FD820M1(IR)

High-definition fixed dome camera with Day/Night

Installation Manual

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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FD820
Installation Manual v2 (122002-2)
AIT55

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1 About this manual

What this manual covers

This manual describes how to install and connect the FD820, Siqura's HD fixed dome network camera. Instructions for configuration and operation of the FD820 can be found in the User Manual. The Technical Specifications for the FD820 are provided in the FD820 datasheet (download the latest version at www.siqura.com).

Who should read this manual

This manual is intended for technicians involved in the installation of FD820 cameras.

What you should already know

To be able to install and connect the FD820 properly, you should have adequate knowledge and skills in the following fields.

- CCTV systems and components
- Installing electronic devices
- Electrical wiring and low-voltage electrical connections
- Ethernet network technologies and Internet Protocol (IP)
- Windows environments
- Web browsers
- Video, audio, and contact closure transmissions
- Video compressions methods

Before you start the installation

We advise you to read and observe all instructions and warnings in this manual before you proceed. Retain this manual with the original bill of sale for future reference and warranty service. When you unpack your product, check for missing or damaged items. If any item is missing, or if damage is evident, do not install or operate this product. Contact your supplier for assistance.

Why specifications may change

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

We like to hear from you!

Customer satisfaction is our first priority. We welcome and value your opinion about our products and services. Should you detect errors or inaccuracies in this manual, we would be grateful if you would inform us. We invite you to offer your suggestions and comments via t.writing@tkhsecurity.com. Your feedback helps us to further improve our documentation.

2 Safety and compliance

This chapter presents the FD820 safety instructions and compliance information.

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2.1 Safety

The safety information contained in this section, and on other pages of this manual, must be observed whenever this unit is operated, serviced, or repaired. Failure to comply with any precaution, warning, or instruction noted in the manual is in violation of the standards of design, manufacture, and intended use of the module. Siqura assumes no liability for the customer's failure to comply with any of these safety requirements.

Trained personnel

Installation, adjustment, maintenance, and repair of this equipment are to be performed by trained personnel aware of the hazards involved. For correct and safe use of the equipment and in order to keep the equipment in a safe condition, it is essential that both operating and servicing personnel follow standard safety procedures in addition to the safety precautions and warnings specified in this manual, and that this unit be installed in locations accessible to trained service personnel only.

Safety requirements

The equipment described in this manual has been designed and tested according to the **UL/IEC/EN 60950-1** safety requirements. See the CE Declaration of Conformity for compliance information.

Warning: If there is any doubt regarding the safety of the equipment, do not put it into operation.

This might be the case when the equipment shows physical damage or is stressed beyond tolerable limits (for example, during storage and transportation).

Important: Before opening the equipment, disconnect it from all power sources.

The equipment must be powered by a SELV[1] power supply. This is equivalent to a Limited Power source (LPS, see UL/IEC/EN 60950-1 clause 2.5) or a "NEC Class 2" power supply. When this module is operated in extremely elevated temperature conditions, it is possible for internal and external metal surfaces to become extremely hot.

1. SELV: conforming to IEC 60950-1, <60 Vdc output, output voltage galvanically isolated from mains. All power supplies or power supply cabinets available from Siqura comply with these SELV requirements.

Power source and temperature ratings

Verify that the power source is appropriate before you plug in and operate the unit. Use the unit under conditions where the temperature remains within the range given in the Technical Specifications of this product.

EMC

This device has been tested and found to meet the CE regulations relating to EMC and complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. These limits are designed to provide reasonable protection against interference to radio communications in any installation. The equipment generates, uses, and can radiate radio frequency energy; improper use or special circumstances may cause interference to other equipment or a performance decrease due to interference radiated by other equipment. In such cases, the user will have to take appropriate measures to reduce such interactions between this and other equipment.

Any interruption of the shielding inside or outside the equipment could make the equipment more prone to fail EMC requirements.

Non-video signal lines must use appropriate shielded Cat 5 cabling (S-FTP), or at least an equivalent. Ensure that *all* electrically connected components are carefully earthed and protected against surges (high voltage transients caused by switching or lightning).

ESD

Electrostatic discharge (ESD) can damage or destroy electronic components. *Proper precautions should be taken against ESD when opening the equipment.*

RoHS statement

Global concerns over the health and environmental risks associated with the use of certain environmentally-sensitive materials in electronic products have led the European Union (EU) to enact the Directive on the Restriction of the use of certain Hazardous Substances (RoHS) (2002/95/EC). Siqura offers products that comply with the EU's RoHS Directive. The full version of the Siqura RoHS statement can be viewed at www.siqura.com.

Product disposal

The unit contains valuable materials which qualify for recycling. In the interest of protecting the natural environment, properly recycling the unit at the end of its service life is imperative.

When processing the printed circuit board, dismantling the lithium battery calls for special attention. This kind of battery, a button cell type, contains so little lithium, that it will never be classified as reactive hazardous waste. It is safe for normal disposal, as required for batteries by your local authority.

2.2 Cautions

Handle the camera carefully

Do not abuse the camera. Avoid bumping and shaking. The camera can be damaged by improper handling or storage.

Do not disassemble the camera

To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Consult technical support if a camera is suspected of malfunctioning.

Do not use strong or abrasive detergents to clean the camera

Use a dry cloth to clean the camera when it is dirty. If the dirt is hard to remove, use a mild detergent and wipe gently. To clean the lens, use lens tissue or a cotton tipped applicator and ethanol. Do *not* clean the lens with strong detergents.

Never face the camera towards the sun

Do not aim the camera at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects, as this can damage the camera.

2.3 Compliance

CE

DECLARATION OF CONFORMITY

Product identification

Product:	Network fixed dome camera, 1080p, H.264/MJPEG, with or without IR
Brand:	Siqura
Models:	**FD820M1, FD820M1IR, IFD820V1IR**
Ratings:	12VDC / 24VAC / PoE
Tested:	System is tested in a typical configuration

Means of conformity

In conformity with provisions of the following EC directives:
LVD: 2006/95/EC, EMC: 2004/108/EC.

A sample of the product has been evaluated by

LVD: (Safety)	Siqura B.V., Gouda, The Netherlands
Standards:	IEC 60950-1:2005, EN 60950-1:2006 Information Technology Equipment – Safety - Part 1: general requirements.
EMC:	Siqura B.V., Gouda, The Netherlands
Standards:	EN 55022:2006+A1 - Emission, (Class A) FCC 47 CFR 15 - Emission, (Class A) EN 61000-3-2:2006, EN 61000-3-3:2008 EN 61000-6-2 – Generic, Immunity, Industrial EN 61000-series: Parts: 4-2, 4-3, 4-4, 4-5, 4-6, 4-11 EN 50130-4:1995+A1+A2

Company

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Signature

Name:	M.H.M. Perquin	W.D. Hermelink
Title:	Director Customer Services	Product Certification Engineer
Date:	Gouda, 2014 October 23	

3 Product overview

This chapter introduces the FD820 and its features.

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3.1 Models

FD820M1 (-SFP)

HD Outdoor fixed dome IP camera

- 1/2.7" Progressive scan CMOS imager
- 3.0 - 10.5 mm Motorised varifocal lens
- Full HD 1080p resolution
- Quad-stream H.264 and MJPEG video
- Day/night with IR-cut filter
- IP66 Ingress protection rating
- 24 Vac / 12 Vdc / 802.3af PoE
- ONVIF Profile S conformant
- SFP interface (FD820M1-SFP)

FD820M1IR (-SFP)

HD Outdoor fixed dome IP camera

- 1/2.7" Progressive scan CMOS imager
- 3.0 - 10.5 mm Motorised varifocal lens
- Full HD 1080p resolution
- Quad-stream H.264 and MJPEG video
- Day/night with IR-cut filter
- Integrated IR illuminator (effective distance: 25 m)
- IP66 Ingress protection rating
- 24 Vac / 12 Vdc / 802.3af PoE
- ONVIF Profile S conformant
- SFP interface (FD820M1IR-SFP)

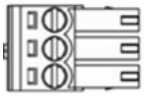
FD820M1IRMP5

HD Outdoor fixed dome camera

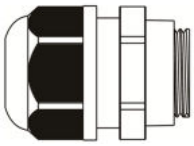
- 1/2.5" Progressive scan CMOS imager
- 3.3 to 10.5 mm Motorised lens with push-to-focus
- 5 Megapixel resolution
- Dual-stream H.264 and MJPEG video
- Day/night with IR-cut filter
- Integrated IR illuminator (effective distance: 25 m)
- IP66 Ingress protection rating
- 24 Vac / 12 Vdc / 802.3af PoE
- ONVIF Profile S conformant

3.2 Package contents

FD820



Power terminal block



Conduit

12 Vdc Power adapter

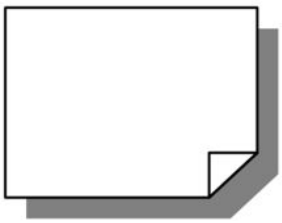
Self-tapping screws (4x)

Plastic screw anchors (4x)

Rubber washers (6x)

White rubber ring

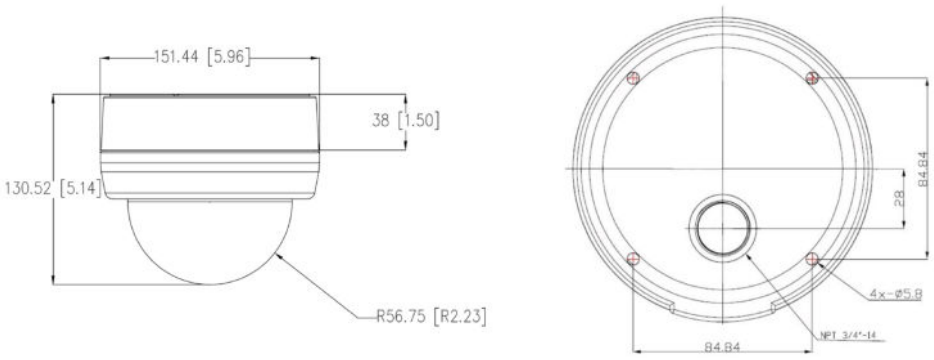
Security torx



Quick Start Guide

CD (software and documentation)

3.3 Dimensions



3.4 System requirements

The FD820 camera can be accessed and configured from a standard web browser supporting ActiveX controls. The browsing PC must meet the system requirements described in the table below.

Item	System requirement
Microprocessor	Intel Pentium M, 2.16 GHz or higher or Intel CoreTM2 Duo, 2.0 GHz or higher
Memory	At least 2 GB RAM
Operating system	Windows 7
Web browser	Internet Explorer 6.0 or later, Firefox, Chrome, Safari
Network card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

Minimum requirements

3.5 System compatibility

To ensure system compatibility, you are advised to download the latest firmware at http://www.siqura.com/.

4 Connectors and cabling

This chapter describes the buttons and connectors on the printed circuit board (PCB) of the FD820 and gives instructions for connecting power, Ethernet, audio, and alarm I/O cables.

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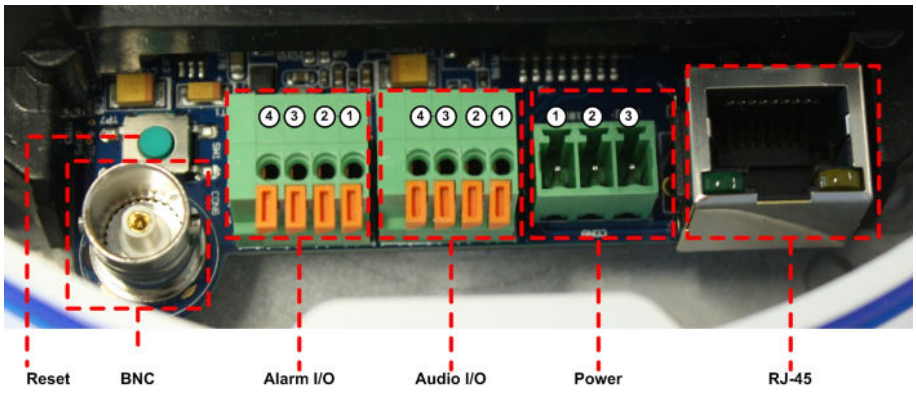
4.1 Connectors

The following picture and table describe the reset button and connectors inside the FD820.



Connector		Pin No.	Definition	Remarks
Reset button		-	Press this button for at least 10 seconds to restore the system to its factory-default settings (including network settings).	
BNC		-	Analogue video output	
Alarm I/O		1	Output +	Alarm connection
		2	Output -	
		3	Input +	
		4	Input -	
Audio I/O		1	Input	Two-way audio transmission
		2	GND	
		3	Output (R)	
		4	Output (L)	
Power	DC 12 V	1	Power	Power connection
		2	Reserved	
		3	GND	
	AC 24 V	1	Power-1	
		2	Earth GND	
		3	Power-2	
RJ-45		-	10/100 Mbps Ethernet / PoE	

4.2 Power the camera

Connect the power jack to the FD820 before plugging it into a power socket to avoid danger of electric shock. Note that the supplied DC power adapter is for indoor use only.

If you use PoE (Power over Ethernet), make sure PoE equipment is in use on the network.

Important: The FD820M1 must use 12 Vdc or 24 Vac for operation below -30°C. The FD820M1IR and FD820M1IRMP5 must use 12 Vdc or 24 Vac for operation below -10°C.

Using PoE or a power supply, the fan is on whenever the heater is enabled. Power consumption is 5.5W; 12W with heater/fan (+3.6W for IR option).

4.3 Connect to network

Category 5 Ethernet cable is recommended for network connections. For the best transmission quality, do not exceed a cable length of 100 metres.

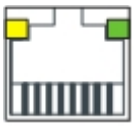
To connect through a hub or switch

- Connect one end of a straight through Cat 5 cable to the RJ-45 connector of the IP camera and the other end of the cable to the hub or switch.

To connect directly to a PC

- Connect one end of a crossover Cat 5 cable to the RJ-45 connector of the IP camera and the other end of the cable to the PC.

Refer to the following figure to determine whether you have established an Ethernet connection.



Ethernet socket LEDs green/yellow

Green on/off : 100/10 Mbit

Yellow on/blink : link OK, active

Yellow off/flash : link down, TX attempt

4.4 Connect audio

If microphones and speakers are configured to the network, the FD820 can be used to provide a two-way audio channel.

To connect audio

- Connect the audio input and output connectors to the terminal block on the back of the camera.
  For the location of this block and the audio connectors, see *Connectors.*

To configure audio settings

1 Log on to the webpages of the camera.
  For instructions on how to do this, see the User Manual.
2 On the **Streaming** menu, click **Audio**.
3 Select one of the following options:
  - Full-duplex (talk and listen simultaneously)
  - Half-duplex (talk or listen, not at the same time)
  - Simplex (talk only)
  - Simplex (listen only)
  - Disable

4.5 Connect alarm I/O

The camera equips one alarm input and one relay output for alarm application.

To connect an alarm device

- Connect the alarm relay connectors to the terminal block on the back of the camera.

For the location of this block and the alarm pin definition, see *Connectors*.

To configure the alarm settings

1 Log on to the webpages of the camera.
For instructions on how to do this, see the User Manual.

2 Go to the **Application**, **Motion Detection**, and **Tampering** webpages and configure the alarms as desired.

4.6 microSD Card

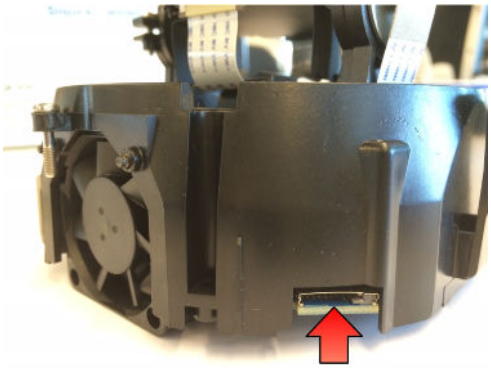
The FD820 supports a microSD card (max. 64 GB) for storing event-triggered and scheduled recordings. Users can format the SD card and implement automatic recording cleanup through the *Storage* page on the web interface of the camera.

To access the microSD card slot

1 Remove the dome cover and inner cover as described in the *Installation* chapter.

2 Release the camera from its housing.

3 Insert the microSD card into the slot at the side of the Printed Circuit Board (PCB).



Location of microSD card slot

5 Install the camera

Please read the instructions provided in this chapter thoroughly before installing the FD820.

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5.1 Surface Mount

The FD820 can be installed directly on a wall or ceiling. Note that the wall or ceiling must have enough strength to support the camera.

Items Needed

- FD820 camera
- Ethernet cable
- DC jack cable (supplied; only necessary if not using PoE)
- Self-tapping screws (supplied)
- Plastic screw anchors (supplied)
- Security Torx (supplied)

Required Tools

- Drill
- Philips screwdriver
- Flat-head screwdriver

To install the FD820 on a hard ceiling

1 Release the two captive security screws with the supplied security Torx and open the dome cover.

FD820 camera

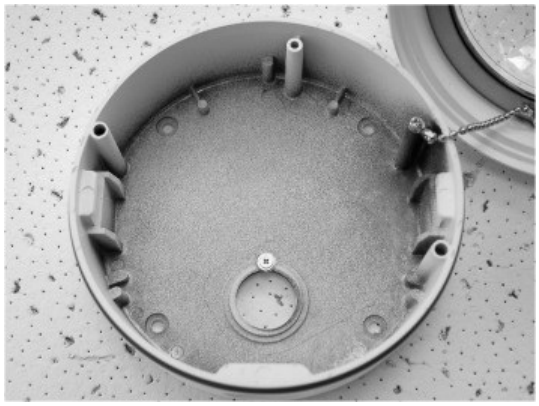
Captive Security Screw

2 Press both sides of the inner cover and remove it from the camera module.

3 Unscrew the module-fastened screw, as indicated in the figure, with the phillips-head screw driver.

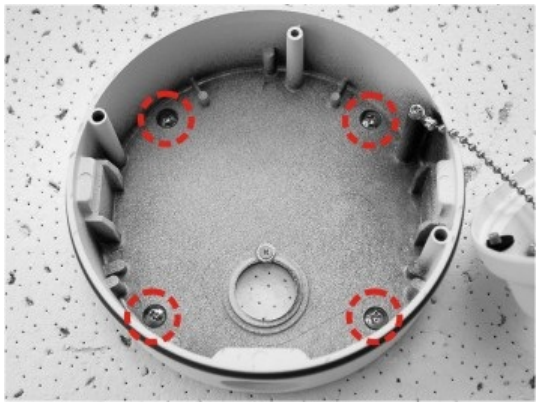
4 Press the sides of the snap-on camera module, as indicated in the figure, and detach it from the dome camera's housing/plate.

5 Mark the positions of the four screw holes found on the base of the dome camera at the installation location.

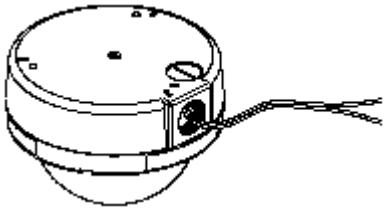


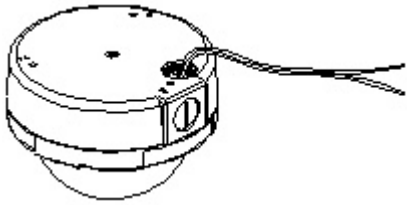
6 In the marked locations, drill each hole slightly smaller than the supplied screw anchors, and insert the anchors into these holes.

7 Fasten the dome camera's housing/plate with the four supplied self-tapping screws. Use rubber grommets for outdoor installations.



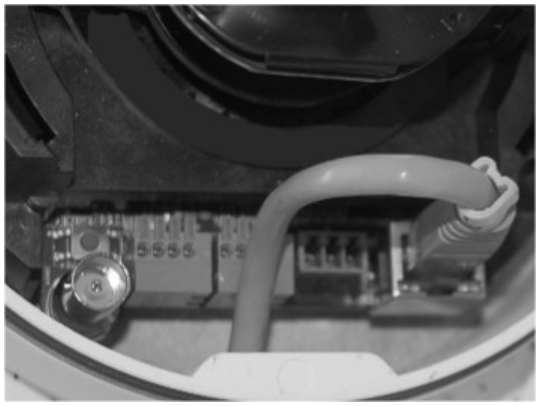
8 Thread the cables (power/Ethernet/audio/alarm) through either the side conduit entry or back conduit entry, as shown below. Use a coin to screw off the conduit entry block for the FD820 camera.



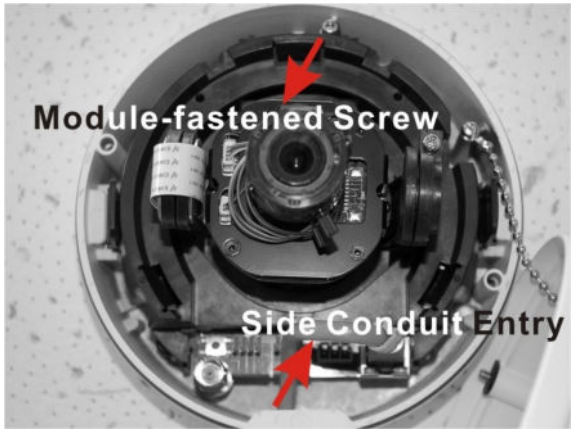


The power cable is omitted if using PoE.

9 Connect the ports (on the camera module) with their cables/wires respectively, as shown below.



10 Attach the snap-on camera module into the dome camera's housing, and tighten the module-fastened screw with the screw driver to secure the camera module.



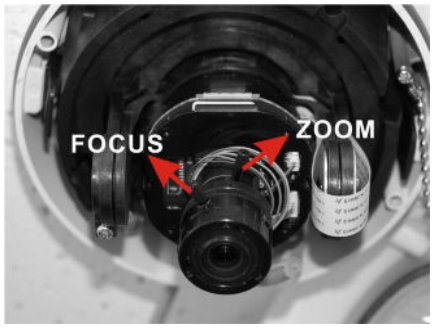
The terminal blocks should face the side conduit entry for the FD820 camera, as shown above.

11 Connect the power and network outputs. Refer to *Connectors* for details regarding the camera connector definition.

The power cable is omitted if using PoE.

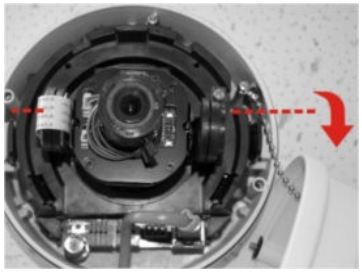
12 Access the camera browser-viewer for viewing images. Refer to the FD820's user manual for further details. Users can also use the camera's BNC connector for video output.

13 Position the FD820's motorised lens and adjust the its zoom level and focal length via the web page.

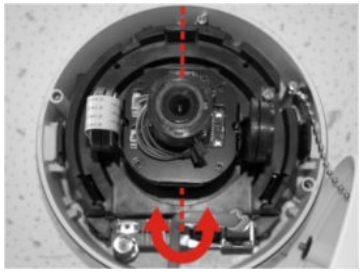


14 Adjust the camera's pan/tilt holder to a desired angle, as shown below.

Pan adjustment range is nearly 360°; rotation angle range approaches to 270°. Tilt is adjustable between -10° ~ 90°.



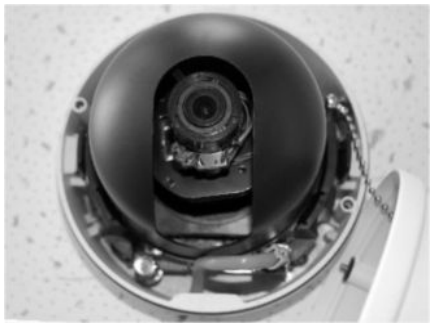
Pan adjustment



Tilt adjustment

Adjust the lens carefully within the limits mentioned above, or the cables underneath may be harmed.

15 Return the inner cover to the camera module.



16 Replace the back of the dome cover.

Align the arrow mark on the dome cover with the one on the housing as shown in the figure below.

17 Screw on the two Torx screws on the side of the dome cover tightly to fasten the dome cover.

5.2 Long/Mini Wall Mount

This chapter describes pendant-style mounting of the FD820 cameras with a mini or long wall mount bracket.

Kit package Contents

WMO7 Long Wall Mount

- M8x16 Hex Head Stainless Steel Screw (Qty:x1)
- Rubber Washer-8 (Qty:x1)
- Pendant Tube Washer (Qty:x1)
- Spring Washer-8 (Qty:x1)
- Plain Washer-8 (Qty:x4)
- Sponge (Qty:x2)

WM01A Mini Wall Mount

- M8x16 Hex Head Stainless Steel Screw (Qty:x1)
- Rubber Washer-8 (Qty:x1)
- Pendant Tube Washer (Qty:x1)
- Spring Washer-8 (Qty:x1)
- Sponge (Qty:x1)

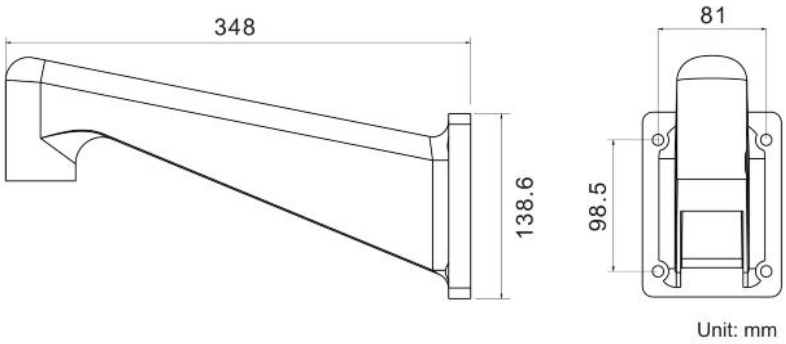
Required Tools:

- Drill
- Phillips screw driver
- Security Torx (supplied)

Mount dimensions

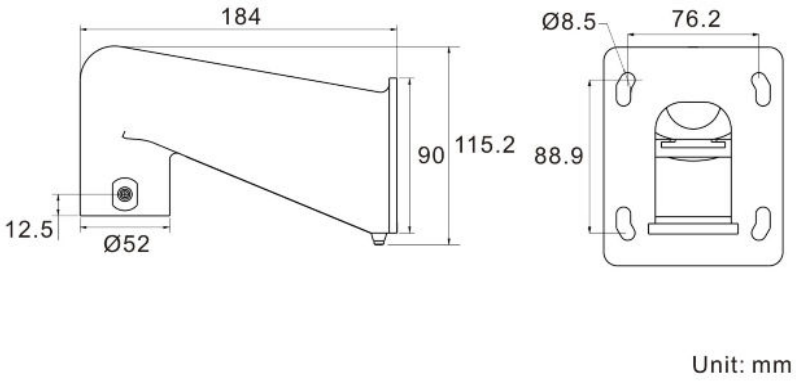
The installation is the same for both the WM07 Long Wall Mount and the WM01A Mini Wall Mount shown below.

The WM07 Long Wall Mount dimensions are provided in millimeters in the figures below.



The FD820 standard pendant mount dimensions

The WM01A Mini Wall Mount dimensions are provided in millimeters in the figures below.



The FD820 compact pendant mount dimensions

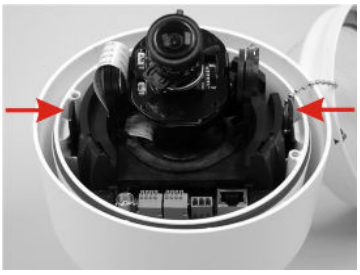
To install the FD820 on a hard wall or ceiling or a square mount electrical box

1 Unscrew the Security Torx Screws with the supplied Security Torx driver and open the dome cover.

2 Press both sides of the inner cover and remove it from the camera module.

3 Unscrew the module-fastened Torx Screw, as indicated in the figure.

4 Press the sides of the snap-on camera module, as indicated in the figure, and detach it from the dome camera's housing.



5 Fasten the pendant mount onto the wall securely Run the Ethernet cable through the wall mount as shown in the below.

M8x30 Hex Head Machine Screw (for WM07 Long Wall Mount only):

The WM07 Long Wall Mount is supplied with four M8x30 Hex Head Machine Screws for the convenience of installation by fastening the mount to the wall.

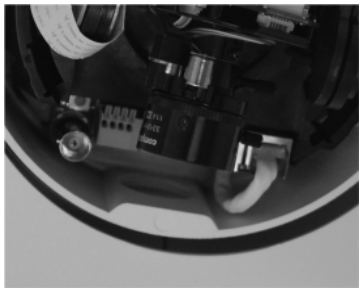
6 Thread the Ethernet cable through the entry of the camera’s housing.

7 Rotate the joint of the dome camera housing into the entry of the pendant mount, aligning the screw hole of the joint with that of the mount.

8 Fix the camera housing with the supplied M8x16 hex head stainless steel screw and washers.

9 Attach the snap-on camera module to the dome camera housing and tighten the module-fastened Torx screw.

10 Connect the power and network outputs.



The power cable is omitted if using PoE.

11 Access the camera browser-viewer for viewing images. Please refer to the FD820's user manual for further details. Users can also use the camera’s BNC connector for video output.

12 Position the FD820's motorised lens and adjust the its zoom level and focal length via the web page.

13 Return the inner cover to the camera.

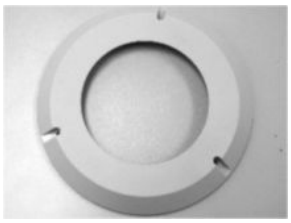
14 Close the dome cover and tighten the security Torx screws.

Note: In case the zoom level and focal length are different with the dome cover on, adjust the zoom level and focal length through the dome cover.

5.3 Recessed Ceiling Mount

The FD820 camera can be installed directly on a wall or ceiling. Please note that the wall or ceiling must have enough strength to support the camera.

In-ceiling mount package contents



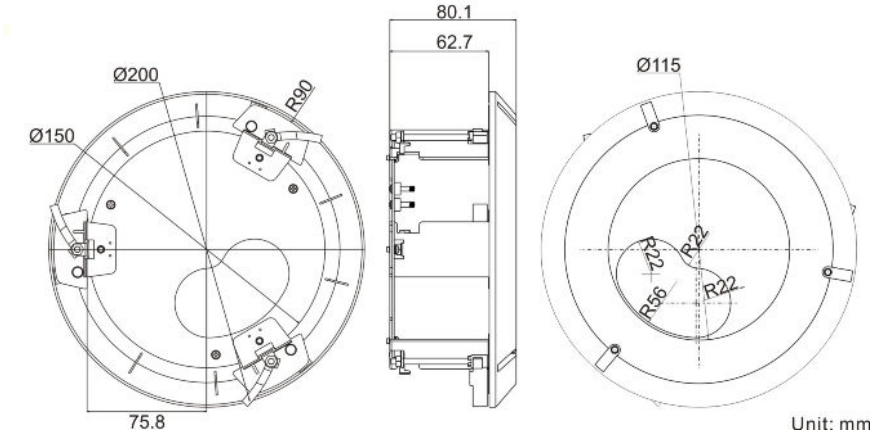
- T-Bar mount
- Trim ring
- Ceiling sticker
-

Required Tools

- Drill
- Philips screwdriver
- Security Torx (provided)

Mount dimensions

The Surface Mount dimensions are provided in millimeters in the figures below.



The FD820 recessed ceiling mount dimensions

To install the FD820 on a hard ceiling

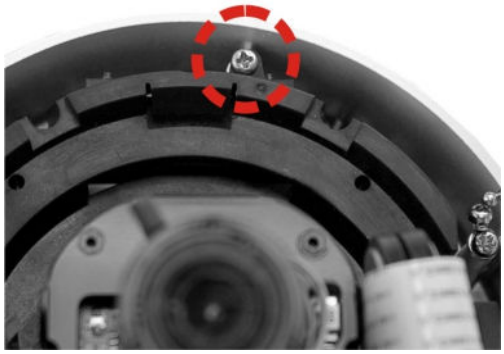
1 Release the two captive security screws with the supplied security Torx and open the dome cover.

FD820 camera

Captive Security Screw

2 Press both sides of the inner cover and remove it from the camera module.

3 Unscrew the module-fastened screw with the phillips-head screw driver, as indicated in the figure below.

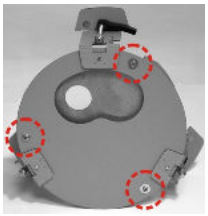
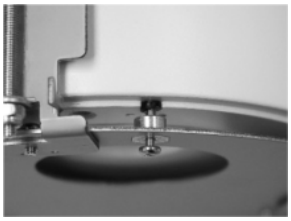


4 Press the sides of the snap-on camera module, as indicated in the figure, and detach it from the dome camera’s housing/plate.

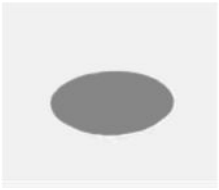
Use a coin to screw off the conduit entry block for the FD820camera.

5 Attach the camera housing/plate’s base to the recessed ceiling mount’s top plate, aligning the camera’s rear cable entry with the entry hole on the in-ceiling mount’s top plate.

Align the three captive screws with the mating screw holes on the dome camera’s housing/plate’s base. Then tighten the three captive screws as shown below.

6 Position the supplied adhesive-backed ceiling sticker (Ø176 mm) onto the ceiling where the camera will be mounted, and cut the ceiling hole using the template as a guide.

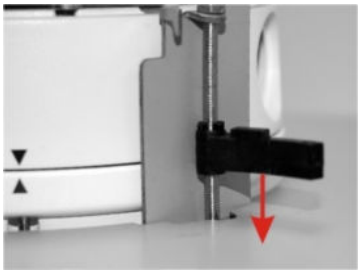


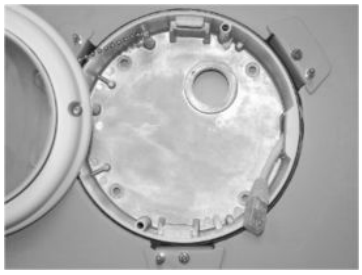
7 Insert the dome camera with the attached in-ceiling mount into the opening and run the Ethernet cable through the desired cable entry.

8 Secure the Unit to the ceiling

Do Not over-tighten the three fixing screws. If using a power tool, the slip clutch should be set to the lightest setting or the clamps could be damaged.

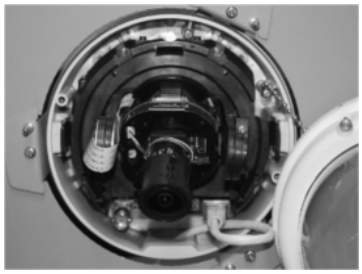
The in-ceiling mount's wing clamps will draw the dome camera's housing/plate to the ceiling board until it is completely flush with the board.



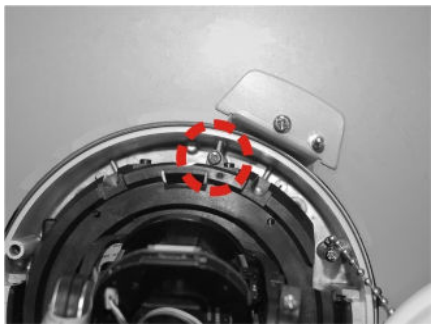


Bottom views of installed in-ceiling mount

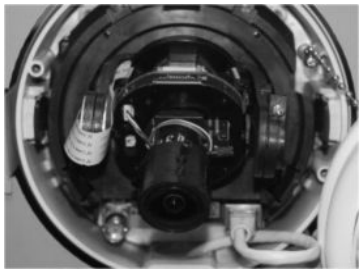
9 Attach the snap-on camera module to the dome camera's housing/plate. Install the camera module with the terminal blocks facing the side cable entry.

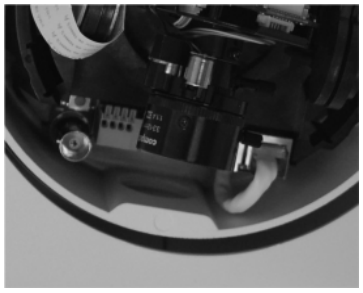


10 Tighten the module-fastening screw.



11 Connect the power and network outputs. Refer to *Connectors* for details regarding the camera connector definition.





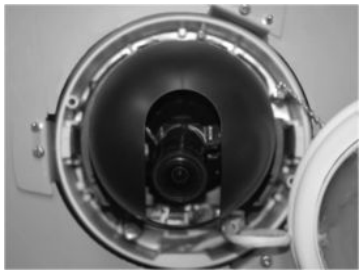
The power cable is omitted if using PoE.

12 Access the camera browser-viewer for viewing images. Refer to the chapter Accessing the Camera in the FD820 User Manual for further details. Users can also use the camera's BNC connector for video output.

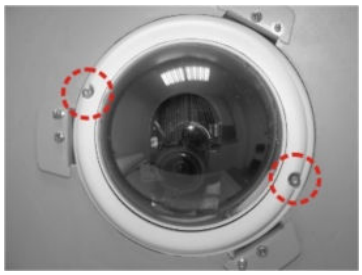
13 Position the FD820's motorized lens and adjust the its zoom level and focal length via the web page.

14 Adjust the camera's pan/tilt holder to the desired angle. Pan adjustment range is nearly 360°; rotation angle range approaches to 270°.
Tilt is adjustable between -10° ~ 90°.
Adjust the lens carefully within the limits mentioned above, or the cables underneath may be harmed.

15 Return the inner cover to the camera.



16 Close the dome cover and tighten the two security screws.



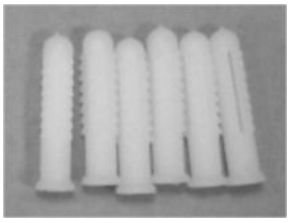
17 Align the three holes in the trim ring with the retaining nut on the in-ceiling mount and snap the trim ring in place to complete the installation.

5.4 Corner Mount

Kit package contents

The Corner Mount Kit package contains:

Corner Mount



M4 Plastic Anchors (x 6)

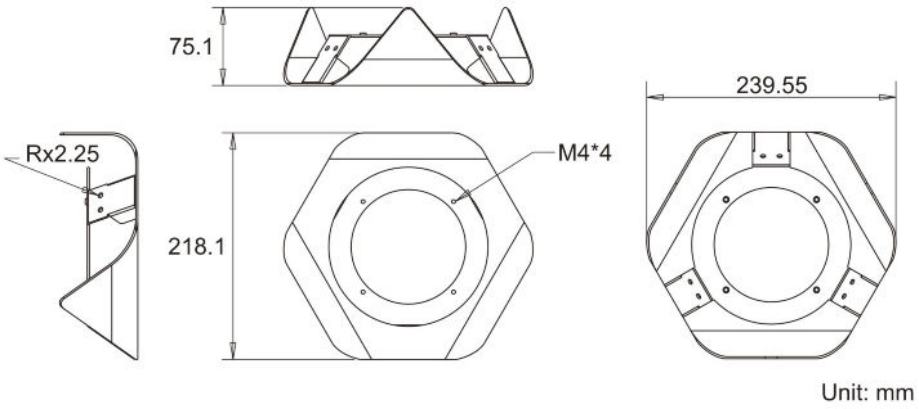
M4 Self-tapping Screws (x 6)

M4 Mechanical Screws (x 4)

Security Torx

Mount dimensions

The Corner Mount dimensions are provided in millimeters in the figures below.



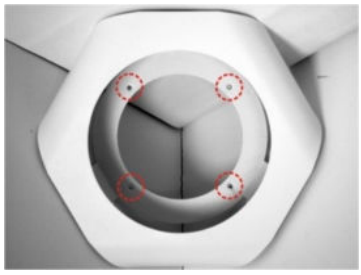
The FD820 corner mount dimensions

Required Tools:

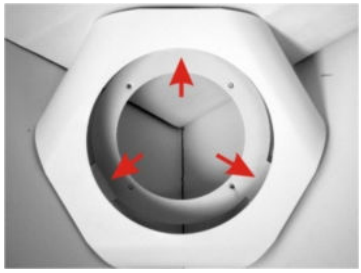
- Drill
- Phillips screw driver
- Security Torx

To install the FD820 on a hard wall or ceiling or a square mount electrical box

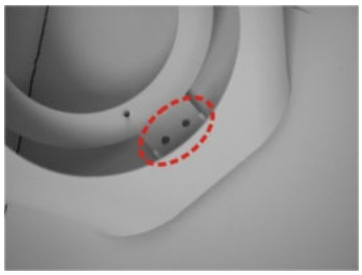
1 Match the corner mount at the ceiling corner. Please note that the dome camera's housing/plate installing holes are in position as the right figure.



2 Drill six holes on the wall and the ceiling to install six M4 plastic anchors.



Fix the corner mount on the ceiling by fastening six M4 self-tapping screws in the plastic anchors.



3 Place the dome camera’s housing/plate in the corner mount.

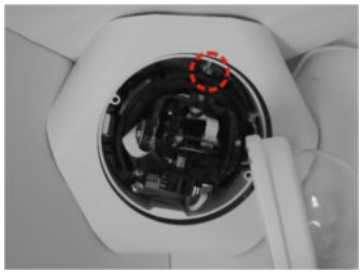
Note: The snap-on camera module is in the position shown in the image above.

4 Thread the RJ-45 cable through the dome camera’s housing/plate.

5 Tighten the four M4 mechanical screws to install the dome camera’s housing/plate in the corner mount.

6 Place the camera module into the dome camera’s housing/plate until there is a “click” sound.

7 Tighten the screw on the camera module to fix the camera module on the dome camera’s housing/plate.



8 Connect the power and network outputs. Refer to *Connectors* for details regarding the camera connector definition.

The power cable is omitted if using PoE.

9 Access the camera browser-viewer for viewing images. Please refer to the FD820's user manual for further details. Users can also use the camera’s BNC connector for video output.

10 Position the FD820's motorized lens and adjust the its zoom level and focal length via the web page.

11 Install the inner cover on the camera module.

12 Place the dome cover back in position, tighten the two Torx screws with the supplied Security Torx.

Note: In case the zoom level and focal length are different with the dome cover on, adjust the zoom level and focal length through the dome cover.

5.5 4S Mount Electrical Box

The indoor FD820 cameras can be installed in a 4S Mount Electrical Box.

•

Required Tools

- Drill
- Philips screwdriver
- Security Torx (provided)

To install the FD820 in a 4S Mount Electrical Box

1 Unscrew and open the dome cover with the Security Torx.

2 Run the wires (Ethernet and power) through the wall.

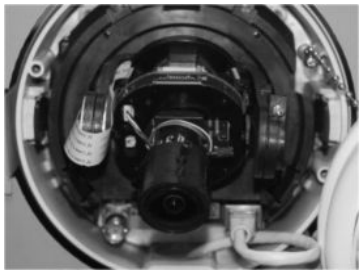
Note: The Power Cable is omitted if using PoE.

3 Press both sides of the inner cover and remove it from the camera module.

4 Detach the snap-on camera module from the FD820 camera's housing/plate by unscrewing the module-fastened Torx screw first.
Press the sides of camera module and pull it slightly out of the housing/plate.

5 Thread the power and/or Ethernet cables through either the side conduit entry or the back conduit entry and fasten the camera's housing/plate to the electrical box with the two screws.

6 Connect the Ethernet cable to the camera's network connector. Refer to *Connectors* for details regarding the camera connector definition.



7 Connect the power and network outputs. Refer to *Connectors* for details regarding the camera connector definition.
The power cable is omitted if using PoE.

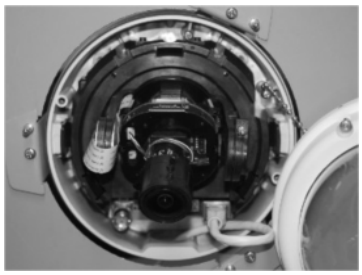
8 Access the camera browser-viewer for viewing images. Please refer to the chapter Accessing the Camera in the FD820 User Manual for further details. Users can also use the camera's BNC connector for video output.

9 Position the FD820's motorised lens and adjust the its zoom level and focal length via the web page.

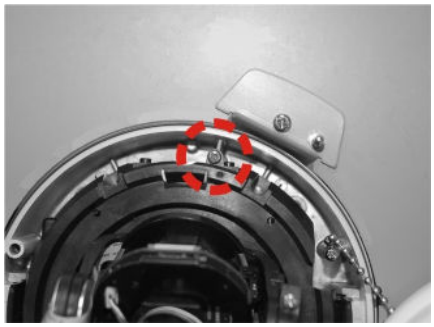
10 Adjust the camera's pan/tilt holder to the desired angle.
Pan adjustment range is nearly 360°; rotation angle range approaches 270°.
Tilt is adjustable between -10° ~ 90°.

Note: Adjust the lens carefully within the limits mentioned above, or the cables underneath may be harmed.

11 Attach the snap-on camera module to the dome camera's housing/plate. Install the camera module with the terminal blocks facing the side cable entry.



12 Tighten the module-fastening screw.



13 Replace the back of the dome cover.

Align the arrow mark on the dome cover with the one on the housing as shown in the figure below.

14 Screw on the two Torx screws on the side of the dome cover tightly to fasten the dome cover.

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