

# Full HD Speed Dome IP Camera

## Installation Guide

Indoor/ Outdoor

Version 1.1

## Preface

The information given in this manual was current when published. The company reserves the right to revise and improve its products. All specifications are subject to change without notice.

### Notice

This manual provides the installation information for the indoor integrated high speed dome. To work with the Dome Cameras, any installer or technician must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring and low-voltage electrical hookups
- A basic knowledge of network system setting
- Have read this manual completely


### Copyright



Under copyright laws, the contents of this user manual may not be copied, photocopied, translated, reproduced or reduced to any electronic medium or machine-readable format, in whole or in part, without prior written permission of the company

### Important Information

Before proceeding, please read and observe all instructions and warnings in this manual. Retain this manual with the original bill of sale for future reference and, if necessary, warranty service. When unpacking your unit, 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 dealer for assistance.

### Regulation

|   |   |
|---|---|
|  | <p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <p>(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> |
|---|---|

|  |   |
|--|---|
|   | <p>This symbol on the product or on its packaging indicates that this product shall not be treated as household waste in accordance with Directive 2002/96/EC. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By proper waste handling of this product you ensure that it has no negative consequences for the environment and human health, which could otherwise be caused if this product is thrown into the garbage bin. The recycling of materials will help to conserve natural resources.</p> <p>For more details information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.</p> |
|  | <p>Compliance is evidenced by written declaration from our suppliers, assuring that any potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application.</p>   |

## Warnings and Cautions

- **Handle the camera carefully**

Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

- **Installing electricity wiring carefully**

Ask qualified personnel of electrical wiring for the installation. Please note that input electricity to the unit is at tolerance of DC 12V/AC 24V  $\pm$  10%.

The camera is capable of surge protection; ensure AC power model unit grounded appropriately against damage of heavy current or electric shock.

- **Do not disassemble the camera**

To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service person for servicing.

- **Do not block cooling holes on the bracket**

This camera has a cooling fan inside. Blocking the cooling holes leads to build up of heat the camera and may cause malfunction.

- **Do not operate the camera beyond the specified temperature, humidity or power source ratings**

Use the camera under conditions where temperature is between 0°C ~ 40°C (32°F ~ 104°F), and relative humidity is below 90%.

- **Do not expose the camera to rain or moisture, or try to operated it in wet areas**

This product is designed for indoor use or locations where it is protected from rain and moisture. Turn the power off immediately if the camera is wet and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.

- **Do not use strong or abrasive detergents when cleaning the camera body**

Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

- **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. Otherwise, the camera may be smeared or damaged.

## **Table of Contents**

|  |           |
|--|-----------|
| <b>1. Introduction .....</b>                                 | <b>6</b>  |
| <b>2. Standard Package Contents .....</b>                    | <b>6</b>  |
| <b>3. Camera Cable Connections .....</b>                     | <b>8</b>  |
| 3.1 Switch/Connector Definition .....                        | 8         |
| 3.2 Cable Requirements.....                                  | 9         |
| 3.2.1 Power Connection .....                                 | 9         |
| 3.2.2 Ethernet Cable Connection.....                         | 9         |
| <b>4. Dome Camera Installation.....</b>                      | <b>10</b> |
| 4.1 Camera Dimensions.....                                   | 10        |
| 4.2 Optional Accessories.....                                | 11        |
| 4.3 Ceiling Mount .....                                      | 20        |
| 4.3.1 Hard Ceiling Mounting .....                            | 20        |
| 4.3.2 In-Ceiling (T-Bar) Mounting .....                      | 23        |
| 4.3.3 Ceiling Mounting with Straight Tube .....              | 27        |
| 4.4 Wall Mount .....   | 29        |
| 4.4.1 Swan Tube.....   | 29        |
| 4.4.2 Compact Pendent Mount.....                             | 31        |
| 4.4.3 Standard Pendent Mount.....                            | 33        |
| 4.4.4 Wall Box Mounting.....                                 | 35        |
| 4.5 Corner Mount .....                                       | 37        |
| 4.5.1 Corner Standard Mounting Plate/Corner Plate Mini ..... | 37        |
| 4.5.2 Corner Thin/Wide Box Mounting.....                     | 39        |
| 4.6 Pole Mount .....   | 41        |
| 4.6.1 Pole Thin/Wide Direct Mounting .....                   | 41        |
| 4.6.2 Pole Thin/Wide Box Mounting .....                      | 43        |
| <b>Appendix A: Technical Specification.....</b>              | <b>45</b> |

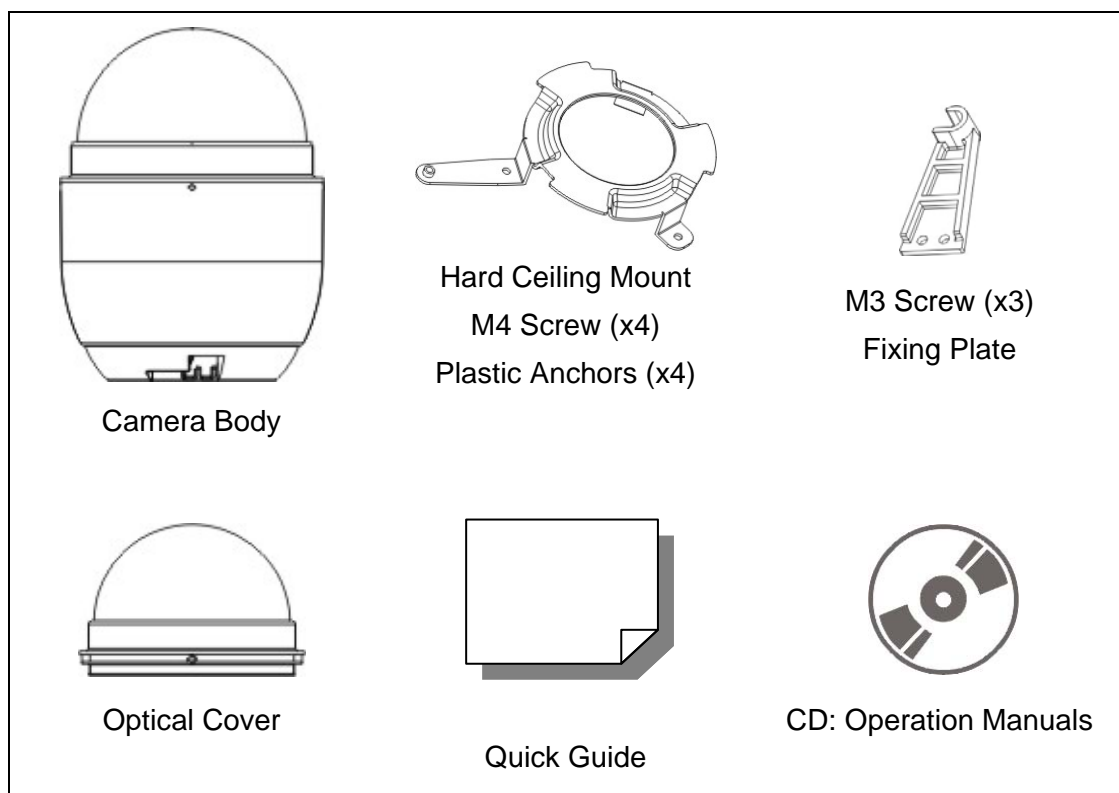
## 1. Introduction

The Full HD Speed Dome IP Camera is designed to deliver superb performance and durability with an intelligent and stylish housing that is suitable in any security and surveillance installation.

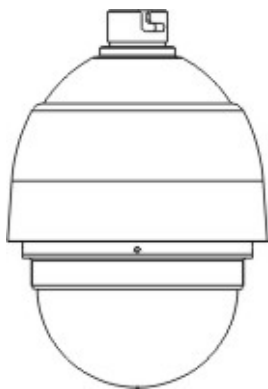
## 2. Standard Package Contents

Before proceeding, please check the box contains the items listed here. If any item is missing or has defects, DO NOT install or operate the product and contact your dealer for assistance.

### Indoor Model



## Outdoor Model



Camera Body with  
Outdoor Mount Kit



M3 Standard Screw (x1)

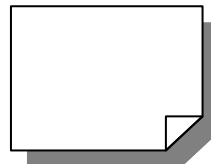
M3 Security Screw (x1)\*

M5 Standard Screw (x1)

M5 Security Screw (x1)\*



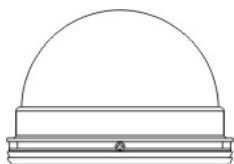
Waterproof Rubber



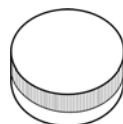
Quick Guide



CD: Operation Manuals



Optical Cover



Lubricant



Security Torx\*

\*Optional: For Vandal Proof Cover only.



### 3. Camera Cable Connections

Before installing or connecting the Dome Camera, please refer to this section and complete preparations for dome setups and various switch settings.

There will be a PE cloth sheet covered inside the dome cover and a lens cap on the lens for shipping protection. Follow the steps below to remove those protective materials.

**Step 1:** Unpack the dome package and take out the dome body.

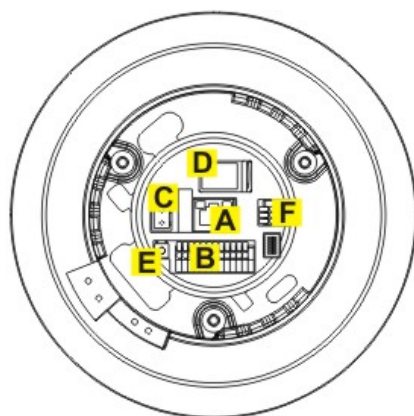
**Step 2:** Rotate and remove the protective cover.

**Step 3:** Remove the PE cloth sheet and take off the lens cap.

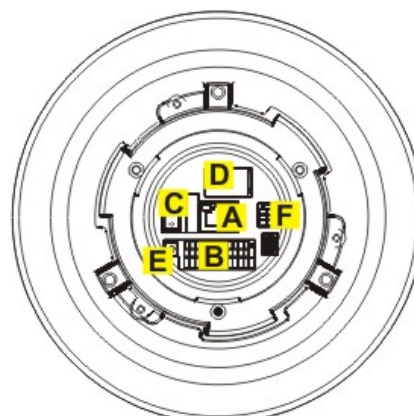
**Step 4:** Attach the dome cover to the dome body.

#### 3.1 Switch/Connector Definition

There are various connectors located on the Dome Camera's back plate as shown in the figures below. Please refer to the diagrams and tables accompanied with for use of each switch/connector.



Indoor



Outdoor

|   |                      |
|---|----------------------|
| A | RJ-45 Connector      |
| B | ALARM I/O            |
| C | Power                |
| D | Micro SD Card Slot   |
| E | Factory Reset Button |
| F | Audio I/O            |



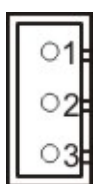
**NOTE:** DO NOT change the network Speed Dome Camera's Communication Switch factory default settings.

## 3.2 Cable Requirements

For operation, the network Speed Dome IP Camera require power cable and RJ-45 as described below:

### 3.2.1 Power Connection

Please refer to the illustrations below to connect power core through the supplied power adaptor.



| Pin | Definition |
|-----|------------|
| 1   | AC 24-     |
| 2   | FG         |
| 3   | AC 24+     |

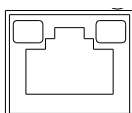
### 3.2.2 Ethernet Cable Connection

Use of Category 5 Ethernet cable is recommended for network connection; to have best transmission quality, cable length shall not exceed 100 meters. Connect one end of the Ethernet cable to the RJ-45 connector of the network Speed Dome Camera, and the other end of the cable to the network switch or PC.



**NOTE:** In some cases, you may need use an Ethernet crossover cable when connecting the network Speed Dome Camera directly to the PC.

Check the status of the link indicator and activity indicator LEDs; if the LEDs are unlit, please check LAN connection.



Green Link Light indicates good network connection.  
Orange Activity Light flashes for network activity indication.

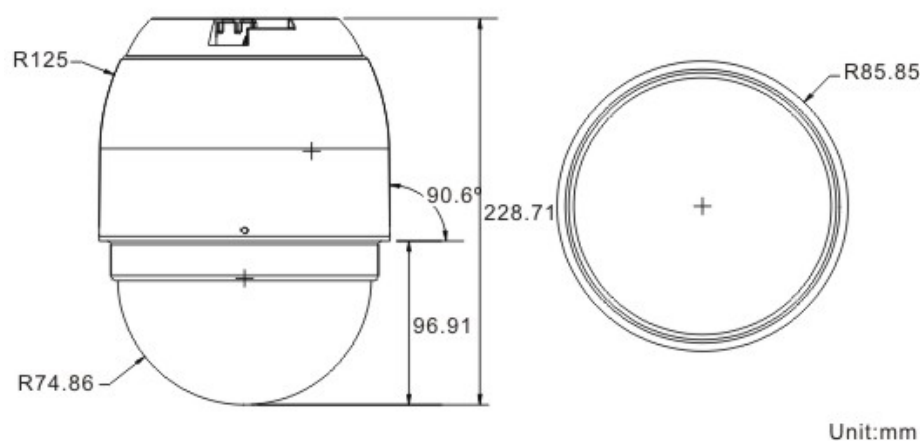
## 4. Dome Camera Installation

Basing on user's installation environments, the Dome Camera can be installed on ceiling, on wall or on pole. In the following sections, various Dome Camera installation accessories, installation methods and installation procedures will be described in detail. In addition, the next section will provide the Dome Camera's dimensions for your reference before installation.

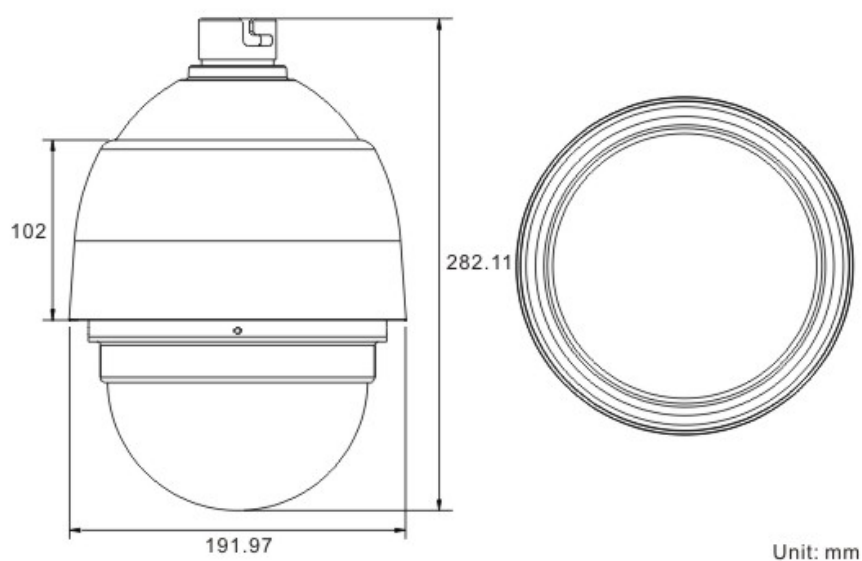
### 4.1 Camera Dimensions

The Dome Camera's dimensions are as below show detailed dimensions for the Dome Camera's different parts.

#### Indoor



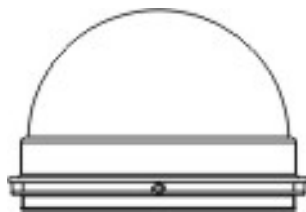
#### Outdoor



## 4.2 Optional Accessories

### Dome Camera Accessories

#### Transparent/Vandal Proof



Transparent Cover (Standard)

Vandal Proof Cover (Optional)

#### Power Adapter

77H07-A1015 (Input: 100~115VAC/Output: 24VAC 36VA)

77H07-A2015 (Input: 220~230VAC/Output: 24VAC 36VA)

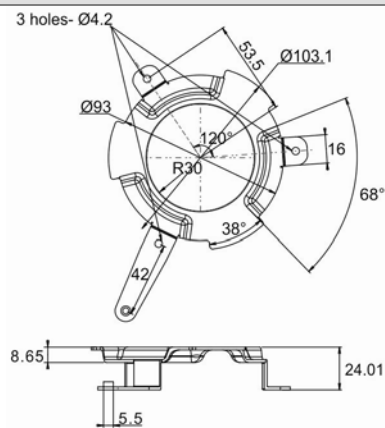


**NOTE:** When wiring, make sure the G/Y wire (Ground) inserted into the mid-pin of the terminal block.

### Mounting Accessories

#### Hard Ceiling Mount (Standard Equipment)

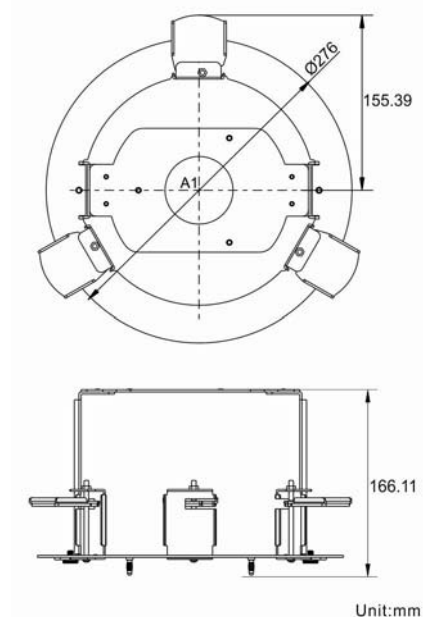
For Hard Ceiling Installation. Height: 24.01mm ; Diameter of the three holes: 4.2mm ; Diameter of the bracket: 103.1mm



Unit: mm

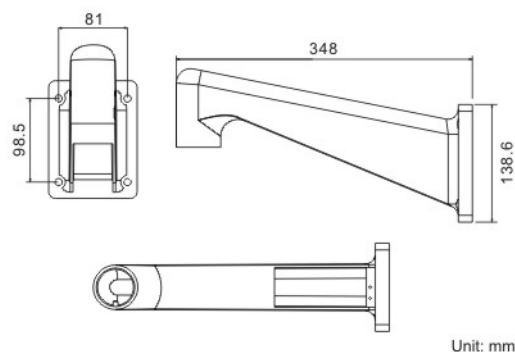
### In-Ceiling (T-Bar) Mount

For In-Ceiling Installation. Height: 166 mm (6.5 inches); Diameter: 276 mm (10.9 inches);  
Weight: 1.1 kg (2.4 lbs)



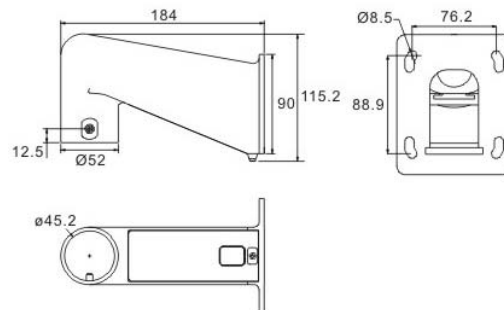
### Standard Pendent Mount

White; 348×104×138.6 mm (13.7×4.1×5.5 inches); 1.5 kg (3.3 lbs);  
Diameter: 45 mm (1.8 inches). Supplied with M8x12 screw x1, spring washer-8 x1, pendent  
tube washer x1, rubber washer-8 x1 and sponge x2.



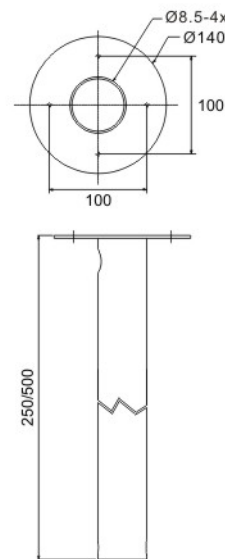
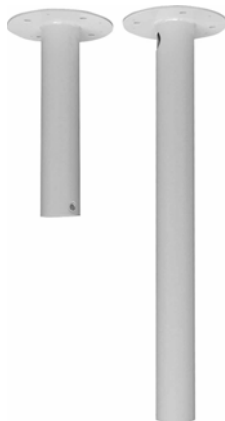
**Compact Pendent Mount**

184x104x115.2 mm (7.24x4.09x4.54 inches); 0.6 kg (1.2 lbs). Supplied with rubber washer-8 x1, pendent tube washer x1, spring washer-8 x1 and M8x12 screw x1.



**Straight Tube**

Iron; Height: 250/500 mm (9.8/19.7 inches);  
Diameter: 50 mm (2 inches) 1 kg (2.2 lbs) / 1.8 kg (4 lbs).  
Supplied with M8x12 screw x1, spring washer-8 x1, pendent tube washer x1, rubber washer-8 x1 and waterproof rubber x1.

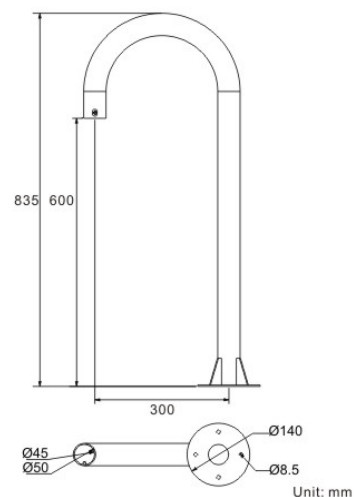
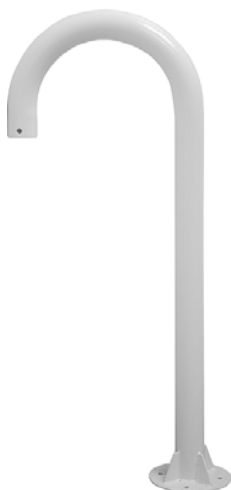


Unit: mm

### Swan Tube

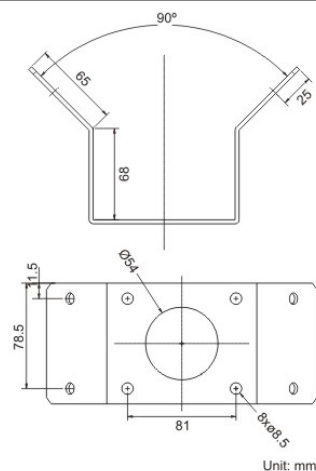
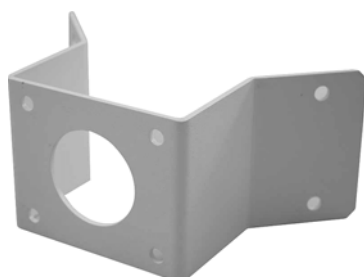
For mounting with Swan Tube.White; Iron, Dimension: 835 x 300 mm (32.9×11.8 inches); Diameter: 45 mm (1.8 inches); Weight: 3.8 kg (8.4 lbs);

Supplied with pendent tube washer x1, rubber washer-8 x1, waterproof rubber x1, spring washer-8 x1 and M8x12 screw x1.



### Corner Plate Mini

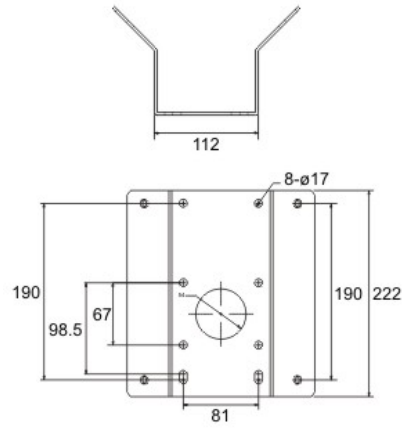
For mounting with Compact Pendent Mount. 270(L)×166(W)×95(D) mm (8.7×8×4.6 inches); Supplied with washer-8 x4, spring washer-8 x4, M8x16 screw x4 and M8 nut x4.



**Corner Standard Mounting Plate**

222(L)×204(W)×117(D) mm (8.7×8×4.6 inches); 2 kg (4.4 lbs).

Supplied with washer-8 x4, spring washer-8 x4, M8x16 screw x4, and M8 nut x4.

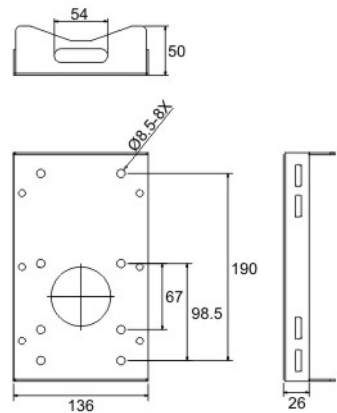


Unit: mm

**Pole Thin Direct Mounting**

232(L)×136(W)×60(D) mm (9.1×5.4×2.4 inches); Diameter: 112~140 mm (4.4~5.5 inches);

0.7 kg (1.6 lbs). Supplied with stainless steel straps x4, M8x16 screw x4, washer x4 and spring washer-8 x4.

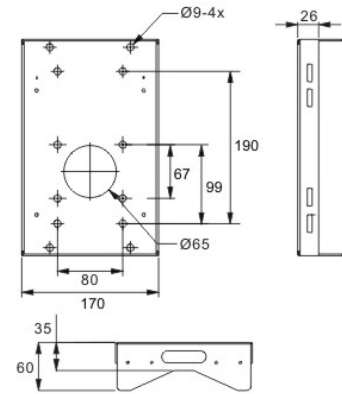


Unit: mm



### Pole Wide Direct Mounting

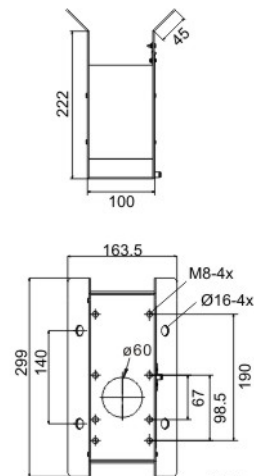
270(L)×170(W)×60(D) mm (10.6×6.7×2.4 inches); Diameter: 112~130 mm (4.4~5 inches); 1 kg (2.2 lbs). Supplied with M8x16 screw x4, washer x4, stainless steel straps x4 and spring washer-8 x4.



Unit: mm

### Corner Thin Box Mounting

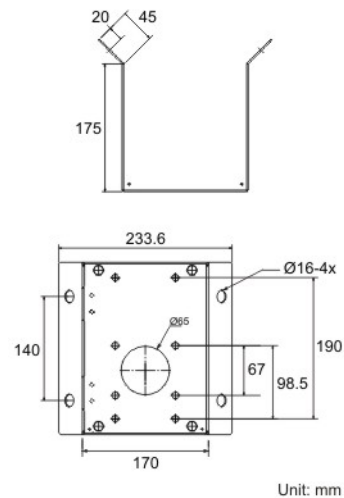
300(L)×164(W)×222(D) mm (11.8×6.5×8.7 inches); 3 kg (6.7 lbs); Supplied with M8x16 screw x4, washer-8 x4, and spring washer-8 x4.



Unit: mm

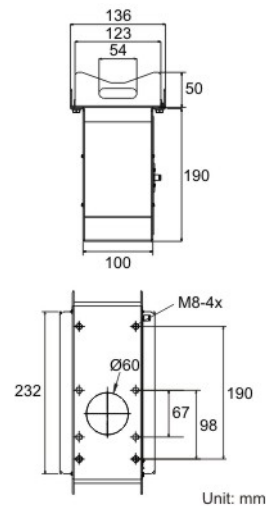
**Corner Wide Box Mounting**

232(L)×234(W)×210(D) mm (9.1×9.2×8.3 inches); 2.7 kg (6 lbs); Supplied with M8x16 screw x4, washer-8 x4, and spring washer-8 x4.



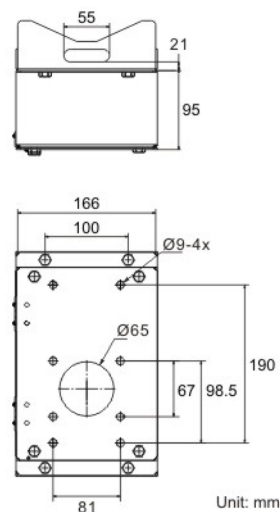
**Pole Thin Box Mounting**

291(L)×136(W)×242 (D) mm (11.5×5.4×9.5 inches); 3.1 kg (6.9 lbs); Supplied with M8x16 screw x4, washer-8 x4, spring washer x4 and stainless steel straps x4.



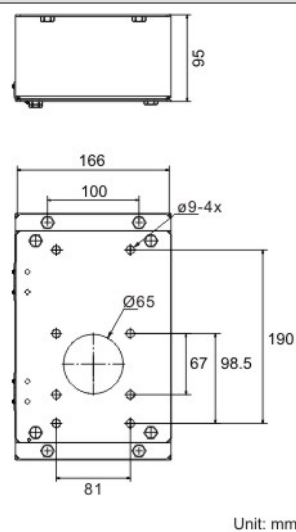
### Pole Wide Box Mounting

270(L)×166(W)×155(D) mm (10.6×6.5×6.1 inches); 3.2 kg (7.1 lbs); Supplied with M8x16 screw x4, washer-8 x4, spring washer-8 x4 and stainless steel straps x4.



### Wall Box Mounting

270(L)×166(W)×95(D) (10.6×6.5×3.7 inches); 2.2 kg (4.84 lbs); Supplied with M8x16 screw x4, washer-8 x4 and spring washer-8 x4.



### Stainless Steel Straps

For fixing Pole Direct Mounting/ Pole Box on the pole. Length: 650 mm (25.6 inches); Width: 12.7mm; Weight: 50g (0.1 lb)



**Stainless Strap Cutter**

For tension, cut and crimp stainless steel straps. 1.4 kg (3.1 lbs).

Suitable for straps width: 1/2", 5/8", 3/4"



## 4.3 Ceiling Mount

Generally, there are three kinds of Dome Camera ceiling mounting methods: hard-ceiling, in-ceiling and mounting with Straight Tube. Refer to the following sections for more details.

The following figures show how cables connect to the Dome Camera in different ways.

### 4.3.1 Hard Ceiling Mounting

Hard Ceiling Mount is a standard installation for an indoor Dome Camera, and general Mounting accessories are equipped in the standard indoor Dome Camera's package. Here lists the items and tools needed to mount the Dome Camera onto the ceilings. The supplied items are all in the Dome Camera's package.

#### Hard Ceiling Mount Package Contents:

- Hard Ceiling Mount x1
- M4 Self-tapping Screw x4
- Plastic Anchors x4
- Fixing Plate x1
- M3 Standard Screw x4 (3 for Fixing Plate, 1 for Dome Cover\*)

(\*) Security Screw will be supplied instead of Standard Screw for Vandal Proof Camera Dome Cover.

#### Tools Needed:

- Tool for drilling
- (+,-) Screw Driver

Follow the steps below to install the Dome Camera onto the ceiling.

#### STEP 1

Install the Fixing Plate on the bottom of Camera.

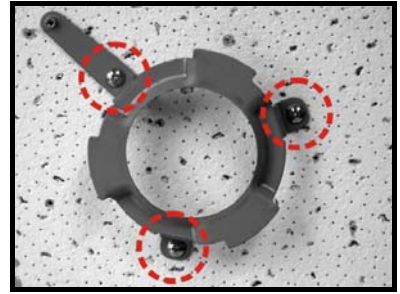
#### STEP 2

Mark the positions of the three screw holes on the Hard Ceiling Mount at the chosen installation location.



### STEP 3

In the marked locations, drill each hole slightly smaller than the supplied Screw Anchors, and put supplied Anchors into these drilled holes.



### STEP 4

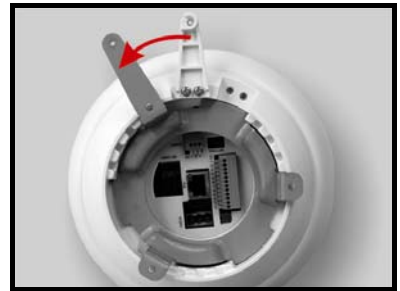
Fasten the Hard Ceiling Mount with the three supplied Self-tapping Screws.

### STEP 5

Thread the Data Cable and/or Ethernet cable through the center hole of the Mount and connect the cable to the camera body.

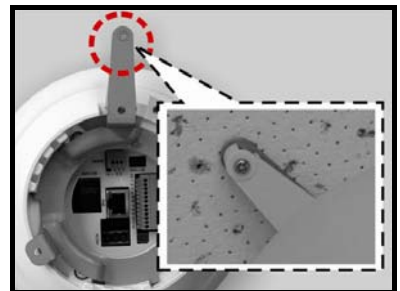
### STEP 6

Install the Camera on the fixed Hard Ceiling Mount by turning the Camera clockwise.



### STEP 7

Fasten the screw at the tip of the Fixing Plate to attach the Camera to the Hard Ceiling Mount.

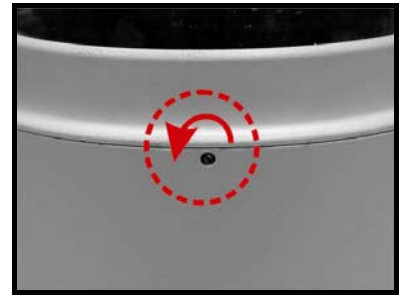


### STEP 8

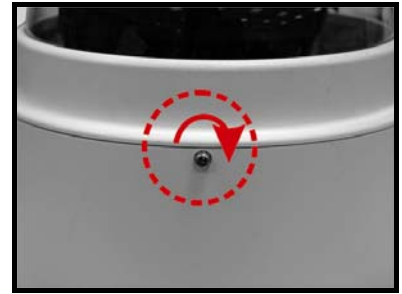
Place the optical cover back to the Dome Camera.

**STEP 9**

After installing the Camera on the Hard Ceiling Mount, put the Dome Cover back, and use a flat screw driver to fasten two supplied Flat Screws on the Dome Cover.

**STEP 10**

Fasten the supplied Standard Screw (Security Screw for Vandal Proof Dome) on the Dome Cover.



### 4.3.2 In-Ceiling (T-Bar) Mounting

Here lists the items and tools needed to mount the Dome Camera into the ceilings. The supplied items are all in the Dome Camera package.

**Package Contents:**

- Lock Bar x1
- M3x6 Screw x2
- Ceiling Sticker x1
- Trim Ring x1

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable (network Dome Camera)
- T-Bar (optional accessory)
- Supplied Screw (equipped with T-Bar)
- Ceiling Sticker (equipped with T-Bar )
- Decoration Ring (supplied)

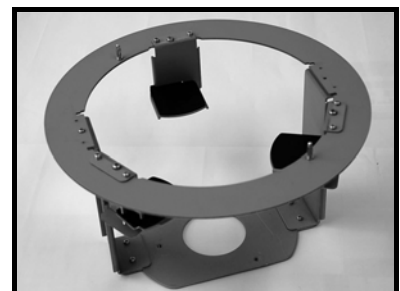
**Tools Needed:**

- Tool for cutting a circle on the ceiling
- (+,-) Screw Driver

Follow the steps to install the Dome Camera with T-Bar Ceiling mount accessory for in-ceiling mounting.

**STEP 1**

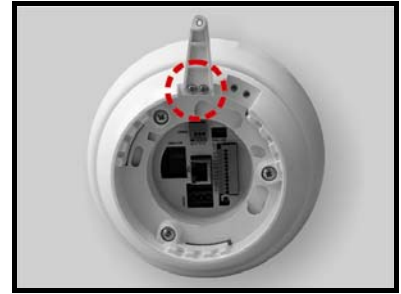
Disassemble the wing (indicated in the diagram) from the In-Ceiling (T-Bar) Mount, and take out the supplied screw in the small bag.



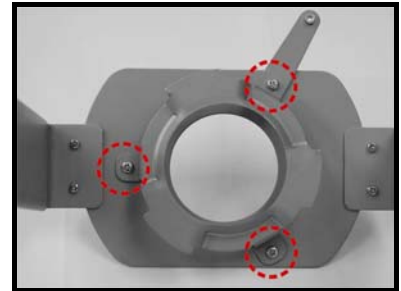


**STEP 2**

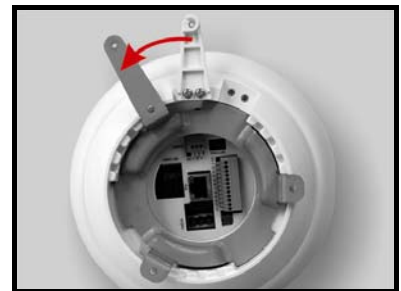
Install the Fixing Plate on the bottom of Camera.

**STEP 3**

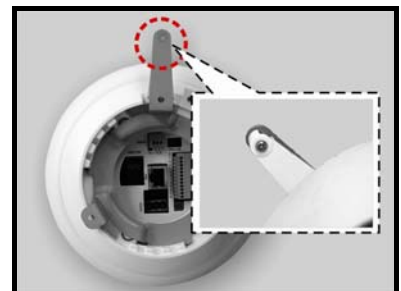
Attach Hard Ceiling Mounting on the T-Bar Bottom Mount with three supplied screws.

**STEP 4**

Install the Camera on the fixed Hard Ceiling Mount by turning the Camera clockwise.

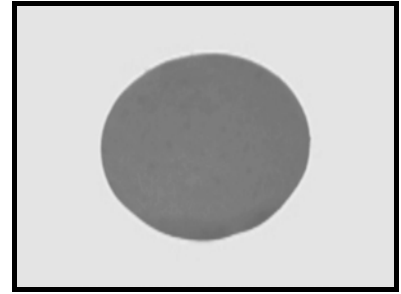
**STEP 5**

Fasten the screw at the tip of the Fixing Plate to attach the Camera to the Hard Ceiling Mount.

**Installed T-Bar Bottom Mount with Camera**

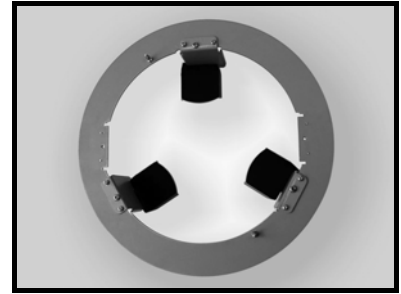
### STEP 6

Place the Ceiling Sticker on the ceiling plate, and cut the circle part out of the ceiling.



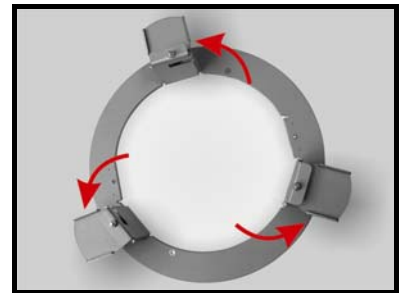
### STEP 7

Put up the T-Bar Bracket into the ceiling opening and fix the In-Ceiling (T-Bar) Mount on the ceiling by tightening three screws clockwise.

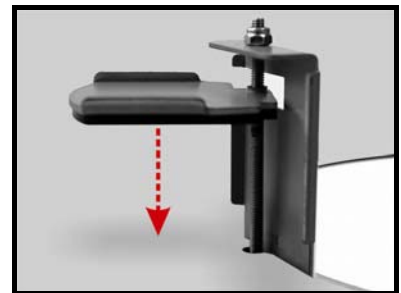


### STEP 8

When screwing, the Wings will be turned into the ceiling opening and get approached to the ceiling board until it is completely flush with the board.



**NOTE:** Please make sure the Wings of the T-Bar Bracket are completely flush with the ceiling board.



### STEP 9

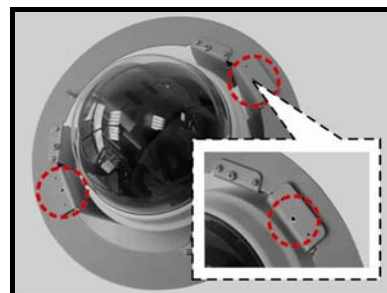
Put the Power Cable and Ethernet Cable down through the center hole of the T-bar and connect it to the Camera.

**STEP 10**

Put up the installed T-Bar Bottom Mount with Camera into the ceiling opening.

**STEP 11**

Tighten the screws to fix T-Bar Bottom Mount on the T-Bar Bracket.

**STEP 12**

Fix the Trim Ring to the T-Bar Bracket.



### 4.3.3 Ceiling Mounting with Straight Tube

The Straight Tube is available in different length: 25 cm and 50 cm.

**Package Contents:**

- M8x12 Screw x1
- Spring Washer-8 x1
- Pendant Tube Washer x1
- Rubber Washer-8 x1
- Waterproof Rubber x1

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable
- Straight Tube
- Screws and Screw Anchors for fixing the Straight Tube onto the ceiling

**Tools Needed:**

- Tool for drilling
- Tool for screwing

Follow the steps to mount the Dome Camera with the Straight Tube.

- 1) Ensure that the ceiling can support the weight of the Dome Camera and Straight Tube.
- 2) Make a cable entry hole on the ceiling.
- 3) Fix the suspension bracket to the ceiling with proper screws and screw anchors.
- 4) Thread the cables through the Straight Tube and the Mounting kit.

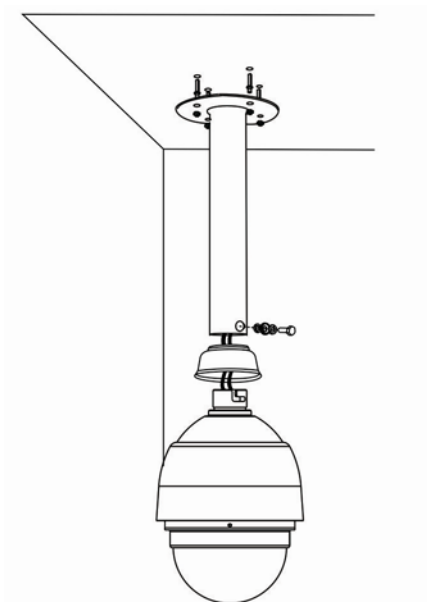


**NOTE :** After threading the cables, please block the cable entry hole with the supplied sponge(s) to avoid insects entering the tube.

- 5) Fix the Mounting Kit to the Straight Tube with the supplied screws and washers.
- 6) Connect the cables to the Dome Camera.

**7)**

Mount the Dome Camera to the Mounting Kit. (Ensure the Dome Camera is fixed completely, and the thread holes on the Lock Screw Plate and Mounting Kit are aligned). Afterwards, screw the supplied M5 standard screw / security screw, as shown in the picture.

**Ceiling Mounting: Straight Tube**

## 4.4 Wall Mount

The Dome Camera can be mounted on the wall with Compact Pendent Mount, Standard Pendent Mount and Wall Box. Please follow the installation instructions below for mounting the Dome Camera via different ways.

### 4.4.1 Swan Tube

**Package Contents:**

- M8x12 Screw x1
- Spring Washer-8 x1
- Pendent Tube Washer x1
- Rubber Washer-8 x1
- Waterproof Rubber x1

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable
- Swan Tube
- Waterproof Rubber
- Screws and Screw Anchors for fixing the Swan Tube on the floor

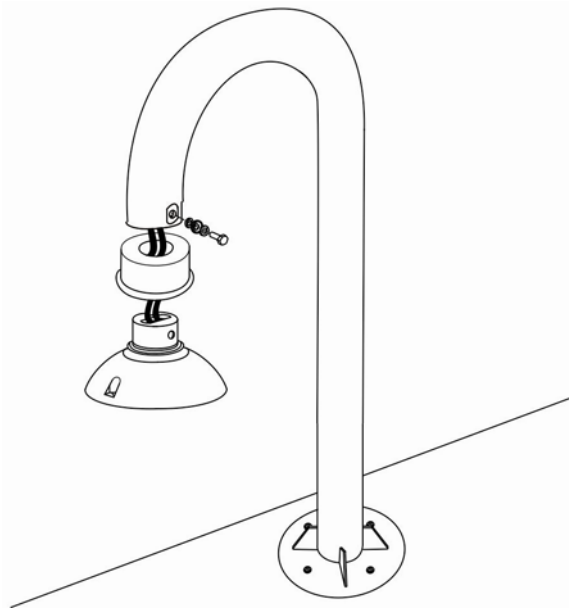
**Tools Needed:**

- Tool for drilling
- Tool for screwing

Follow the steps to mount the Dome with the Swan Tube.

- 1) Fix the Swan Tube on the floor with proper screws and screw anchors.
- 1) Thread the cables through the Swan Tube and the Mounting Kit.
- 2) Fix the Mounting Kit to the Swan Tube with the supplied screws and washers. Then adjust the waterproof rubber to the junction of Swan Tube and Mounting Kit.
- 3) Connect the cables to the Dome Camera. Then attach the Dome to the Mounting Kit and fix them with the supplied screw.

## Wall Mount: Swan Tube + Mounting Kit



## 4.4.2 Compact Pendent Mount

### Package Contents:

- Rubber Washer-8 x1
- Pendent Tube Washer x1
- Spring Washer-8 x1
- M8x12 Screw x1

### Items Needed:

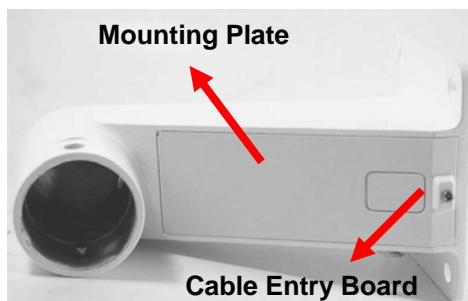
- Dome Camera
- Power Cable
- Ethernet Cable
- Compact Pendent Mount and equipped items (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Screws and Screw Anchors for fixing the Compact Pendent Mount

### Tools Needed:

- Tool for drilling
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Compact Pendant Mount.

- 4) Make a cable entry hole on the wall to recess the cables. Otherwise, users could push up the Cable Entry Board on the Compact Pendent Mount's Mounting Plate to place the cables, as shown in the photo below.



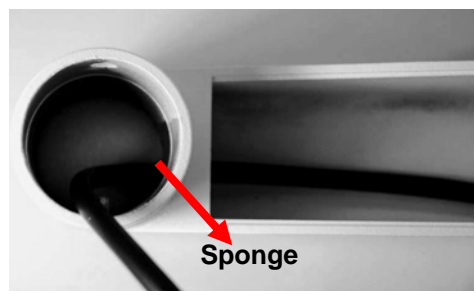
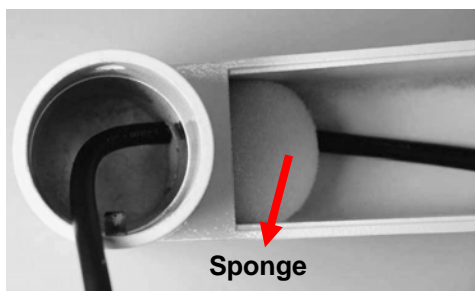
- 5) Fix the Compact Pendent Mount on the wall with proper screws and screw anchors.
- 6) Attach the Waterproof Rubber to the Compact Pendent Mount.



- 7) Run the cable(s) through the Compact Pendent Mount.

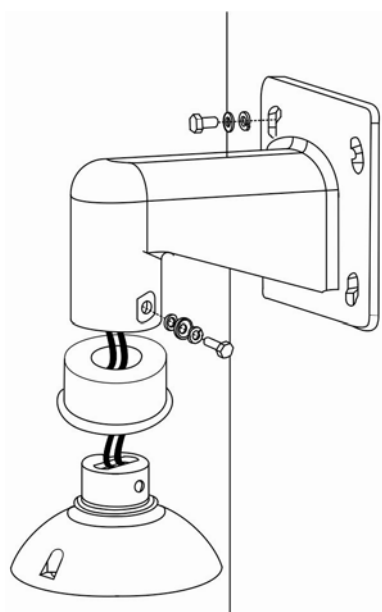


**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. The sponge can be placed in two ways as shown in the illustrations below.



- 8) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Compact Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 9) Connect the cable(s) to the Dome Camera.
- 10) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

#### Wall Mounting: Compact Pendent Mount + Mounting Kit



### 4.4.3 Standard Pendent Mount

**Package Contents:**

- M8x12 Screw x1
- Spring Washer-8 x1
- Pendent Tube Washer x1
- Rubber Washer-8 x1
- Sponge x2

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard Pendent Mount and equipped items (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Screws and Screw Anchors for fixing the Standard Pendent Mount onto the ceiling

**Tools Needed:**

- Tool for drilling
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Standard Pendent Mount.

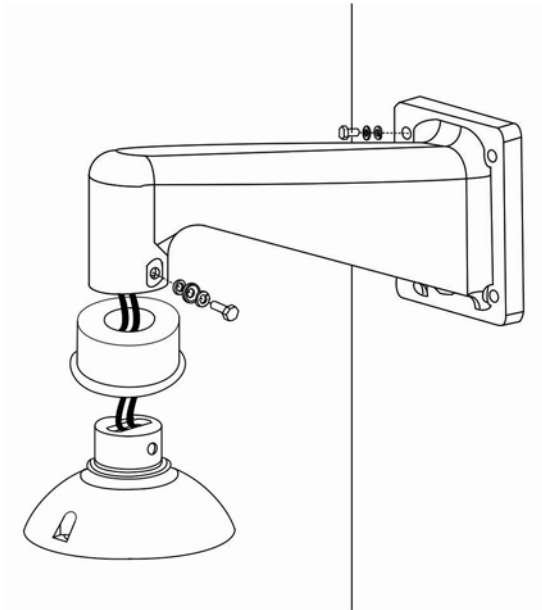
- 1) Make a cable entry hole on the wall to recess the cables. Otherwise, users could push up the cable entry board on the Standard Pendent Mount's mounting plate to place the cables (refer to the illustration in section [4.4.2 Compact Pendent Mount> Step 1](#)).
- 2) Fix the Standard Pendent Mount on the wall with proper screws and screw anchors.
- 3) Attach the Waterproof Rubber to the Standard Pendent Mount.
- 4) Run the cable(s) through the Standard Pendent Mount.



**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendant Mount. Refer to the illustrations in section [4.4.2 Compact Pendant Mount > Step 4](#).

- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard Pendant Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

#### Wall Mounting: Standard Pendant Mount + Mounting Kit



## 4.4.4 Wall Box Mounting

### Package Contents:

- M8x16 Screw x4
- Washer-8 x4
- Spring Washer-8 x4

### Items Needed:

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard/ Compact Pendent Mount and equipped items (optional accessory)
- Wall Box Mounting (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Screws and Screw Anchors for fixing the Wall Box Mounting onto the ceiling

### Tools Needed:

- Tool for drilling
- Tool for screwing

Follow the steps to mount the Dome Camera with the Standard/ Compact Pendent Mounting and Wall Box Mounting.

- 1) Make a cable entry hole on the wall to recess the cable(s).
- 2) Fix the Wall Box Mounting on the wall with proper screws and screw anchors. Then run the cable(s) through the hole on the Wall Box Mounting.
- 3) Fasten the Standard/ Compact Pendent Mount onto the Wall Box Mounting with the supplied screws and washers. Then thread the cable(s) through the Standard/ Compact Pendent Mount with the cable(s) coming out of the Pendent Mount's outlet.



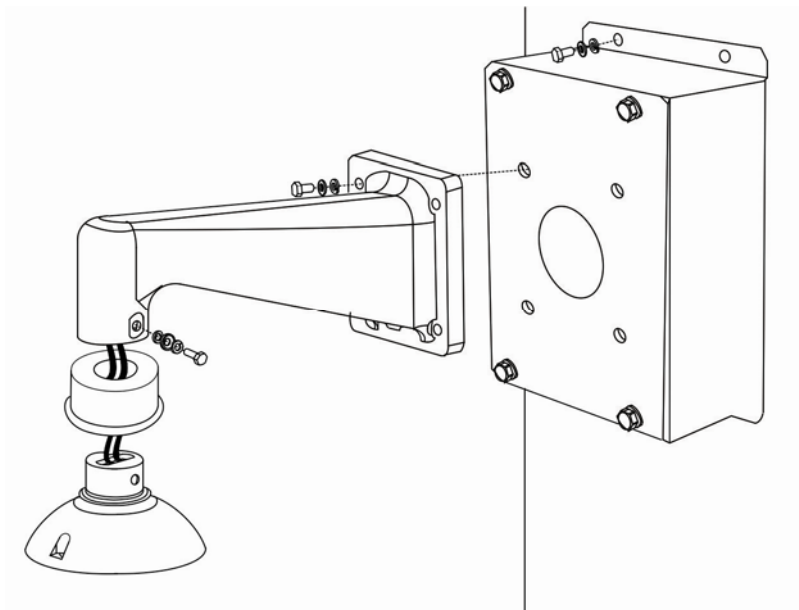
**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. Refer to the illustrations in section [4.4.2 Compact Pendent Mount > Step 4](#).

- 4) Attach the Waterproof Rubber to the Standard/ Compact Pendent Mount.

- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard/ Compact Pendant Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

#### Wall Box Mounting:

#### Wall Box Mounting + Standard/Compact Pendant Mount + Mounting Kit



## 4.5 Corner Mount

### 4.5.1 Corner Standard Mounting Plate/Corner Plate Mini

**Package Contents:**

- Washer-8 x4
- Spring Washer-8 x4
- M8x16 Screw x4
- M8 Nut x4

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard/Compact Pendent Mount and equipped items (optional accessory)
- Corner Standard Mounting Plate/Corner Plate Mini (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Screws and Screw Anchors for fixing the Corner Mounting Plate

**Tools Needed:**

- Tool for drilling
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Corner mounting Plate and Standard/ Compact Pendent Mount.

- 1) Make a cable entry hole on the wall to recess the cable(s).
- 2) Fix the Corner Mounting Plate on the corner of the wall with proper screws and screw anchors. Then run the cable(s) through the hole on the Corner Mounting Plate.
- 3) Fasten the Standard/ Compact Pendent Mount onto the Corner Mounting Plate with the supplied screws and washers. Then thread the cable(s) through the Standard/ Compact Pendent Mount with the cable(s) coming out of the Pendent Mount's outlet.

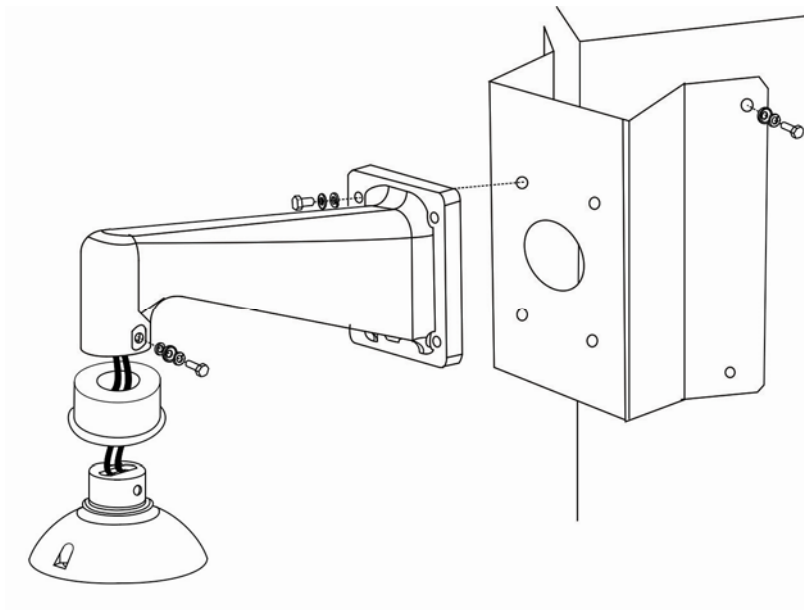


**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendant Mount. Refer to the illustrations in section [4.4.2 Compact Pendant Mount > Step 4](#).

- 4) Attach the Waterproof Rubber to the Standard/ Compact Pendant Mount.
- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard/ Compact Pendant Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

**Corner Wall Mounting:**

**Corner Standard/Mini Mounting Plate + Standard/Compact Pendant Mount + Mounting Kit**



## 4.5.2 Corner Thin/Wide Box Mounting

### Package Contents:

- M8x16 Screw x4
- Washer-8 x4
- Spring Washer-8 x4

### Items Needed:

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard/ Compact Pendent Mount and equipped items (optional accessory)
- Corner Thin/Wide Box (optional accessory)
- Mounting Kit (optional accessory)
- Waterproof Rubber Screws and Screw Anchors for fixing the Corner Thin/Wide Box

### Tools Needed:

- Tool for drilling
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Corner Thin/Wide Box and Standard/ Compact Pendent Mount.

- 1) Make a cable entry hole on the wall to recess the cable(s).
- 2) Fix the Corner Thin/Wide Box on the corner of the wall with proper screws and screw anchors. Then run the cable(s) through the hole on the Corner Mounting Plate.
- 3) Fasten the Standard/ Compact Pendent Mount onto the Corner Thin/Wide Box with the supplied screws and washers. Then thread the cable(s) through the Standard/ Compact Pendent Mount with the cable(s) coming out of the Pendent Mount's outlet.



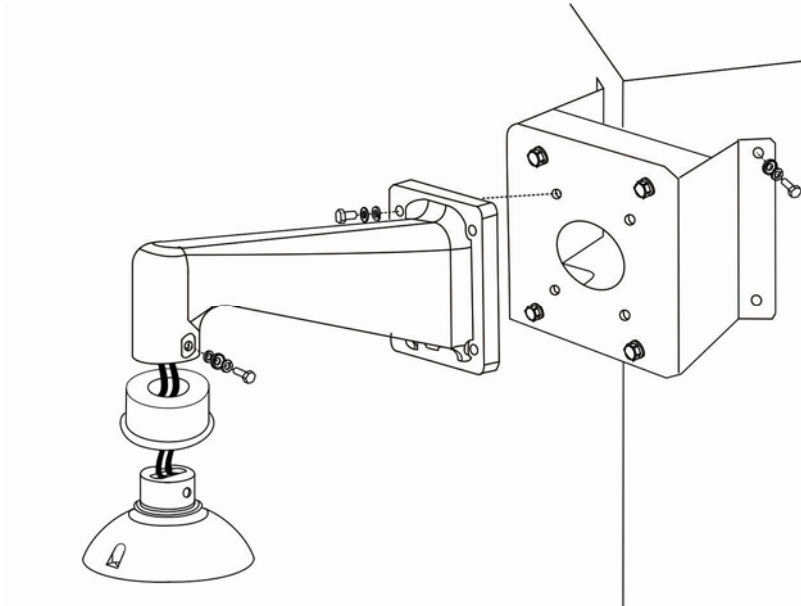
**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. Refer to the illustrations in section [4.4.2 Compact Pendent Mount > Step 4.](#)



- 4) Attach the Waterproof Rubber to the Standard/ Compact Pendent Mount.
- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard/ Compact Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

#### Corner Box Mounting:

Corner Thin/Wide Box + Standard/ Compact Pendent Mount + Mounting Kit



## 4.6 Pole Mount

### 4.6.1 Pole Thin/Wide Direct Mounting

**Package Contents:**

- Stainless Steel Straps x4
- M8x16 Screw x4
- Washer x4
- Spring Washer-8 x4

**Items Needed:**

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard/ Compact Pendant Mount and equipped items (optional accessory)
- Pole Thin/Wide Direct Mounting (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Stainless Steel Straps for fixing the Pole Thin/Wide Direct Mounting

**Tools Needed:**

- Stainless Strap Cutter
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Pole Thin/Wide Direct Mounting and Standard/ Compact Pendant Mount.

- 1) Fasten the Pole Thin/Wide Direct Mounting on a pole with equipped stainless straps.
- 2) Run the cable(s) through the hole on the Pole Thin/Wide Direct Mounting.
- 3) Fasten the Standard/ Compact Pendant Mount onto the Pole Thin/Wide Direct Mounting with the supplied screws and washers. Then thread the cable(s) through the Standard/ Compact Pendant Mount with the cable(s) coming out of the Pendant Mount's outlet.

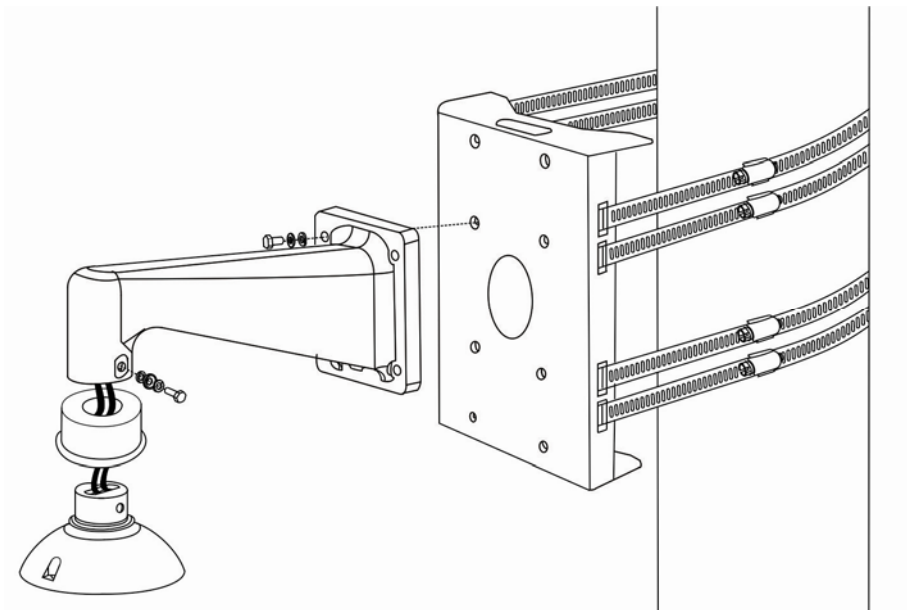


**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendant Mount. Refer to the illustrations in section [4.4.2 Compact Pendant Mount > Step 4](#).

- 4) Attach the Waterproof Rubber to the Standard/ Compact Pendant Mount.
- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard/ Compact Pendant Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

**Pole Direct Mounting:**

**Pole Thin/Wide Direct Mounting + Standard/ Compact Pendant Mount + Mounting Kit**



## 4.6.2 Pole Thin/Wide Box Mounting

### Package Contents:

- M8x16 Screw x4
- Washer-8 x4
- Spring Washer x4,
- Stainless Steel Straps x4

### Items Needed:

- Dome Camera
- Power Cable
- Ethernet Cable
- Standard/ Compact Pendent Mount and equipped items (optional accessory)
- Pole Thin/Wide Box Mounting (optional accessory)
- Mounting Kit
- Waterproof Rubber
- Stainless Steel Straps for fixing the Pole Thin/Wide Box Mounting (optional accessory)

### Tools Needed:

- Stainless Strap Cutter
- Tool for screwing

Follow the steps below to mount the Dome Camera with the Pole Thin/Wide Box and Standard/ Compact Pendent Mount.

- 1) Fasten the Pole Thin/Wide Box on a pole with equipped stainless straps.
- 2) Run the cable(s) through the hole on the Pole Thin/Wide Box Mounting.
- 3) Fasten the Standard/ Compact Pendent Mount onto the Pole Thin/Wide Box Mounting with the supplied screws and washers. Then thread the cable(s) through the Standard/ Compact Pendent Mount with the cable(s) coming out of the Pendent Mount's outlet.

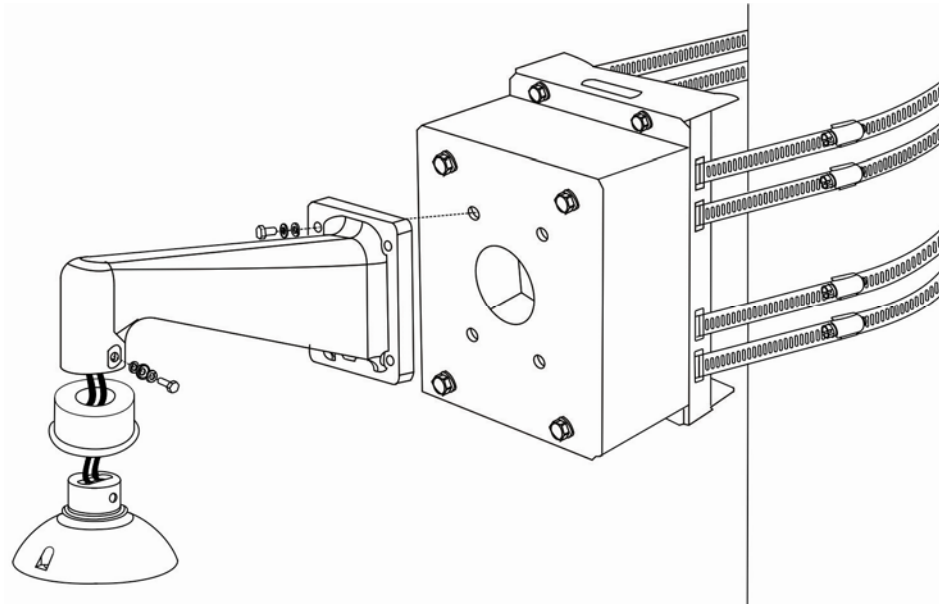


**NOTE:** Please block the cable entry hole with the supplied sponge to avoid insects entering the Pendent Mount. Refer to the illustrations in section [4.4.2 Compact Pendent Mount > Step 4.](#)

- 4) Attach the Waterproof Rubber to the Standard/ Compact Pendent Mount.
- 5) Thread the cable(s) through the Mounting Kit and join the Mounting Kit to the Standard/ Compact Pendent Mount with the supplied screws and washers. Then adjust the Waterproof Rubber to the joint.
- 6) Connect the cable(s) to the Dome Camera.
- 7) Join the Dome Camera to the Mounting Kit with the supplied screw and washers.

#### Pole Box Mounting:

#### Pole Thin/Wide Box + Standard/ Compact Pendent Mount + Mounting Kit



## Appendix A: Technical Specification

| Items                    |    | 18N1   | 20N1      |
|--------------------------|----|--|-----------|
| CAMERA                   |    |  |           |
| Sensor                   |    | 1/2.8" Sony Progressive Scan CMOS Sensor               |           |
| Optical Zoom             |    | 18X  | 20X       |
| Digital Zoom             |    | 1~8x variable  |           |
| Focal Length             |    | 4.7~84.6 mm  | 4.7~94 mm |
| Focus Mode               |    | Auto / Manual  |           |
| White Balance            |    | Auto/ Indoor/ Outdoor/ ATW                             |           |
| Iris Control             |    | Auto / Manual  |           |
| Electronic Shutter       |    | 1/30 ~ 1/10k sec.                                      |           |
| AGC control              |    | Auto / Manual  |           |
| Back Light               |    | On / Off   |           |
| OPERATION                |    |  |           |
| Pan Travel               |    | 360° endless   |           |
| Tilt Travel              |    | -10° ~ 190°  |           |
| Manual Speed             |    | 0.5° ~ 90°/s   |           |
| Presets                  |    | 256  |           |
| Preset Accuracy          |    | 0.225°   |           |
| Preset Speed             |    | 5°~400°/s  |           |
| Sequence                 |    | 8  |           |
| Auto Pan                 |    | 4  |           |
| Cruise                   |    | 8  |           |
| Privacy Mask             |    | 16   |           |
| Proportional Pan & Tilt  |    | On/Off (Pan and tilt speed proportional to zoom ratio) |           |
| Resume after Power loss  |    | Yes  |           |
| Zone Title               |    | 16   |           |
| Home Function            |    | Preset, Sequence, Auto pan, Cruise                     |           |
| Auto Flip                |    | Digital / Mechanical / Off                             |           |
| Digital Slow Shutter     |    | On / Off   |           |
| Motion Detection         |    | On / Off   |           |
| Wide Dynamic Range       |    | On / Off   |           |
| Day/Night: IR Cut Filter |    | Auto / Manual  |           |
| Image Inverse            |    | On / Off   |           |
| Image Freeze             |    | On / Off   |           |
| Noise Reduction          | 2D | On / Off   |           |
|                          | 3D | On / Off   |           |
| NETWORKING               |    |  |           |

| Items                 |       | 18N1  | 20N1 |
|-----------------------|-------|---|------|
| Video Compression     |       | H.264 Main Profile/ MJPEG   |      |
| Video Streaming       |       | Multiple Streams, H.264 + MJPEG/ H.264 + H.264  |      |
| Video Resolution      |       | 1080P/ 720P/ VGA/ D1  |      |
| Frame Rate            |       | 30/25 fps @ 1080P   |      |
|                       |       | 60/50 fps @ 720P  |      |
| Audio Compression     |       | G711/ G.726 ADPCM/AAC   |      |
| Audio Streaming       |       | Two-way   |      |
| Interface             |       | 10/100 Mb Ethernet (RJ-45)  |      |
| Protocol              |       | IPv4/v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, QoS, IEEE 802.1x, ONVIF |      |
| Digital Alarm Input   |       | 4   |      |
| Digital Alarm Output  |       | 2   |      |
| Alarm Reaction        |       | Preset, Sequence, Auto pan, Cruise  |      |
| Security              |       | User Account and Password Protection  |      |
| Supported Web Browser |       | Internet Explorer (6.0+), Chrome, Firefox, Safari   |      |
| GENERAL               |       |   |      |
| Environment           |       | Indoor / Outdoor  |      |
| Operating Temperature | NH720 | 0°C ~ 40°C (32°F ~ 104°F)   |      |
|                       | NH820 | -45°C ~ 50°C (-49°F ~ 122°F)  |      |
| Dimension             | NH720 | ø171.7 x 228.71 mm (ø 6.76 x 9 Inches)  |      |
|                       | NH820 | ø191.97 x 282.11 mm (ø 7.55 x 11.1 Inches) w/ sunshield   |      |
| Weight                | NH720 | 1.62 kg (3.57 lbs)  |      |
|                       | NH820 | 2.32 kg (5.11 lbs) w/ sunshield   |      |
| Power Source          | NH720 | PoE+/ AC24V ± 10%   |      |
|                       | NH820 | AC24V ± 10%   |      |
| Power                 | NH720 | 20 W  |      |
| Consumption           | NH820 | 65 W (with Heater)  |      |
| Regulatory            |       | CE, FCC, RoHS, IP66 (NH820 series)  |      |