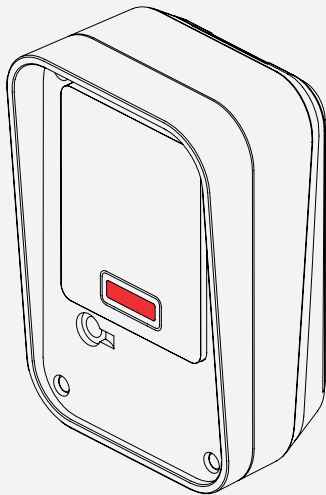
Orion system powered on and 'status' alternating yellow and white.

Display QR code no.2 to camera at a distance of approximately 300mm. Status displays 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

COMMISSION



**Note**

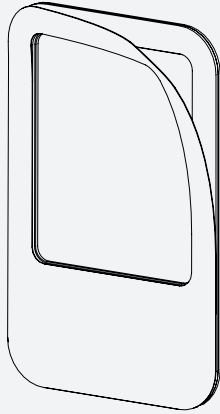
Red being shown during this process indicates an error. If this error is encountered during a commission request to the server, the status indicator will first show red then blue to indicate that it will re-attempt the request. This red-blue cycle will repeat up to 5 times until there is a green light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

If there is no successful response after 5 attempts, the camera will return to flashing white/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.

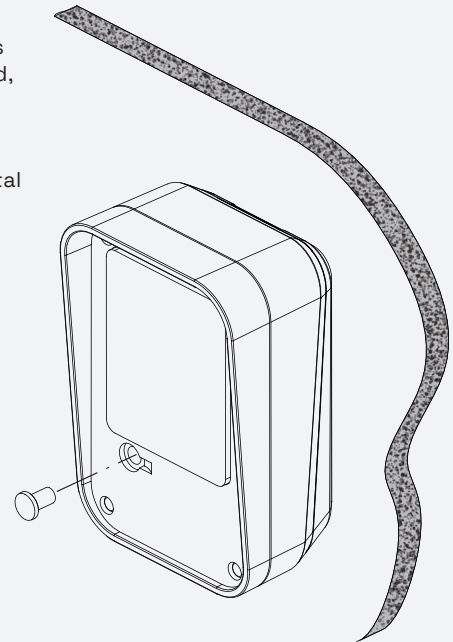
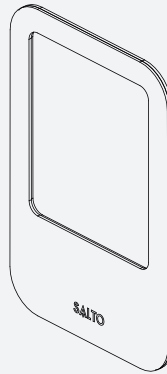
29

COMMISSION



**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.



# Specifications and Requirements

## POWER

	MAX	TYP
Input Voltage (camera)		5V
Current consumption (camera)		360mA@5V
Input Voltage (control unit)		12V
Current consumption (control unit)		265mA
Current consumption (system)	415mA@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 (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 Must not be in the range: 172.31.255.0/24
Outbound Ports	Restrict to: 123 - NTP 443 - HTTPS/TLS 8883 - MQTT / mTLS  Should also only permit Orion servers to access outbound ports. Orion devices do not require access outside of the VLAN.
DHCP	DHCP is required to provide IP addresses to Orion devices. 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.
Cameras per server	100 cameras per server. This ensures a sub 2 second response time for all users when requests are made from all 100 cameras concurrently (i.e. within a 10 second window).
CPUs / Memory	Min. 3.6 GHz 16vCPU 32 GB Memory This will provide a sub 2 second response time for all users when requests are made from all 100 cameras concurrently (i.e. within a 10 second window).
Storage	Mirrored SSD - 480GB Strongly recommend that physical storage is encrypted.
Architecture	Intel/AMD x64
Operating System	Ubuntu Minimal Install 22.04 LTS The install process will harden the server installing and configuring a firewall and OS updates.