

# XCU Fusion

316L stainless-steel dual imager camera

## Installation Manual



**SIQURA**

**Note:** To ensure proper operation, please read this manual thoroughly before using the product and retain the information for future reference.

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XCU Fusion  
Installation Manual v4 (180207-4)  
AIT55

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Although considerable care has been taken to ensure a correct and suitably comprehensive description of all relevant product components, this manual may nonetheless contain errors and inaccuracies. We invite you to offer your suggestions and comments by email via [t.writing@tkhsecurity.com](mailto:t.writing@tkhsecurity.com). Your feedback will help us to further improve our documentation.

## **How to contact us**

If you have any comments or queries concerning any aspect related to the product, do not hesitate to contact:

Siquira B.V.  
Zuidelijk Halfroond 4  
2801 DD Gouda  
The Netherlands

General : +31 182 592 333  
Fax : +31 182 592 123  
E-mail : [sales.nl@siquira.com](mailto:sales.nl@siquira.com)  
WWW : [siquira.com](http://siquira.com)

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# 1 About this manual

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## What's in this manual

This manual gives you the information you need to install the XCU Fusion camera. It tells:

- How to mount the camera
- How to connect the camera
- How to power the camera

## Who this manual is for

These instructions are for all professionals who will install the XCU Fusion.

## Where to find more information

Find product specific datasheets, manuals, EU Declarations of Conformity and firmware updates at [sigura.com/downloads/software](https://sigura.com/downloads/software). Make sure that you have the latest version of this manual.

## What you need to know

You will have a better understanding of how this product works if you are familiar with:

- Camera technologies
- CCTV systems and components
- Ethernet network technologies and Internet Protocol (IP)
- Windows environments
- Video, audio, data, and contact closure transmissions
- Video compression methods

## Before you continue

Read, fully understand and observe all instructions and warnings in this manual. Keep this manual in a safe place for future reference. When you unpack this product, make sure there are no missing or damaged items. If any item is missing, or if you find damage, do not install or operate this product. Ask your supplier for assistance.

## Why specifications may change

We are committed to delivering high-quality products and services. The information given in this manual was current when published. As we continuously seek to improve our products and user experience, all features and specifications are subject to change without notice.

## Acknowledgement

This product uses the open-source Free Type font-rendering library. The *Open Source Libraries and Licenses* document, available at [sigura.com/downloads/software](https://sigura.com/downloads/software), gives a complete overview of open source libraries used by our video encoders and IP cameras.

## 1.1 Copyright and trademarks

Any company, brand or product names mentioned in this manual are registered trademarks of their respective owners.

## 1.2 Typographical conventions



**INFO**

Read this information carefully to have a better understanding of the current or following instructions.



**CAUTION!**

Follow these precautions to prevent potential injury or material damage.



**DANGER!**

Follow these safeguards to prevent serious injury or death.

---

## 1.3 Compliance information





**The XCU Fusion is in conformity with the certifications listed below.**

---

Certifications:

- IP67
- CE
- FCC

### EU Conformity Statement

|   |   |
|---|---|
|  | This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonised European standards listed under the Low Voltage Directive 2014/35/EC, the EMC Directive 2014/30/EC, the RoHS Directive 2011/65/EU.   |
|  | 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: <a href="http://www.recyclethis.info">www.recyclethis.info</a> . |

## 2 Identification

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### In This Chapter

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### 2.1 Models



This section gives an overview of the powering, connectivity and mounting options for the XCU Fusion series. More detailed information is given in the XCU Fusion datasheet.

#### Modular concept

The XCU Fusion comes in many variations, all sharing the same housing. For mounting and connectivity purposes, a modular concept is introduced:

- XCU Fusion: This is the camera with the housing, excluding the bracket, mount or cable connectors.
- Wall/Pole mounting bracket: This is the part with which the camera (via the swivel) will be mounted, either on a wall or on a pole. The swivel on the bracket is used to fix the pan and tilt position of the camera.
- Ceiling mount: This is the part with which the XCU Fusion can be ceiling or wall/pole mounted.
- Connectors and cables.

#### Powering

Camera power can be supplied by:

- Line voltage (100-240 Vac)
- 24 Vdc / 24 Vac / PoE+

#### Connectivity

Models are available to connect the camera to:

- Ethernet (RJ-45)
- directly to fiber (dual LC SM)
- directly to existing coax (Ethernet over coax)

## 2.2 Product markings



**The back of the camera housing has a label complying with CE markings.**

---

The label shows:

- Camera model name
- Article number (including bar code)
- Power supply (Volt)
- Frequency (Hertz)
- Current consumption (Amps)
- Compliancy (RoHS and Part 15 of FCC rules)
- Work order number (WO)
- Production year and month
- MAC address
- IP address
- Serial number



**The side of the camera housing has the manufacturer's brand label.**

---

The label shows:

- Camera brand


# 3 Preparations

---

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## 3.1 Unpack

|   |   |
|---|---|
|  | <ul style="list-style-type: none"> <li>On delivery of the product, make sure that the packaging shows no signs of damage.</li> </ul>                                      |
|   | <ul style="list-style-type: none"> <li>If the packaging is visibly damaged, do not install or operate the unit. Report any damage to the supplier immediately.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>Unpack and handle the unit carefully so as not to damage the product.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>For better grip and protection, you are advised to wear slip-resistant safety gloves when handling the unit.</li> </ul>            |

## 3.2 Check package contents

The package contents include the items below. Notify your supplier if any item is missing.


### Camera

- XCU Fusion unit

### Documentation

- 1x Quick Start Guide

## 3.3 Discard packaging materials

|   |  |
|---|--|
|  | <ul style="list-style-type: none"> <li>You are advised to retain the original product packaging. Shipping the product for repairs without the original packaging may cause product damage during transport.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>The packaging materials can be recycled. If you discard the packaging, properly separate the materials and dispose of them at your local waste collection or recycling centre. Observe the local waste disposal regulations.</li> </ul> |



# 4 Cables and connectors

This chapter gives the requirements for cables and connectors used to connect the camera to power and network.

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## 4.1 Recommended cables

Depending on the power supply, we recommend use of the following cables:


- 230/115 Vac:
  - 3 G, size 1.5 mm<sup>2</sup>
- 24 Vac/Vdc:
  - up to 30 m, size 1.5 mm<sup>2</sup>
  - up to 15 m, size 0.75 mm<sup>2</sup>
- Ethernet:
  - Shielded AT5E S/FTP
- Power over Ethernet (PoE):
  - 100 m, wire size AWG24 or less.

## 4.2 Connectors

### 4.2.1 Power

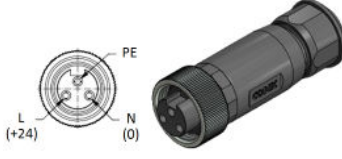
#### Power IP67 connector, size 7/8"

The standard power connector for 100-240 Vac, 24 Vdc or 24 Vac, located on the bottom plate of the camera, is the CON CONEC RECEPT. PWR 3P IP67 0.5M AWG18.

| CON CONEC RECEPT.                  | Front view   |
|------------------------------------|--|
| IP67 rated (potted)                |  |
| Temperature range -30 °C to +75 °C |  |
| UL approved E331608                |  |

#### Accessories for power IP67 connector, size 7/8"

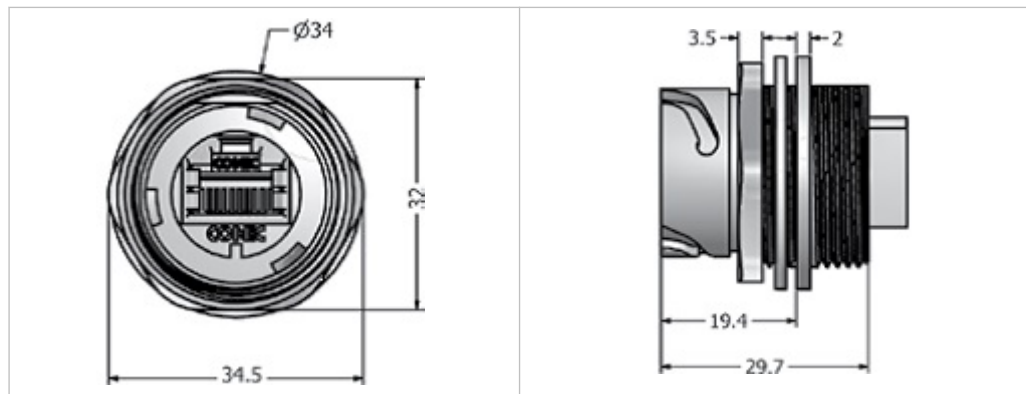
The CON CONEC PLUG PWR 3P IP67 AWG16 and CON IP67 CAP FOR 7/8" MALE accessories are available for the standard power connector above.

| CON CONEC PLUG  | Front view   |
|---|--|
| IP67 rated only when covered or mated                   |  |
| Cable range 6-12 mm                                     |  |
| Screw termination, Wire range 0.5 – 1.5 mm <sup>2</sup> |  |
| Temperature range -40 °C to +85 °C                      |  |

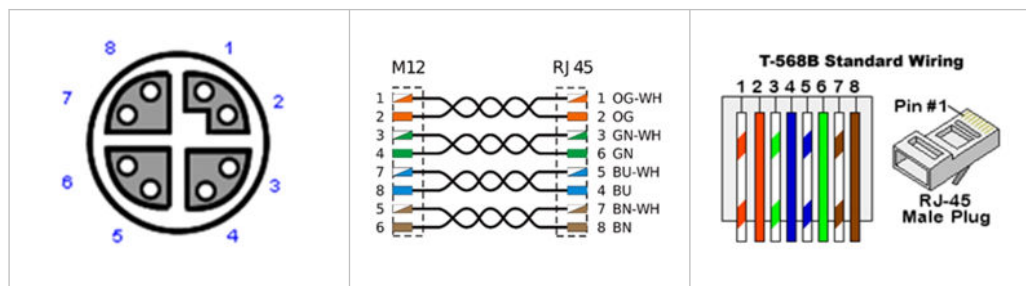
## 4.2.2 Ethernet

The standard Ethernet connector, located on the bottom plate of the camera, is the RJ-45 connector.

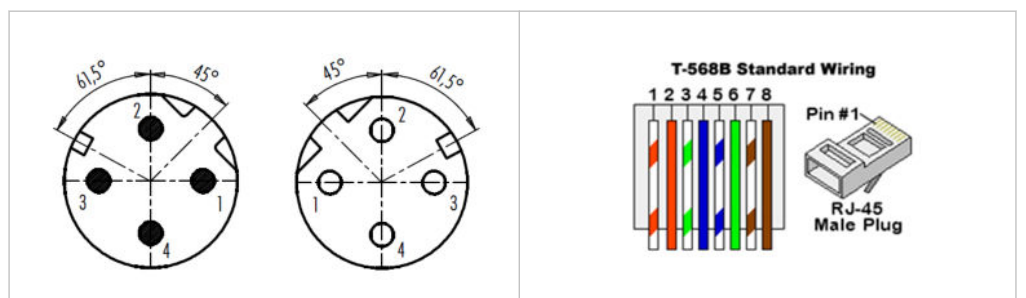
### RJ-45 connector



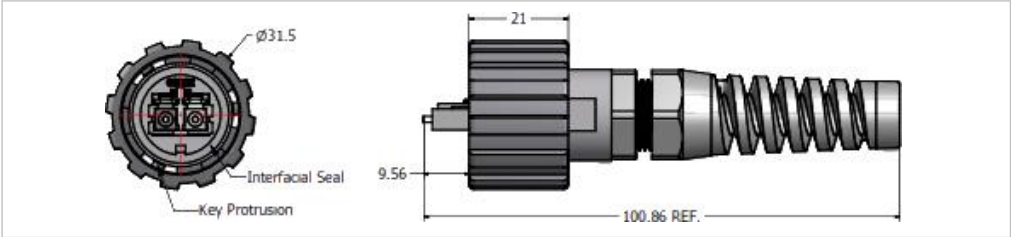
### Optional M12 X-coded Ethernet



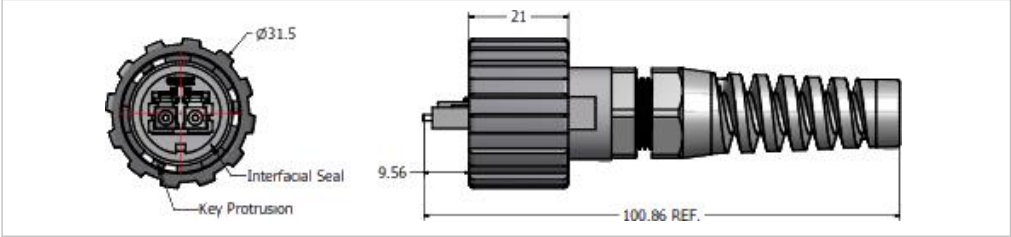
### Optional M12 D-coded Industrial Ethernet



**Optional fibre (2SM)**




**Optional fibre (2MM)**



**Cable part of the connector**

The contra parts of the above connectors are available from Siquira as accessories.

# 5 Mount and connect

|   |  |
|---|--|
|  | <ul style="list-style-type: none"> <li>• Installation should be done by a qualified engineer and should conform to the local code of practice and all relevant local and international standards.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>• Disconnect the power from the camera during installation.</li> </ul>  |
|   | <ul style="list-style-type: none"> <li>• It is recommended to fix the camera or its mounting brackets with anchors or screws that can hold 100 kg or more per anchor or screw.</li> </ul>                    |
|   | <ul style="list-style-type: none"> <li>• Avoid strong light sources, such as the sun, shining straight into the lens.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Use tools that are appropriate for the intended purpose.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Check the supply voltage (marked on the label). An incorrect power supply voltage may damage the unit.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Do not open the camera to maintain the certification requirements and the IP rating of the unit.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Use the safety cable (supplied with the mount) to prevent the camera from falling when mounting it on the wall/pole or ceiling mount.</li> </ul>                    |

## In This Chapter

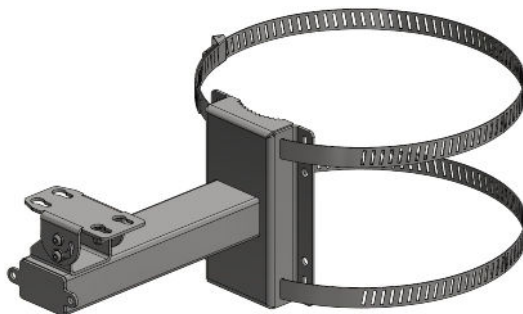
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## 5.1 Wall/pole mounting

### 5.1.1 Wall/pole mount accessories

The following accessories can be supplied for wall mounting:

- XCUWM01: Wall/Pole mount
- XCUSS01: Sunshield
- XCUFP01: Safety cable



*XCUWM01 Wall/Pole mount with pre-assembled swivel and straps*



*XCUSS01 Sunshield*



*SCUFP01 Safety cable (standard supplied with mounts)*

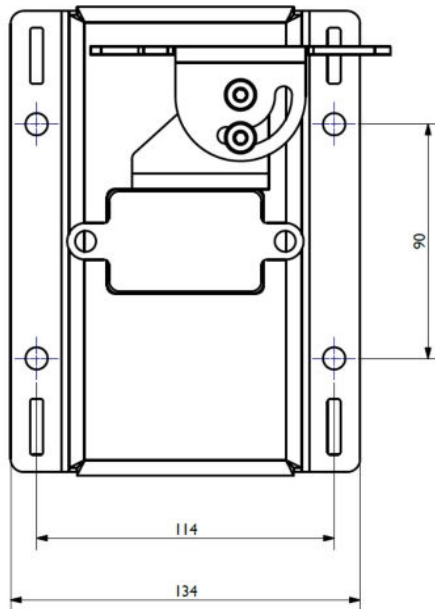
## 5.1.2 Mount the bracket



- When mounting the wall bracket, use anchors and screws (M8) which are appropriate for the mounting surface.
- Each anchor or screw must be able to hold 100 kg.

### Attach the bracket to the wall

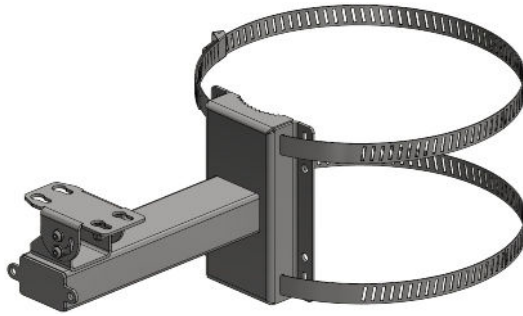
- 1 Mark the drill hole positions (see the drilling template below).
- 2 Attach the bracket to the wall.
- 3 Rotate the swivel to be transverse to the bracket.



*Drilling template*

### Attach the bracket to the pole

- 1 Mount the bracket to the pole using straps as indicated below.



*Bracket mounted to pole with straps*

### 5.1.3 Attach safety cable

To prevent the camera from falling when installing, make sure to attach the supplied safety cable:

- 1 Connect the safety steel cable to the attachment eye on the bottom of the camera.
- 2 Connect the other end of the cable to the attachment eye on the wall bracket.

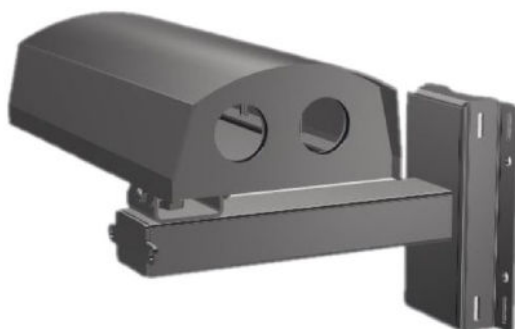
### 5.1.4 Mount the camera

#### **Mount the sunshield (optional)**

- 1 Position the sunshield over the camera.
- 2 Align the nuts and bolts with the receiving holes on the sunshield.
- 3 Tighten the four locking nuts which fasten the camera to the sunshield.

#### **Attach the camera to the swivel**

- 1 Position the camera bottom over the swivel.
- 2 Align the nuts and bolts with the receiving holes on the swivel. See the bottom view under Attach the camera to the ceiling mount (see "Mount the camera" on page 17).
- 3 Lower the camera onto the swivel.
- 4 Slide the camera into locking position on the swivel.
- 5 Tighten the four locking nuts which fasten the camera to the bracket.



*Wall mounted XCU Fusion*

## 5.1.5 Connect to network

### Connect the network cable



- 1 Open up the network connector cap.

**Note:** Leave the cap attached to its strap for re-use if you should need to disconnect the network cable at a later stage. Use a tie wrap to secure the cap against wind, if need be.

- 2 Insert the RJ-45 plug into the camera network connector.
- 3 Push the black ring towards the connector.
- 4 Turn the ring counter-clockwise to fasten the cable.

## 5.1.6 Connect to power

Depending on the model, the device can be provided with different power supply voltages. Their value is shown on the product identification label (see "Product markings" on page 7).

|   |   |
|---|---|
|    | <ul style="list-style-type: none"><li>• Make sure that the specifications for the power supply for the installation correspond with those required by the device.</li></ul> |
|  | <ul style="list-style-type: none"><li>• Make sure that the power source and connecting cables are suitable for the power consumption of the system.</li></ul>               |

### Powering

Camera power can be supplied by:

- Line voltage (100-240 Vac)
- 24 Vdc / 24 Vac
- PoE+

### Power the camera (100-240 Vac / 24 Vdc / 24 Vac)

- 1 Carefully align the cable connector holes correctly with the pins on the camera power connector.
- 2 Push the cable connector into place.
- 3 Carefully turn the ring counter-clockwise to fasten the cable to the camera.  
Make sure the ring is properly turned all the way up.

## 5.1.7 Fix the camera position

Horizontal and vertical camera position are fixed through the swivel.

### Fix horizontal position

- 1 Rotate the camera to achieve the designated horizontal field of view.
- 2 Keeping the camera body in position, tighten the bolt which secures the swivel to the bracket.

- 3 To get access to the nut inside the swivel, you may need to tilt the camera.
- 4 Tighten the nut which holds the swivel.

#### **Fix vertical position**

- 1 Tilt the camera to achieve the designated vertical field of view.
- 2 Keeping the camera body in position, tighten the bolts (4x) which fix the tilt angle.
- 3 Do the same for the locking nuts (4x) inside the swivel).

### **5.1.8 Check installation**

#### **Inspect the mounting of the unit**

- 1 Check if the unit and its bracket are properly secured by the mounting bolts and screws.
- 2 Check if the swivel is properly fixed to prevent the camera from rotating or tilting.

## **5.2 Ceiling mounting**

### **5.2.1 Ceiling mount accessories**

The following accessories can be supplied for ceiling mounting:

- XCUCM01: Heavy duty ceiling mount for XCU Fusion
- XCUCM02: Ceiling mount for XCU Fusion
- XCUSS01: Sunshield (only for use with ceiling mount XCUCM02)



*XCUCM01 Heavy duty ceiling mount for XCU Fusion*



*XCUCM02 Ceiling mount for XCU Fusion*



## 5.2.2 Mount the ceiling mount



- When mounting the ceiling mount, use anchors and screws (M8) which are appropriate for the mounting surface.
- Each anchor or screw must be able to hold 100 kg.

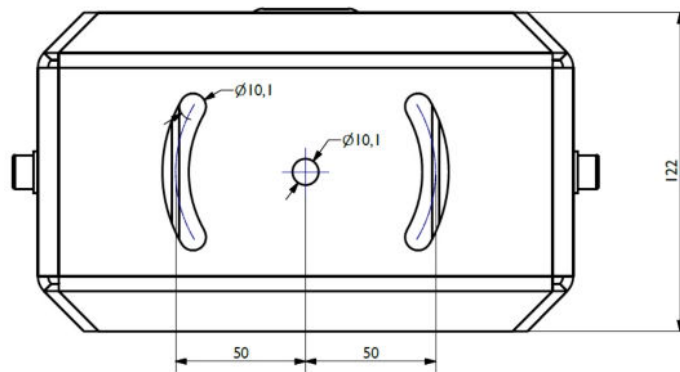
### Attach the mount to the ceiling

- 1 Mark the drill hole positions (see the drilling templates below).
- 2 Attach the mount to the ceiling.

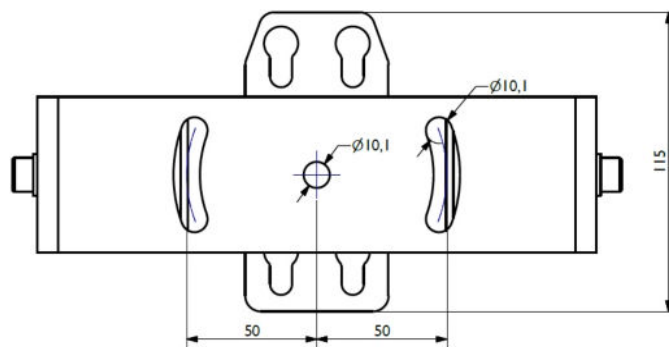
### Attach the mount to a pole or wall (only for XCUCM02)

Apart from attaching the ceiling mount to the ceiling, ceiling mount XCUCM02 can also be mounted on top of a wall or pole. In that case, turn the mount upside down so that the outer bracket rests on the wall or pole.

- 1 Mark the drill hole positions (see the drilling template below).
- 2 Attach the mount on top of the wall or pole.



Drilling template ceiling mount XCUCM01 heavy duty



Drilling template ceiling mount XCUCM02

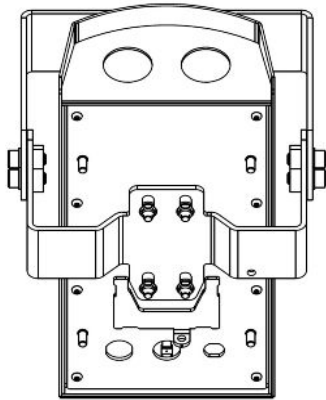
## 5.2.3 Mount the camera

### Mount the sunshield (optional and only for XCUCM02)

- 1 Position the sunshield over the camera.
- 2 Align the nuts and bolts with the receiving holes on the sunshield.
- 3 Tighten the four locking nuts which fasten the camera to the sunshield.

### Attach the camera to the ceiling mount (ceiling mounting)

- 1 Position the camera bottom over the ceiling mount.
- 2 Align the nuts and bolts with the receiving holes on the ceiling mount (see the bottom view below).
- 3 Lower the camera onto the ceiling mount.
- 4 Slide the camera into locking position on the ceiling mount.
- 5 Tighten the two locking nuts which fasten the camera to the ceiling mount.



*Bottom view of properly mounted camera*



*XCU Fusion ceiling mounted on XCUCM01 heavy duty*



*XCU Fusion ceiling mounted on XCUCM02*

### Attach the camera to the ceiling mount (wall or pole mounting)

- 1 Remove the screws that fasten the inner bracket to the outside bracket and separate the two brackets.

- 2 Position the camera bottom over the inner bracket.
- 3 Align the nuts and bolts with the receiving holes on the bracket.
- 4 Lower the camera onto the bracket.
- 5 Slide the camera into locking position on the bracket.
- 6 Tighten the two locking nuts which fasten the camera to the bracket.
- 7 Position the camera and inner bracket inside the outside bracket so they form a 'U' shape together.
- 8 Tighten the screws which fasten the inner bracket to the outside bracket.



*XCU Fusion wall/pole mounted on XCUM02*



### **5.2.4 Connect to network and power**

To connect the camera to the network and power, follow the instructions of Connect to network ( on page 15) and Connect to power ( on page 15).

### **5.2.5 Check installation**

Check if the unit and its mount are properly secured by the mounting bolts and screws.

## 6 Maintenance

|   |  |
|---|--|
|  | <ul style="list-style-type: none"> <li>• Read and understand the following instructions before you clean or service the unit.</li> <li>• Use only original Siqura replacement parts.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Observe the applicable standards when you inspect, maintain or repair the equipment.</li> <li>• Disconnect the power to the unit and contact Siqura support or the nearest service centre whenever you detect damage or deformation to the equipment.</li> <li>• If the product does not work properly, contact Siqura support or the nearest service centre. Never attempt to disassemble the camera yourself. Siqura does not assume any responsibility for problems caused by unauthorised repair or maintenance.</li> </ul> |

### Maintenance and inspection intervals

The XCU Fusion has been designed especially for the harsh environment of traffic tunnel applications and requires little or no maintenance. The camera is fanless and does not include any parts which are prone to wear and tear. Therefore, do not open the camera housing for any maintenance activities. It is advised to inspect the glass window at a regular basis for environmental pollutants such as dirt, grime or dust.

### Routine activities

Regularly perform the following routine activities:

- *Inspect the level of pollution on the glass window*  
Inspection frequency depends on the ambient pollution levels. Extremely polluted environments may require more frequent inspections.
- *Clean the unit (and the glass window)*  
Any pollution on the unit or the glass window can be rinsed off with water. You can use a pressure washer. Do not use caustic or abrasive cleaning products.
- *Inspect the mounting of the unit*  
Check if the mounting bolts and screws are still properly secured.

### Extraordinary maintenance

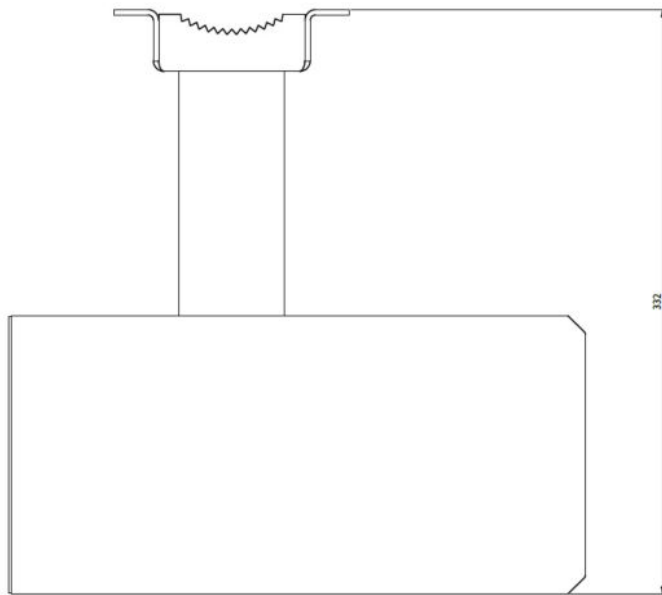
The XCU Fusion does not require extraordinary maintenance.

# 7 Dimensions

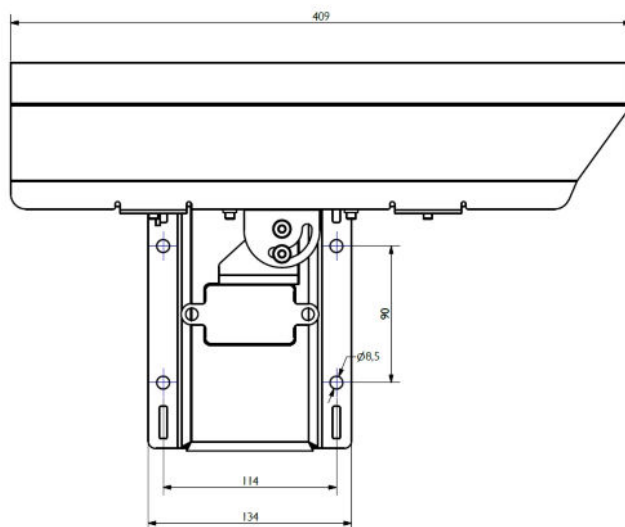
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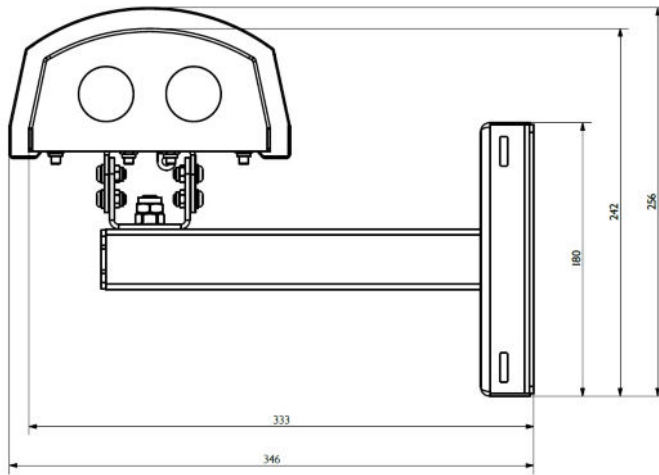
## 7.1 Wall/Pole mount



*XCU Fusion with sunshield mounted on XCUWM01, top view*

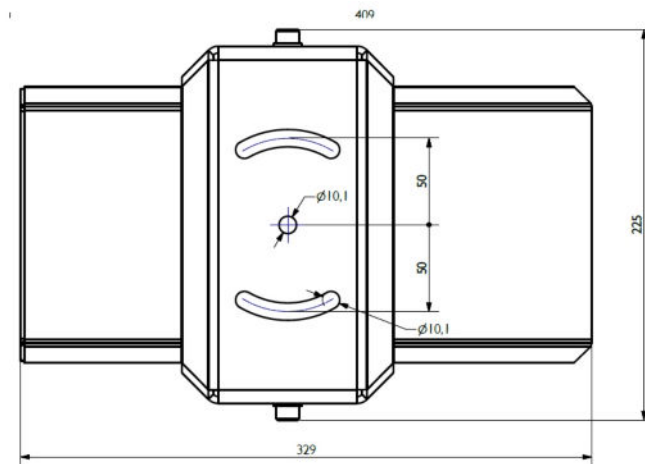


*XCU Fusion with sunshield mounted on XCUWM01, side view*

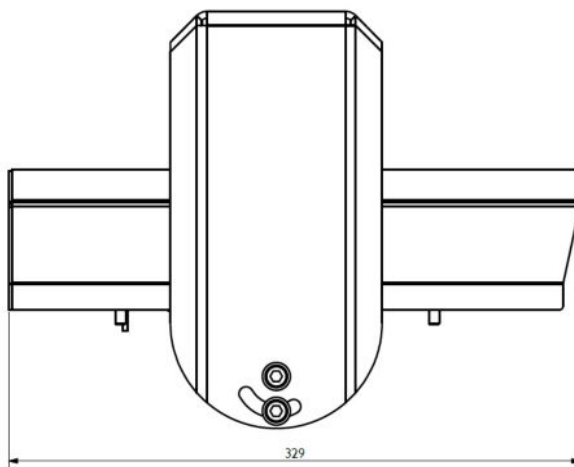


*XCU Fusion with sunshield mounted on XCUWM01, front view*

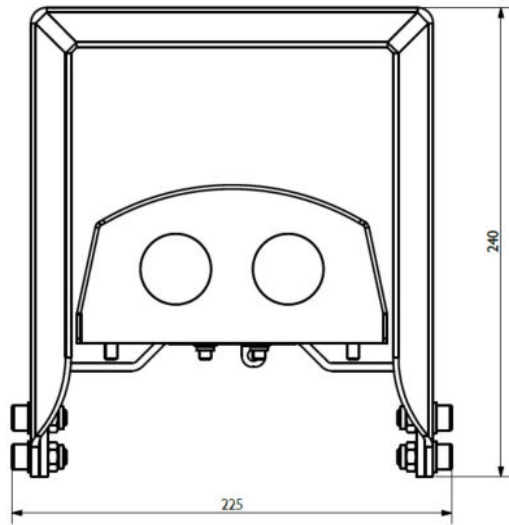
## 7.2 Ceiling mount



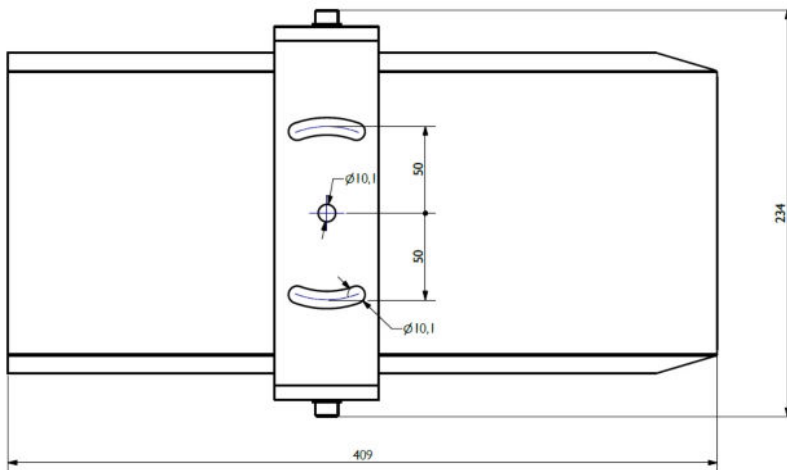
*XCU Fusion mounted on XCUCM01 heavy duty, top view*



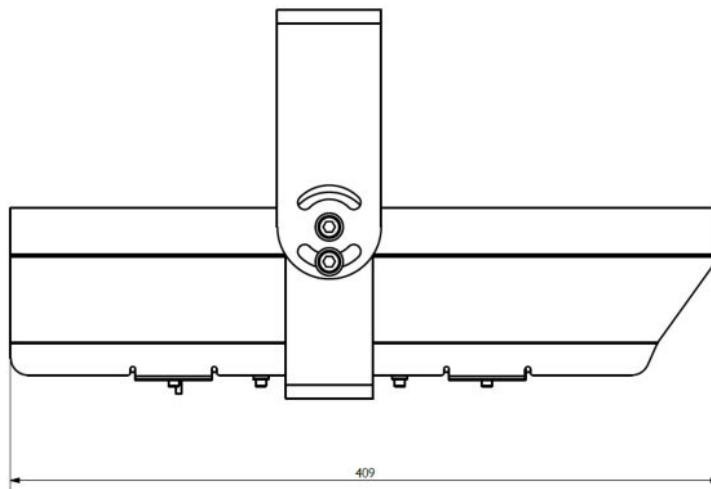
*XCU Fusion mounted on XCUCM01 heavy duty, side view*



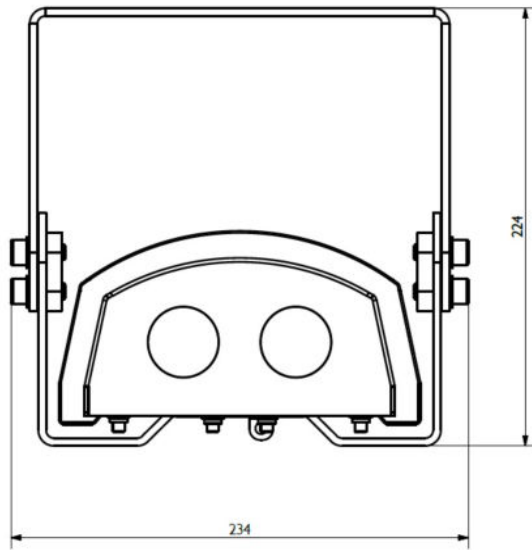
*XCU Fusion mounted on XCUCM01 heavy duty, front view*



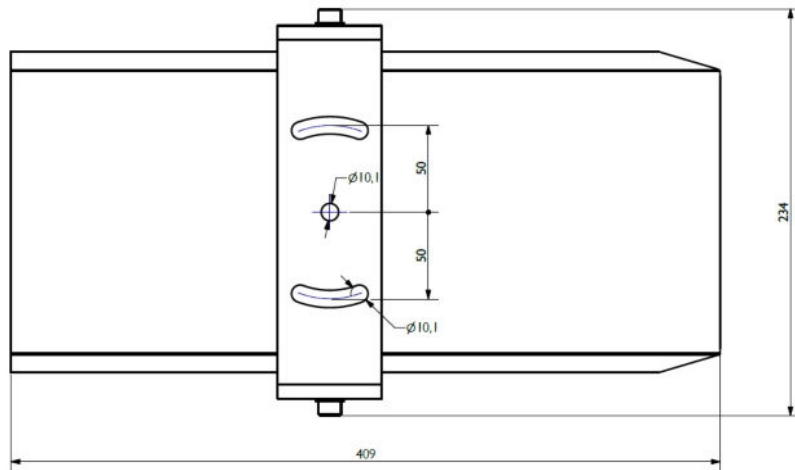
*XCU Fusion with sunshield mounted on XCUCM02, top view*



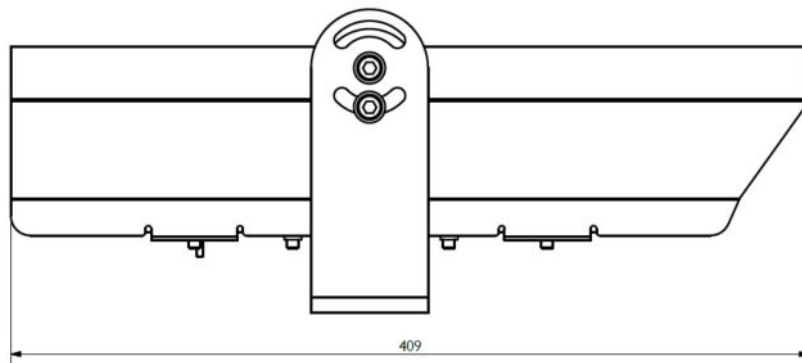
*XCU Fusion with sunshield mounted on XCUCM02, side view*



*XCU Fusion with sunshield mounted on XCUCM02, front view*



*XCU Fusion with sunshield mounted on XCUCM02 in U form, top view*

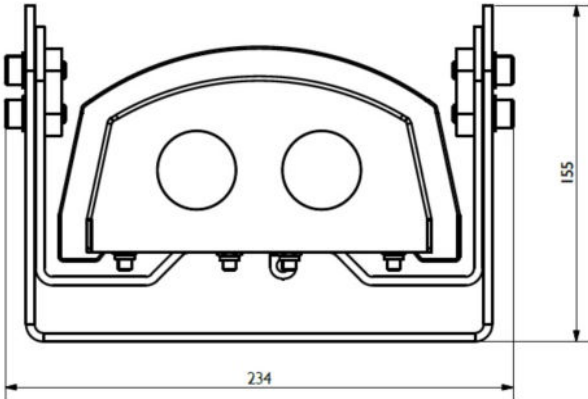


*XCU Fusion with sunshield mounted on XCUCM02 in U form, side view*



Dimensions

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*XCU Fusion with sunshield mounted on XCUCM02 in U form, front view*