



The table below describes the files that were selected to be included as part of this package.

Supplements, such as Figures and Illustrations, will appear as X number of Figures, X number of Illustrations, etc., rather than naming each one.

|                             |
|-----------------------------|
| E158873-A6209-DescriptionUL |
| Figure-14-Total             |

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## UL TEST REPORT AND PROCEDURE

|                                    |                                                                                                                                                                                                                                                                                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standard:</b>                   | UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements)<br>CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) |
| <b>Certification Type:</b>         | Listing                                                                                                                                                                                                                                                                        |
| <b>CCN:</b>                        | AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment)                                                                                                                                                                                                  |
| <b>Complementary CCN:</b>          | N/A                                                                                                                                                                                                                                                                            |
| <b>Product:</b>                    | NETWORK CAMERA                                                                                                                                                                                                                                                                 |
| <b>Model:</b>                      | QNV-C6083R                                                                                                                                                                                                                                                                     |
| <b>Rating:</b>                     | PoE (48 Vdc), 0.2 A                                                                                                                                                                                                                                                            |
| <b>Applicant Name and Address:</b> | HANWHA VISION CO LTD<br>6, PANGYO-RO 319BEON-GIL, BUNDANG-GU<br>SEONGNAM-SI GYEONGGI-DO 13488 KOREA                                                                                                                                                                            |

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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Prepared By: Lawrence Lee / Project Handler      Reviewed By: SeulKi Park / Reviewer

### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

### Product Description

NETWORK CAMERA is designed for outdoor or indoor use, wall or ceiling use with mounting brackets.

It is a commercial equipment supplied from UL listed PoE (Power over Ethernet) input and installed by service personnel.

### Model Differences

N/A

### Test Item Particulars

|                                                |                             |
|------------------------------------------------|-----------------------------|
| Product group                                  | end product                 |
| Classification of use by                       | Instructed person           |
| Supply Connection                              | not mains connected:<br>ES1 |
| Supply tolerance                               | None                        |
| Supply connection – type                       | PoE (Power over Ethernet)   |
| Considered current rating of protective device | N/A                         |
| Equipment mobility                             | wall/ceiling-mounted        |
| Over voltage category (OVC)                    | OVC I                       |
| Class of equipment                             | Class III                   |
| Special installation location                  | Outdoor location            |
| Pollution degree (PD)                          | PD 2                        |
| Manufacturer's specified Tma (°C)              | 55<br>Outdoor: minimum -40  |
| IP protection class                            | --                          |
| Power systems                                  | not AC mains                |
| Altitude during operation (m)                  | 2000 m or less              |
| Altitude of test laboratory (m)                | 2000 m or less              |
| Mass of equipment (kg)                         | 0.92                        |

### Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 55 °C
- ☐ The product is intended for use on the following power systems : No direct connection

- ☐ Considered current rating of protective device as part of the building installation (A) : N/A
- ☐ Mains supply tolerance (%) or absolute mains supply : No direct connection
- ☐ The Risk Group of a lamp or lamp system (including LEDs) is : Exempt
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual
- ☐ The outdoor equipment/enclosure was evaluated for use in an ambient range of : -40 °C to 55 °C

**Additional Information**

4791199955

- Maximum Normal Load: Continuous operation (Operate the camera through networked equipment with IR LED on.) Loads due to optional features: USB load (at 0.5 A)

**Additional Standards**

The product fulfills the requirements of: IEC 62471:2006

**Markings and Instructions**

| Clause Title                                                   | Marking or Instruction Details                                                                                                                                                                                                       |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment identification marking – Manufacturer identification | Listee's or Recognized Company's name, Trade Name, File Number                                                                                                                                                                       |
| Equipment identification marking – model identification        | Model Number                                                                                                                                                                                                                         |
| Equipment rating marking – ratings                             | Input Ratings (voltage, current)                                                                                                                                                                                                     |
| Outdoor enclosure type                                         | "Rainproof", IP66                                                                                                                                                                                                                    |
| Hard Copy                                                      | A. IMPORTANT or ATTENTION or similar wording<br>B. Please check 'Manuals' from our website, before connecting to the supply.<br>C. Company website URL ( <a href="https://www.~~">https://www.~~</a> ) or QR code.                   |
| (Website) Manual - 1                                           | This product is intended to be supplied by a UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (48 Vdc), 0.2 A.                                                                                      |
| (Website) Manual - 2                                           | The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3.af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL 60950-1 or PS2 as defined in UL 62368-1. |

**Special Instructions to UL Representative**

N/A



|              |                                                                                                                                                                                        |                 |                     |            |           |              |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|------------|-----------|--------------|
| <b>BD1.0</b> | <b>TABLE: Production-Line Testing Requirements</b>                                                                                                                                     |                 |                     |            |           |              |
| <b>BD1.1</b> | <b>Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.</b>                                                       |                 |                     |            |           |              |
| Model        | Component                                                                                                                                                                              | Removable parts | Test probe location | Test V rms | Test V dc | Test Time, s |
| N/A          | N/A                                                                                                                                                                                    | N/A             | N/A                 | N/A        | N/A       | N/A          |
| <b>BD1.2</b> | <b>Earthing Continuity Test Exemptions – This test is not required for the following models:</b>                                                                                       |                 |                     |            |           |              |
|              | All model                                                                                                                                                                              |                 |                     |            |           |              |
| <b>BD1.3</b> | <b>Electric Strength Test Exemptions – This test is not required for the following models:</b>                                                                                         |                 |                     |            |           |              |
|              | All model                                                                                                                                                                              |                 |                     |            |           |              |
| <b>BD1.4</b> | <b>Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.</b> |                 |                     |            |           |              |
|              | All model                                                                                                                                                                              |                 |                     |            |           |              |

|              |                                                            |          |      |            |                |
|--------------|------------------------------------------------------------|----------|------|------------|----------------|
| <b>BE1.0</b> | <b>Sample and Test Specifics for Follow-Up Tests at UL</b> |          |      |            |                |
| Model        | Component                                                  | Material | Test | Sample (s) | Test Specifics |
| N/A          | N/A                                                        | N/A      | N/A  | N/A        | N/A            |

| 4.1.2                                         | TABLE: List of critical components          |                                               |                                                                                         |                            |                          | Pass          |
|-----------------------------------------------|---------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------|--------------------------|---------------|
| Object / part No.                             | Manufacturer/<br>trademark                  | Type / model                                  | Technical data                                                                          | Product Category<br>CCN(s) | Mark(s) of<br>conformity | Supplement ID |
| Transparent Cover-<br>Top (Plastic)           | MITSUBISHI<br>ENGINEERING-<br>PLASTICS CORP | S-2000+(f1), S-<br>2001+(f1), S-<br>2003+(f1) | Min. 2.0 mm thickness,<br>rated Min. V-2, 80 deg.<br>C, see enclosure for<br>dimension. | QMFZ2                      | UL (E41179)              |               |
| Enclosure-Top side<br>(Metal)                 | Interchangeable                             | Interchangeable                               | Aluminium, Min. 2.0<br>mm thickness, See<br>enclosure for<br>dimension.                 | -                          | -                        |               |
| Enclosure-Bottom<br>(Metal)                   | Interchangeable                             | Interchangeable                               | Aluminium, Min. 2.0<br>mm thickness, See<br>enclosure for<br>dimension.                 | -                          | -                        |               |
| Mounting Bracket<br>(Metal)                   | M&C                                         | Mounting Bracket                              | Aluminium, Min. 2.3<br>mm thickness,<br>Approximate 115.0 by<br>115.0 by 10.0 mm.       | -                          | -                        |               |
| Internal Plastic Part<br>Materials            | LOTTE CHEMICAL<br>CORPORATION               | HN-1068(+)(f1)                                | Min. 1.5 mm thickness,<br>rated Min. V-0, 130<br>deg. C.                                | QMFZ2                      | UL (E115797)             |               |
| Internal Plastic Part<br>Materials -Alternate | Interchangeable                             | Interchangeable                               | Min. 1.5 mm thickness,<br>rated Min. V-0, 130<br>deg. C.                                | QMFZ2                      | UL                       |               |
| Transformer (T1)                              | SAMWHA TECOM<br>Co.,Ltd.                    | STEFD15F-5R0770                               | 77uH / 1.73 uH, 130<br>deg. C, See enclosure<br>for more detail.                        | -                          | -                        |               |
| CM Choke (T3)                                 | 3L ELECTRONIC<br>(ZHONG SHAN)<br>CORP.      | SMTLF3922P-<br>472N-0.5A                      | Operating temperature:<br>125 deg. C                                                    | -                          | -                        |               |
| Opto-coupler<br>(LS201)                       | LITE-ON<br>TECHNOLOGY<br>CORP               | LTV-356T-BN                                   | Isolation Voltage: 3<br>750. Max. Operation<br>Temperature:110 deg.<br>C                | FPQU2                      | UL (E113898)             |               |

|                                                                |                                             |                                 |                                                                                     |                |              |  |
|----------------------------------------------------------------|---------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------|----------------|--------------|--|
| Opto-coupler (LS201) – Alternate                               | COSMO ELECTRONICS CORP                      | KPC357NT                        | Isolation Voltage: 3 750. Max. Operation Temperature:100 deg. C                     | FPQU2          | UL (E113898) |  |
| Rechargeable battery (BAT1)                                    | SEIKO INSTRUMENTS INC MICRO-ENERGY DIV      | ML414H                          | Lithium, Rechargeable, Max Charging Voltage, 3.4 V dc, Max Charging current: 300 mA | BBCV2          | UL (MH15628) |  |
| Lithium Battery Protection Circuit                             | Interchangeable                             | Interchangeable                 | Diode (D1, 85 V, 300 mA) and Resistor (R55, 3.3 kohm) in series                     | -              | -            |  |
| Lens module                                                    | DongGuan YuTong Optical Technology CO., Ltd | YT0W8A03DB.IR-JZ-3MP+H43+IR0902 | Operation Voltage: 4.2-5.0 Vdc Max                                                  | -              | -            |  |
| USB protect IC (U15)                                           | TEXAS INSTRUMENTS INCORPORATED              | TPD3S014                        | Rated 4.5-5.5 Vdc, 0.5 A, Current limit: 1.05 A                                     | QVGS2          | UL (E169910) |  |
| Thermal pad                                                    | KOMOTECH                                    | KGP-1(a)                        | Min. 0.2 mm thickness, rated V-0, 150 deg. C                                        | QMFZ2          | UL (E245303) |  |
| PWB                                                            | HANNSTAR BOARD CORP                         | MV-4                            | Min. V-0, 130 deg. C.                                                               | ZPMV2          | UL (E89382)  |  |
| PWB - Alternate                                                | Interchangeable                             | Interchangeable                 | Min. V-0, 130 deg. c                                                                | ZPMV2          | UL           |  |
| Gasket - Between Top Side metal and Bottom metal enclosure     | Y&K Tech                                    | O-VMQ-50-BK                     | Gasket Test was conducted under E158873-A6034                                       | -              | -            |  |
| Gasket- Between Top cover plastic and Top side metal enclosure | Y&K Tech                                    | O-VMQ-50-BK                     | Gasket Test was conducted under E158873-A6034                                       | -              | -            |  |
| Gasket - Cable hole                                            | NAMYANG VIAN                                | C-VMQ-40-GR                     | Gasket Test was conducted under E158873-A6034                                       | -              | -            |  |
| Outdoor Label                                                  | Interchangeable                             | Interchangeable                 | Suitable for use on each type of surface to which applied, rated for                | PGDQ2 or PGJI2 | UL           |  |

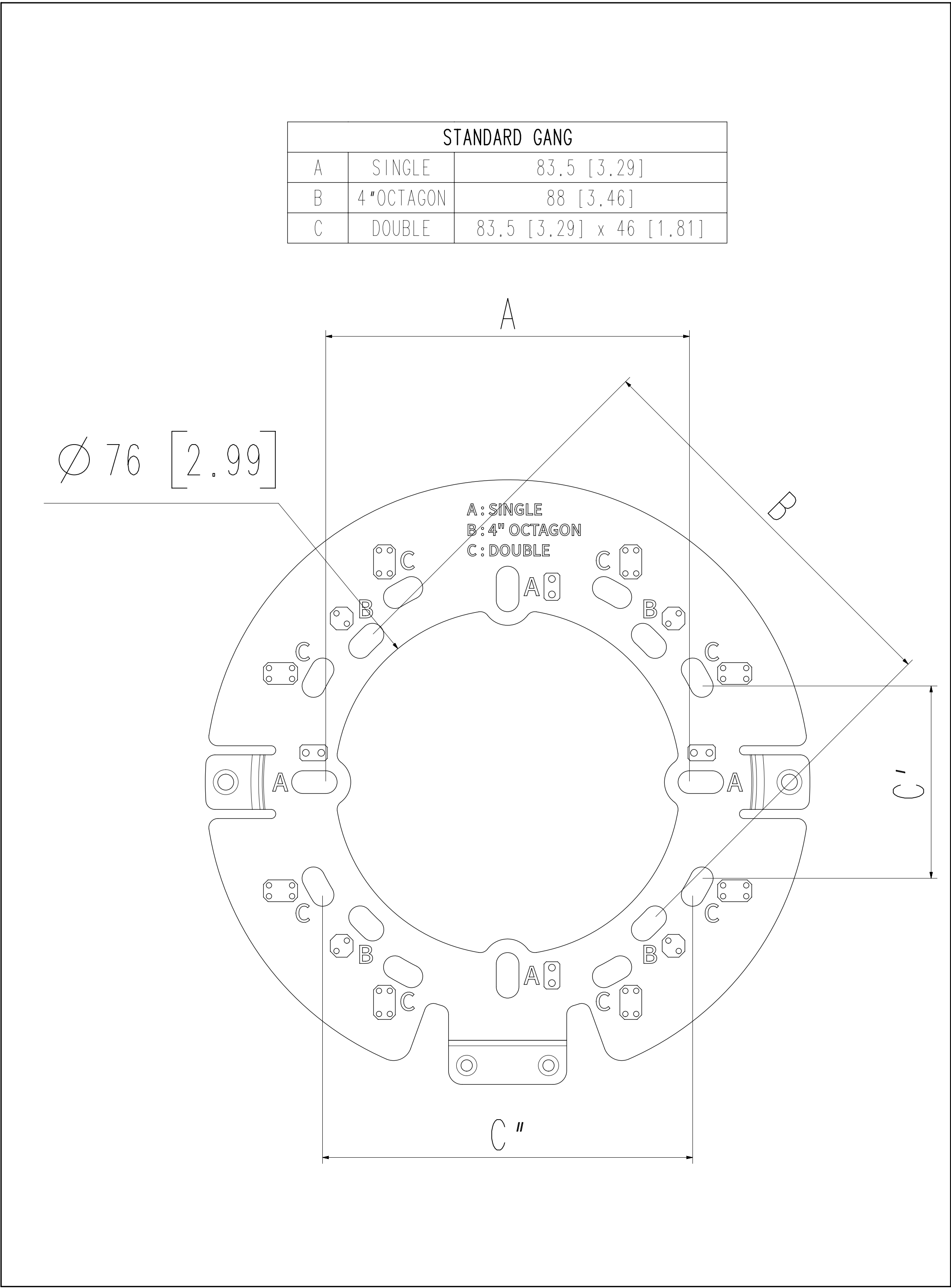
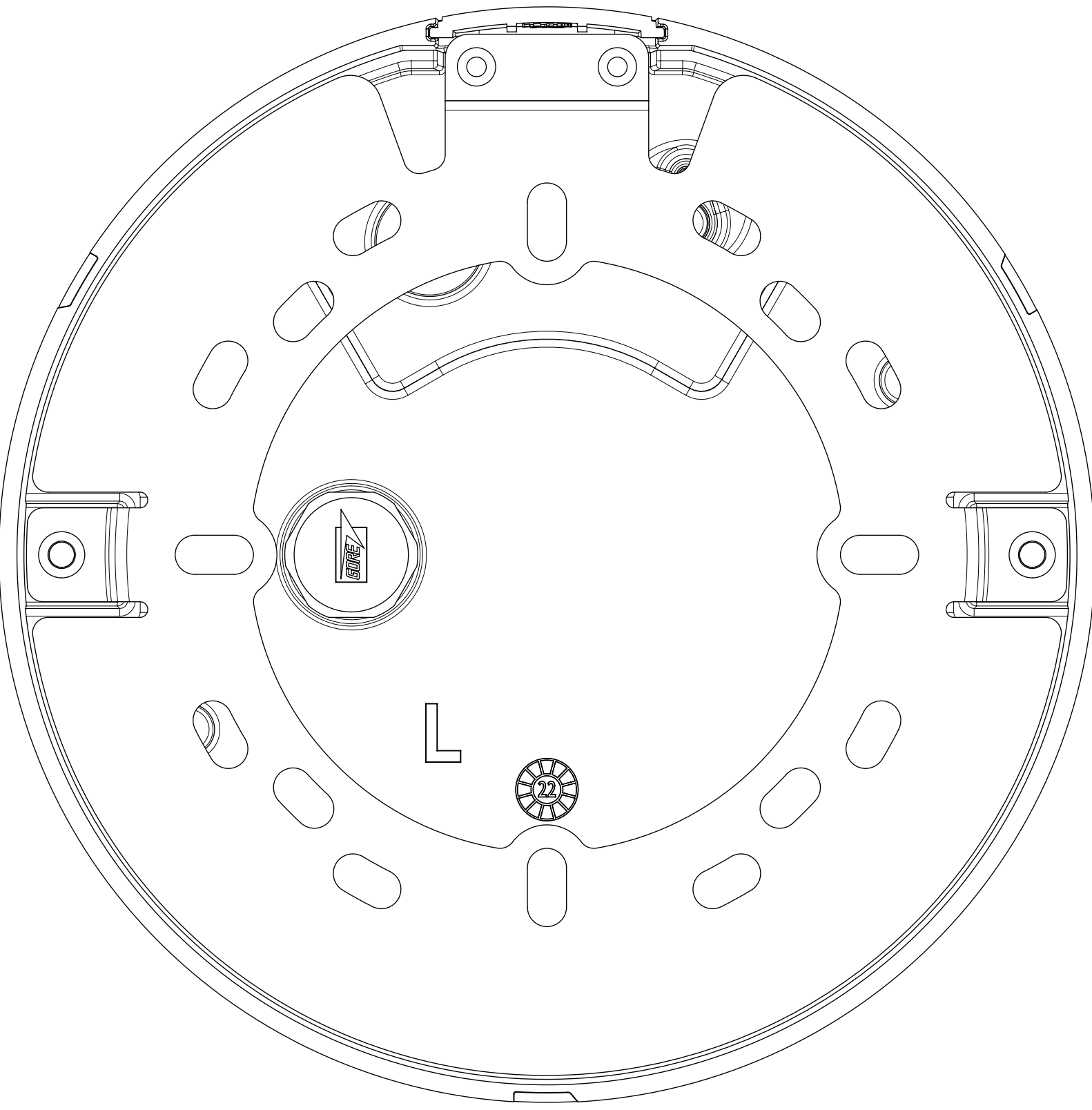
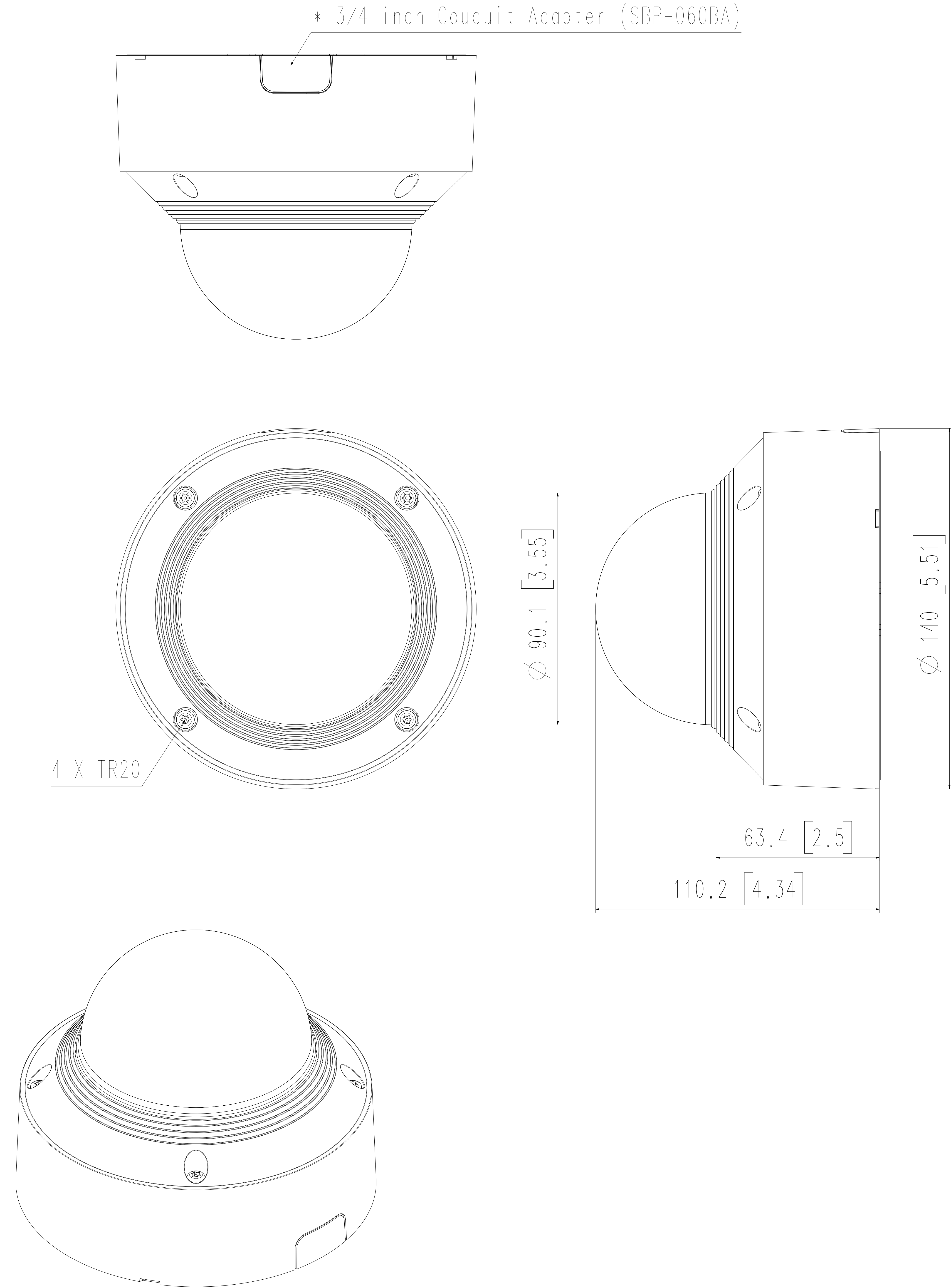
|                                    |                                    |               |                                                                                                          |   |   |  |
|------------------------------------|------------------------------------|---------------|----------------------------------------------------------------------------------------------------------|---|---|--|
|                                    |                                    |               | maximum and minimum surface temperature specified, or Min. 55 deg. C to Max -40 deg. C if not specified. |   |   |  |
| IR LED (4 EA – LD2, LD4, LD5, LD6) | Cybright IR LED Technology Co.,Ltd | XB-IR3838EU-I | VF= 1.7-2.3 Vdc                                                                                          | - | - |  |
| IR LED (2 EA - LD1, LD3)           | OSRAM Opto Semiconductors. GmbH    | SFH 4718A     | VF= 1.75-2.05 Vdc                                                                                        | - | - |  |

## Enclosures

| Type          | Supplement Id | Description                    |
|---------------|---------------|--------------------------------|
| Photographs   | 03-01         | External View - 1              |
| Photographs   | 03-02         | External View - 2              |
| Photographs   | 03-04         | Internal View - 1              |
| Photographs   | 03-05         | Internal View - 2              |
| Photographs   | 03-06         | Internal View - 3              |
| Photographs   | 03-07         | LED Board                      |
| Photographs   | 03-08         | Sensor Board - Top             |
| Photographs   | 03-09         | Sensor Board - Bottom          |
| Photographs   | 03-10         | Main Board - Top               |
| Photographs   | 03-11         | Main Board - Bottom            |
| Diagrams      | 04-01         | Diagrams                       |
| Manuals       | 06-01         | Manual                         |
| Miscellaneous | 07-01         | Transformer (T1) Specification |
| Miscellaneous | 07-03         | Label                          |

The following Page(s) are related to Diagrams-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.





|                         |            |               |
|-------------------------|------------|---------------|
| 3                       | QNV-C6083R | '24.02.07     |
| 2                       | QNV-C8083R | '24.02.07     |
| 1                       | QNV-C9083R | '24.02.07     |
| No.                     | MODEL NAME | DATE          |
| Unit:mm[inch] SCALE:3:2 |            | Hanwha Vision |



The following Page(s) are related to Manuals-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.  
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (48Vdc), 0.2A. (QNV-C6083R)
16. This product is intended to be supplied by a UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (48Vdc), 0.19A. (QNO-C6083R)
17. This product is intended to be supplied by isolation power.
18. If you use excessive force when installing the product, the camera may be damaged and malfunction.  
If you forcibly install the product using non-compliant tools, the product may be damaged.
19. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.  
This may cause damage to the product.
20. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.  
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.



21. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.  
Install the product by referring to "Installation & connection" in the user manual.
22. Installing or using the product in water can cause serious damage to the product.
23. Although a rapid change in temperature could cause frost inside the dome, there will be no problem with the video.
24. The operating temperature of the product is -40°C to +55°C (-40°F ~ +131°F)

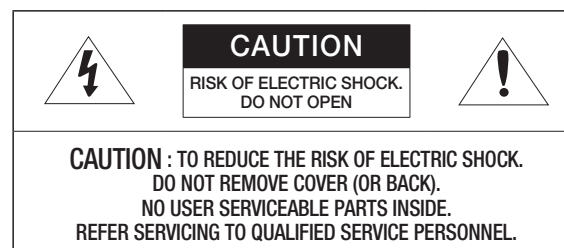
## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

## CAUTION



## EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

### Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

### Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

The battery cannot be replaced.

### Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

**When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.**

### CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

### ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.  
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

### CAUTION

These servicing instructions are for use by qualified service personnel only.  
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

The Micro USB port of the product is provided for easier installation, and is not recommended for monitoring purposes.

When a new product box is opened (or during the initial use of the product), moisture might build up on the glass of the camera. The built-up moisture disappears naturally within a few hours after powered on.

Do not arbitrarily loosen or tighten the gore valve.

**The ITE is to be connected only to PoE networks without routing to the outside plant.**

**The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.**

**Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.**

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.  
The high temperature of the product surface may cause a burn.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

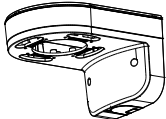
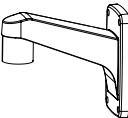
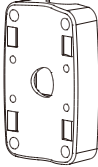
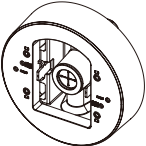
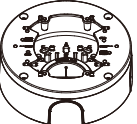
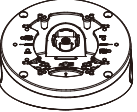
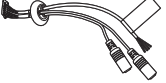
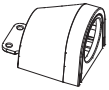
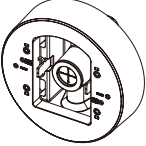
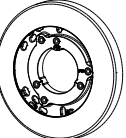
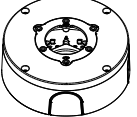
※ Please read this manual for the safety before using of goods and keep it in the safe place.

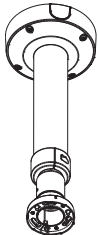
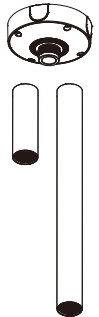
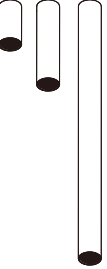
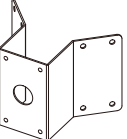
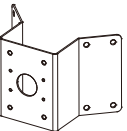
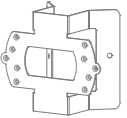
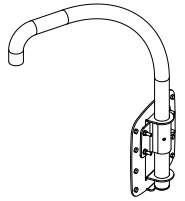
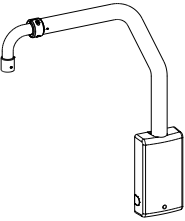
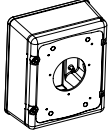
We do not guarantee the quality of third-party products (e.g. lenses, accessories) that you separately purchase.

In particular installation environments, there might be interference in radio communications. When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.

OPTIONAL ACCESSORIES FOR INSTALLATION

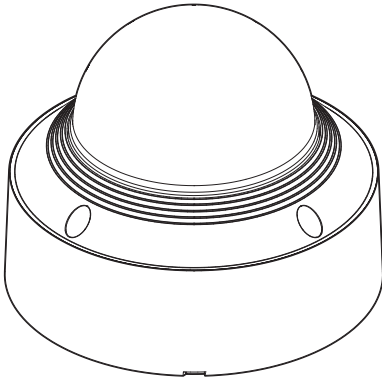
You can purchase appropriate optional accessories available.

| Model name | Wall Mount and Pole Mount                                                                                                                                                                                                                                                                                                           |                                                                                                                  | Hanging Mount                                                                                   | Pole Mount<br>(Direct Assembly)                                                                                                            | Gang Plate                                                                                         | Back Box and Tilt Mount                                                                                                                                                                                                             | Accessory cable                                                                                                                                                                                      | Conduit adaptor                                                                                  |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| QNV-C6083R |                                                                                                                                                                                                                                                    |                                                                                                                  |                                                                                                 |                                                                                                                                            |                                                                                                    |                                                                                                                                                                                                                                     |                                                                                                                                                                                                      |                                                                                                  |
|            | <br>SBP-300WMW<br>(Wall Mount)<br>* SBP-300PMW2 required for pole installation<br><br>SBP-300WMW1<br>(Wall Mount)<br>* SBP-300PMW2 required for pole installation | <br>SBP-300PMW2<br>(Pole Mount) | <br>SBP-140HMW | <br>SBD-140PMW                                           |                                                                                                    | <br>SBV-140BW<br>(Back Box)<br><br>SBV-140TMW<br>(Tilt Mount) | <br>SPP-C7400<br><br>SPP-C1900 | <br>SBP-060BA |
| QNO-C6083R |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |                                                                                                 | <br>SBD-140PMW<br>*SBO-090GP required for installation | <br>SBO-090GP | <br>SBO-140BW                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                  |

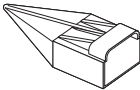
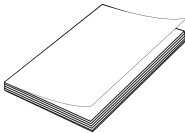
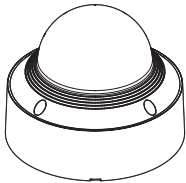
| Model name | Ceiling Mount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Corner Mount                                                                                                                                                                                                                                                                                                                           | Parapet Mount                                                                                                                                                                                                | Installation Box                                                                                      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|            | Assembly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Individual Parts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                              |                                                                                                       |
| QNV-C6083R |  <p>SBP-156CMW<br/>(Telescopic)</p>  <p>SBP-300CMTW<br/>(Telescopic)</p>  <p>SBP-300CMTS<br/>(Ball Head)</p>  <p>SBP-300CMW1<br/>SBP-900CMW</p>  <p>SBP-150CMI<br/>SBP-300CMI</p> |  <p>SBP-180CMB</p>  <p>SBP-180CMS<br/>(Ball Head)</p>  <p>SBP-140CMB</p>  <p>SBP-150CMP<br/>SBP-300CMP<br/>SBP-900CMP</p>  <p>SBP-C15P</p> |  <p>SBP-300KMW1</p>  <p>SBP-156KMW</p>  <p>SBD-140KMB<br/>(Light version)</p> |  <p>SBP-300LMW</p>  <p>SBP-156LMW1</p> |  <p>SBP-300NBW</p> |
| QNO-C6083R | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                                                                                                                                                                                                                                                                                                                                      | -                                                                                                                                                                                                            | -                                                                                                     |

WHAT'S INCLUDED

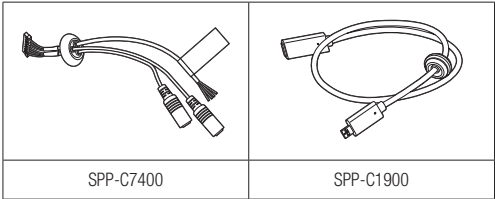
As for each sales country, accessories are not the same.



<QNV-C6083R>

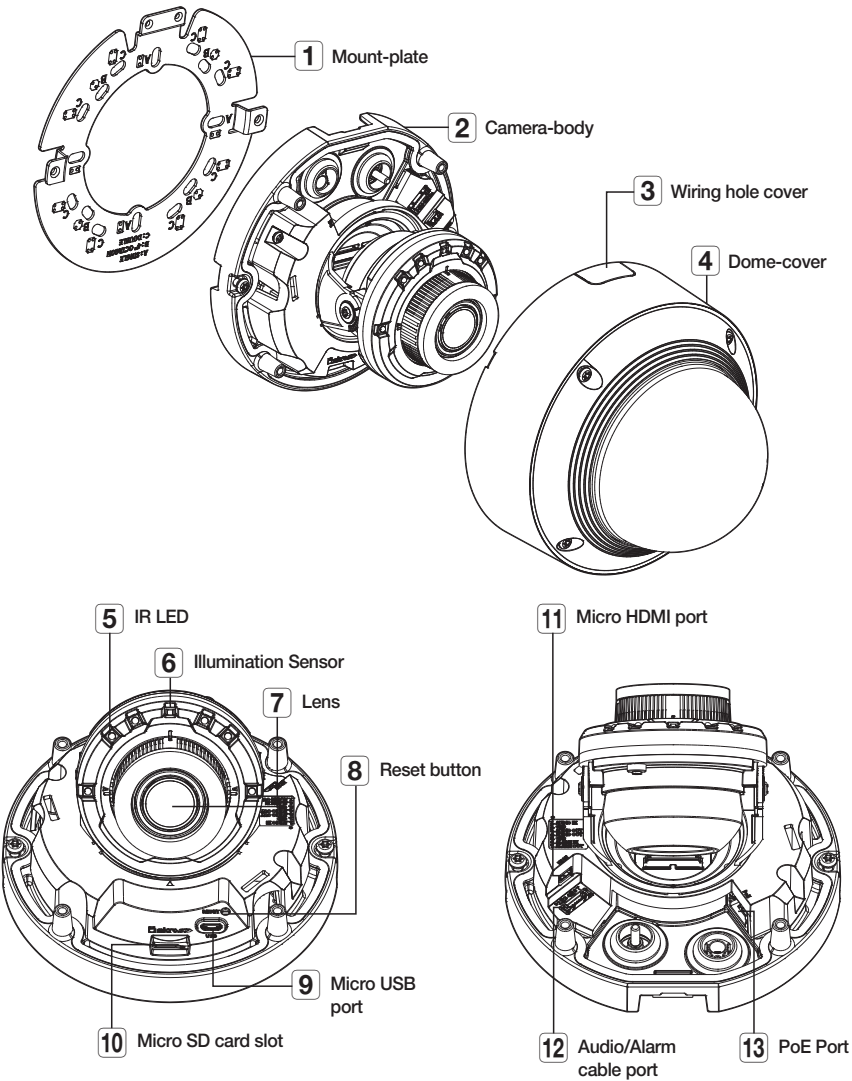


Option (not included)



■ Use installation screws of at least M4, L30 for the installation of this product.

AT A GLANCE



## INSTALLATION



- The camera jack connected to the external cable is not waterproof. You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

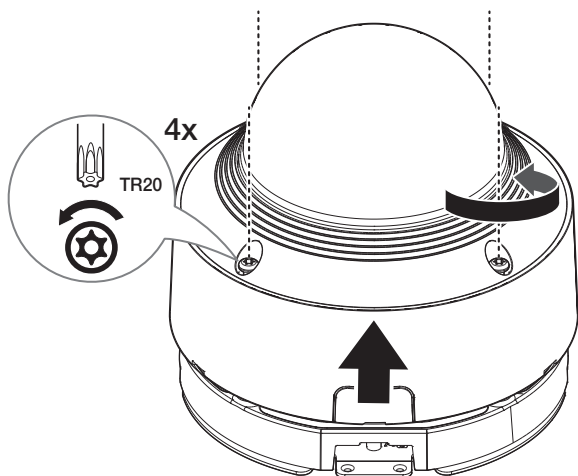
### Precautions before installation

Ensure you read out the following instructions before installing the camera:

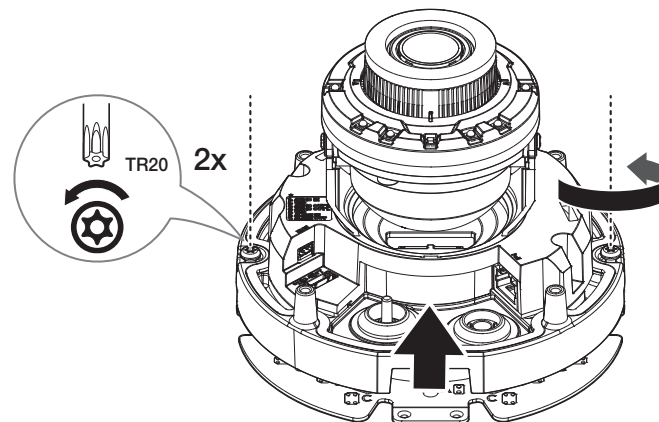
- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site. And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction. Forcing assembly using non-compliant tools may damage the product.

### Removal

1. Remove the dome cover by turning the dome cover's fastening screws counterclockwise.
  - It is not required to completely remove screws from the cover.

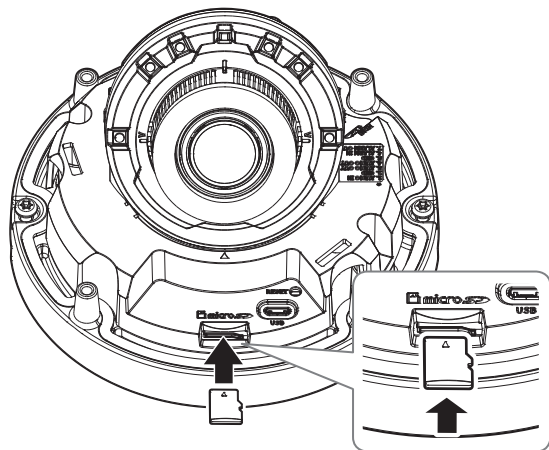


2. Remove the camera body by turning the mount plate fastening screws counterclockwise.
  - Note that it is not necessary to loosen the screws completely.



## Inserting a Micro SD card

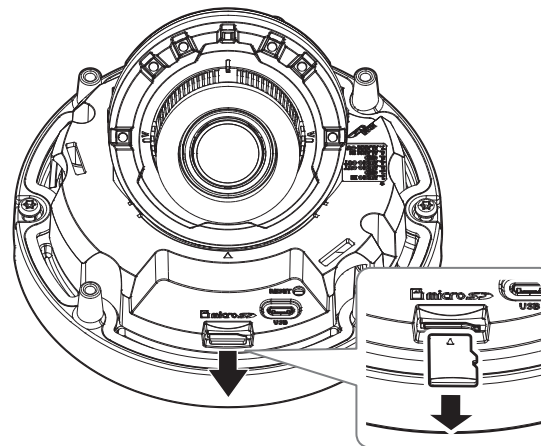
Insert the micro SD card into the micro SD card slot on the camera body in the arrow direction.



- Before installing the camera, the Micro SD card should be inserted while the power source and the body are separated.
- Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.
- Disassembly of the product cover should be finished within 5 minutes, or there will be the risk of internal dew condensation.

## Removing a Micro SD card

Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.

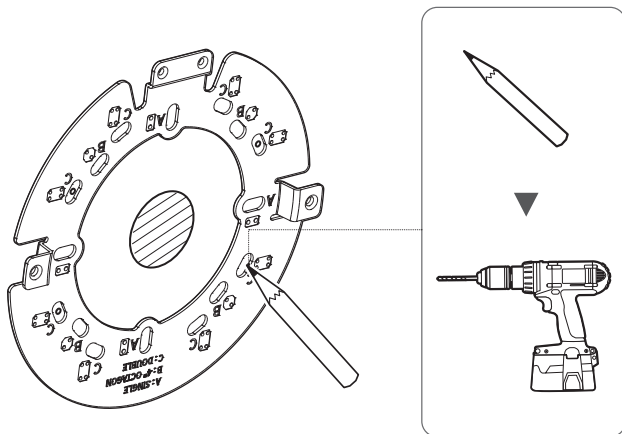


- Before removing the Micro SD card, in **<Setup (⚙)>** **<Event>** **<Storage>**, set the device to **<Off>** and press the **[Apply]** button and turn the camera off.
- If you turn off the camera or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

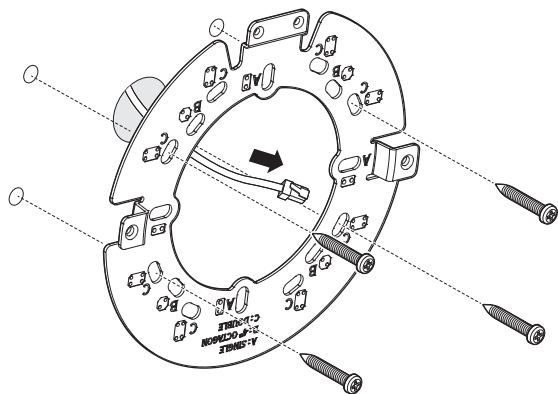
## Installation (mount plate)

### [Directly installing on wall/ceiling]

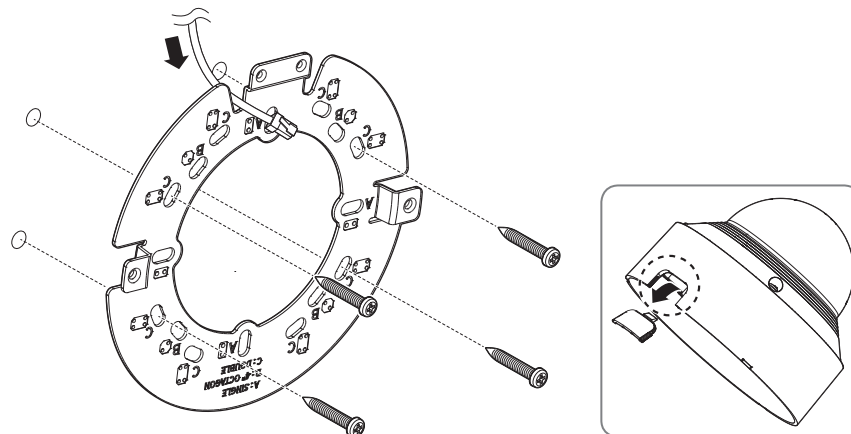
1. Place the mount plate on the desired location considering the direction to be monitored, mark the locations for the screw holes and cable holes, and then drill the holes.



2. Fix the mount plate using appropriate screws.
3. Take out the necessary cables from among the network and audio/alarm cables through the hole of the mount plate.



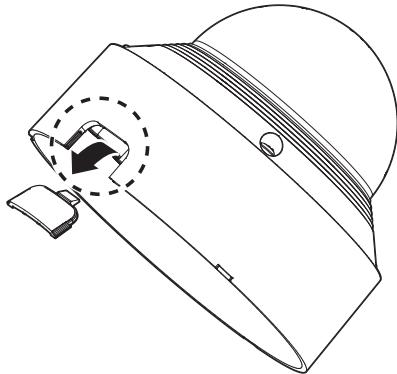
- When connecting cables from the side, first remove the wiring hole cover of the dome cover.



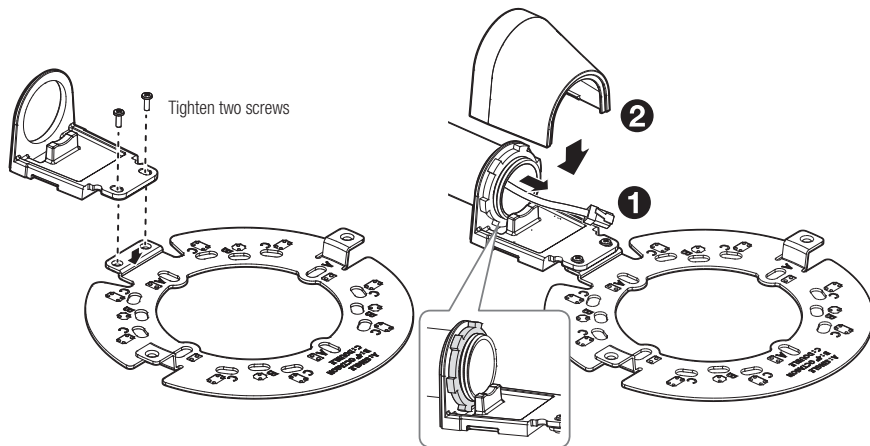


## [Installing using pipe]

1. When connecting and installing a pipe, you can remove the wiring hole cover of the dome cover.  
As shown in the picture, remove the wiring hole cover of the lower dome cover and install the pipe according to the instructions below.



2. Join the conduit adaptor (separately sold) to the mount plate.
3. Mount the pipe to the conduit adaptor.
4. Fix the mount plate using appropriate screws.
5. Take out the necessary cables from among the network and audio/alarm cables through the pipe.

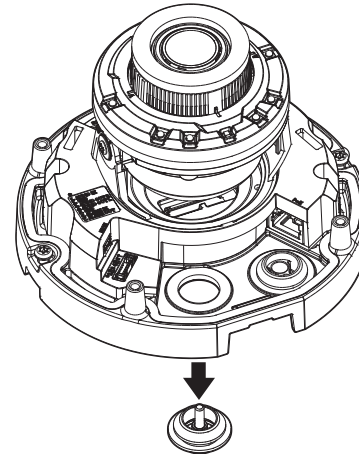


## Installation (camera body)

- ! Use a cable bushing compliant with the network cable to be connected.
  - Camera main: use a cable with the diameter of Ø5 to Ø6.5
  - You can only use a network cable with a diameter of Ø6.5 or less.

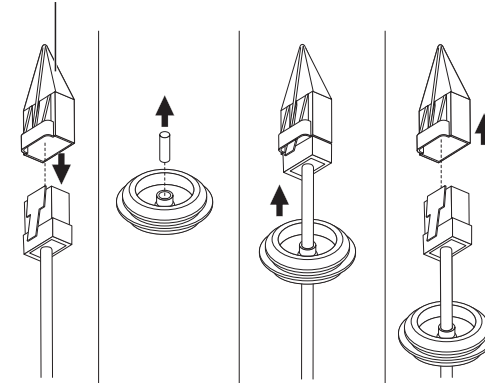
## [Installing the network cable] (IP66)

1. Remove the cable bushing next to the audio/alarm cable port from the camera body.

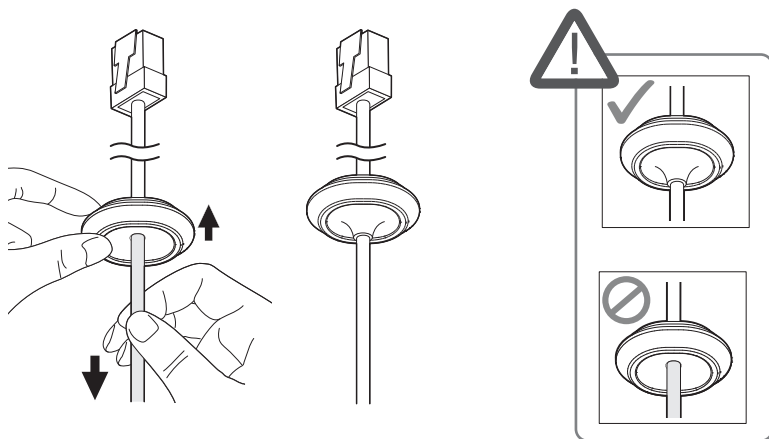


2. Remove the protruding part of the 1-hole cable bushing that was removed from the camera body.
3. Use the cap installer to pass through the RJ45 cable.

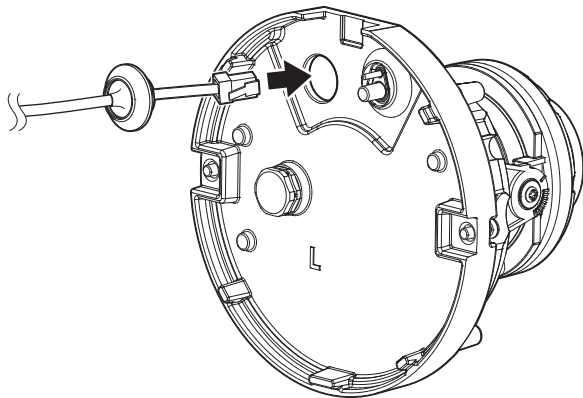
## Cap Installer



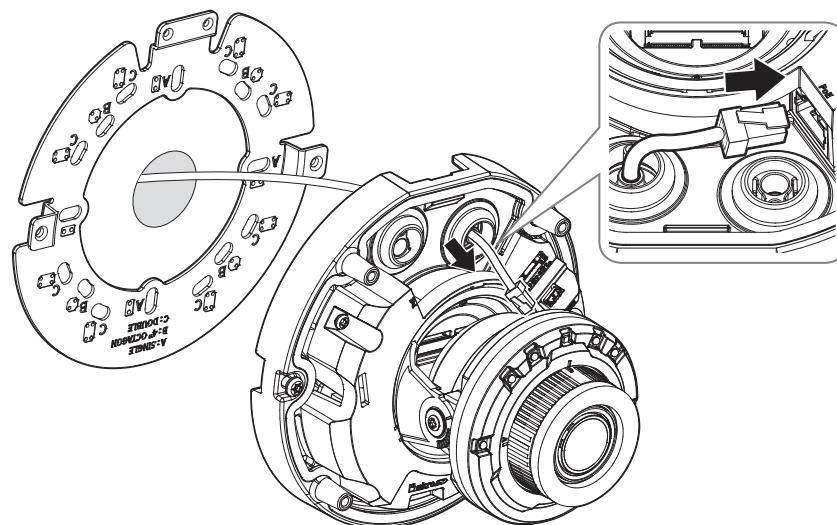
4. For waterproof protection, pull down the cable below the cable bushing as shown in the figure below.



5. Insert the cable bushing of the network cable into the camera body.

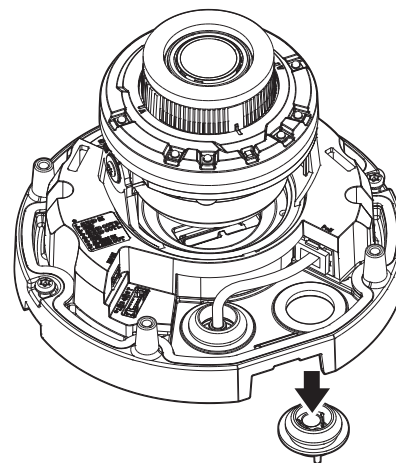


6. Connect the network cable connector to the PoE port of the camera body.

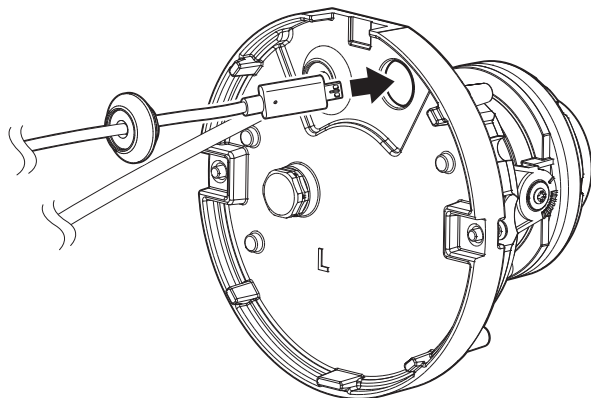


[Installing the micro HDMI cable (separately sold)]

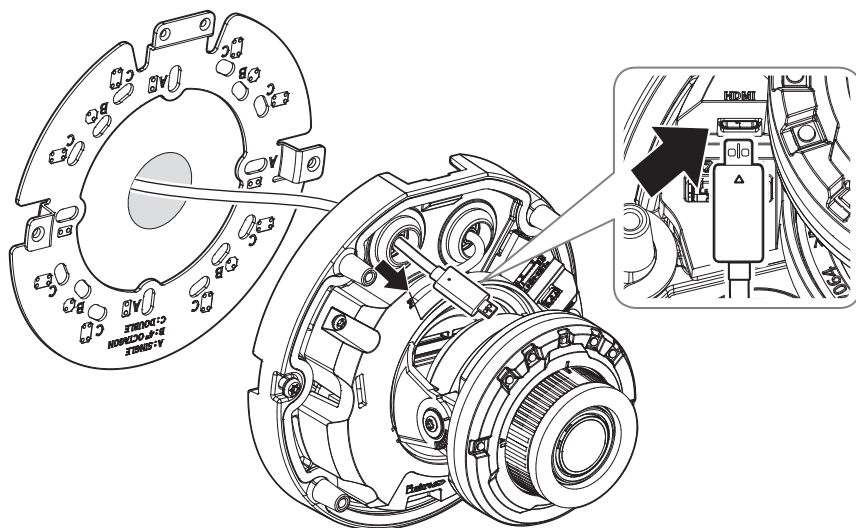
1. Remove the cable bushing next to the PoE port from the camera body.



2. Insert the cable bushing of the micro HDMI cable into the camera body.

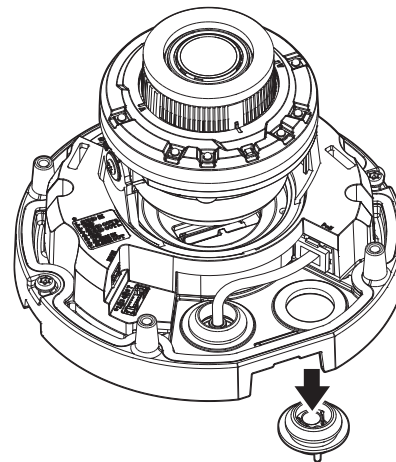


3. Connect the HDMI cable connector to the micro HDMI port of the camera body.

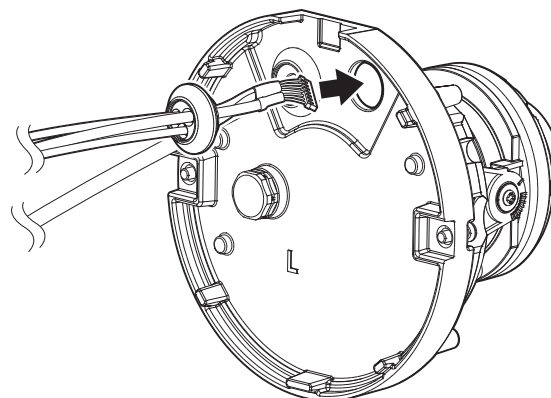


## [Installing audio/alarm cables (separately sold)]

1. Remove the cable bushing next to the PoE port from the camera body.

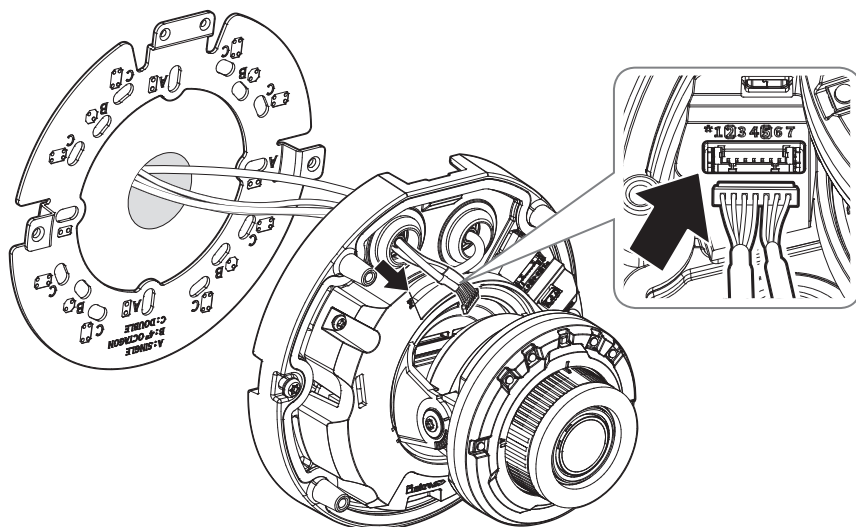


2. Insert the cable bushing of the audio/alarm cables into the camera body.

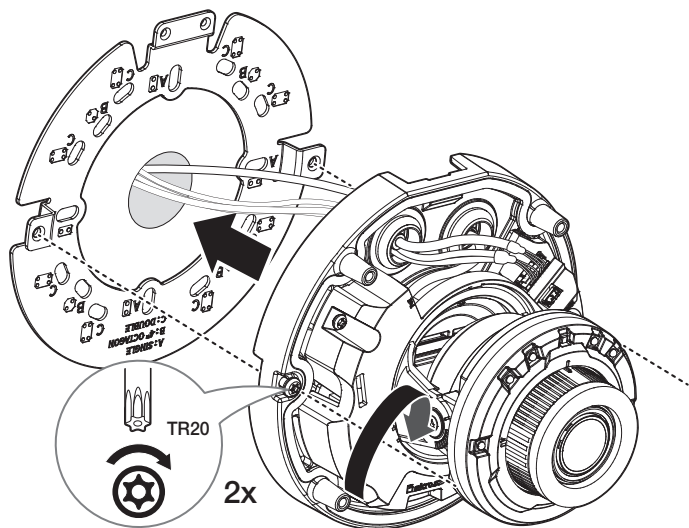


■ When installing a micro HDMI cable, you cannot install an audio alarm cable.

3. Connect the audio/alarm cable connector to the audio/alarm cable port of the camera body.



4. Join the camera body with the mount plate.



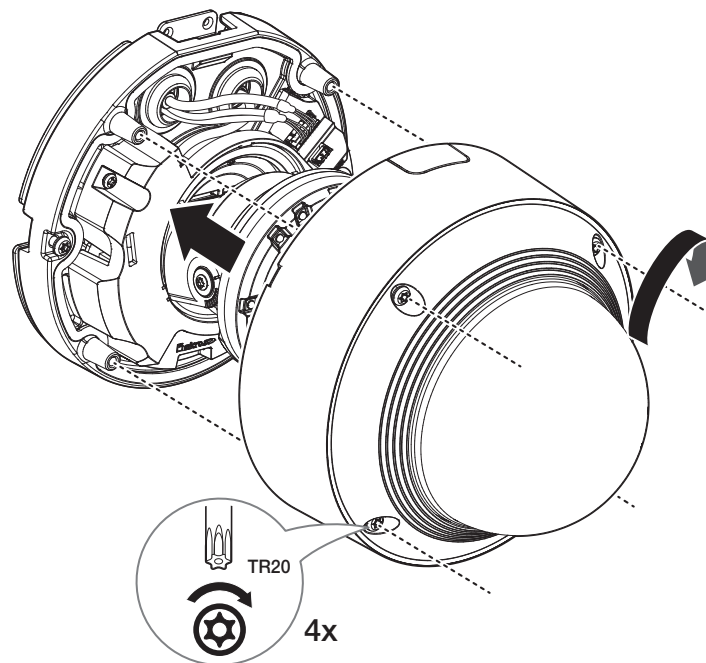
5. Adjust the lens to the desired direction with reference to "Adjusting the monitoring direction for the camera" section. (page 19)
  - If you tilt the lens, you may need to adjust the lens as this may block the screen.
  - Connect a monitoring device to the USB port and then monitor and adjust it. (page 25)

## Assembling the dome cover

[Directly installing on wall/ceiling]

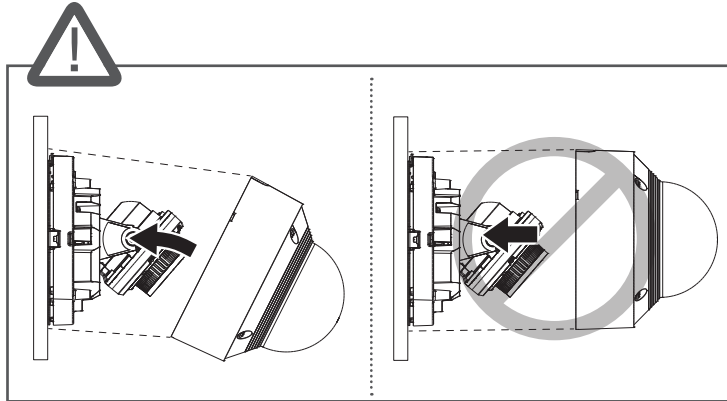
1. Assemble the dome cover.

- ! ■ Make sure to firmly tighten the fastening screws so that there is no water damage issue.

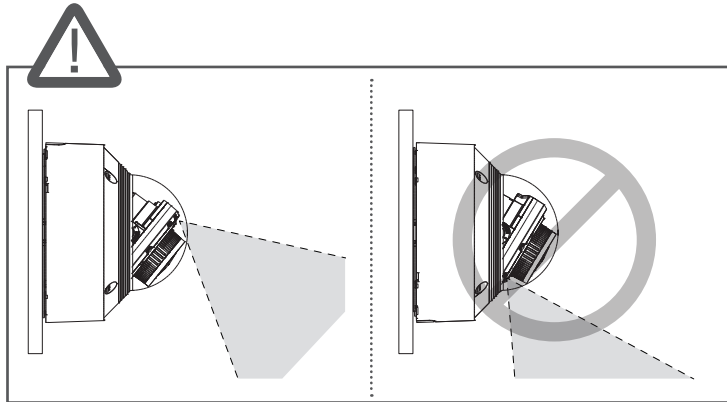




- Be careful not to alter the monitoring direction of your camera.



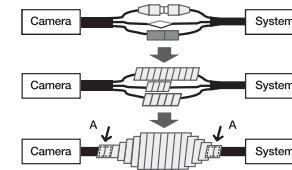
- Adjust the direction of IR LEDs not to hinder their view by an instrument.



## Waterproofing of cable connections

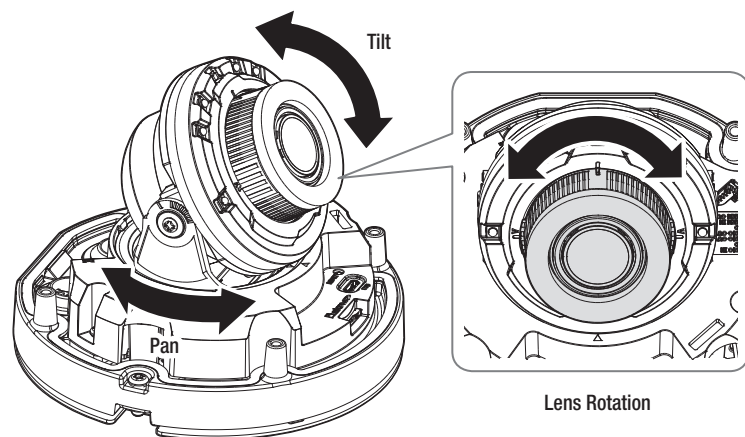
When installing the camera, please waterproof it with waterproof butyl rubber tape (can be purchased in stores) so that water does not leak from the gap of the cable connected to the outside.

1. Connect network and alarm/audio cables, etc.
2. Wrap the black cable jacket (Area A) and the cable connection area with waterproof (butyl rubber) tape so that more than half of the butyl rubber tape is overlapped.



- If the cable jacket is not waterproofed properly, then it can directly cause leakage. Make sure to protect the cable with a dense layer of taping.
- Waterproof butyl tape is made of butyl rubber that can be stretched to twice its normal length.

## ADJUSTING THE MONITORING DIRECTION FOR THE CAMERA



### ■ Adjusting the monitoring direction

You can adjust the camera direction only when the camera is fixed on the ceiling.

At this time, rotating the main body of the camera in the left and right direction is called PAN, and adjusting the angle of the camera is called TILT.

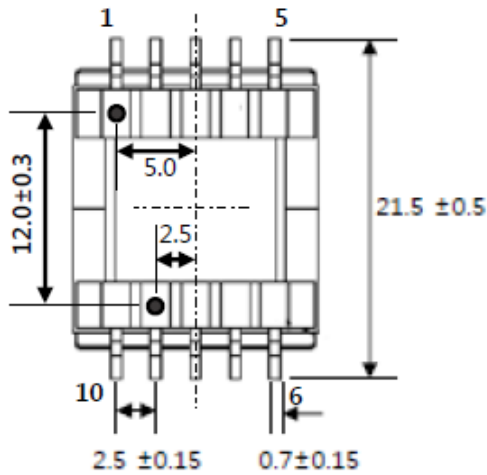
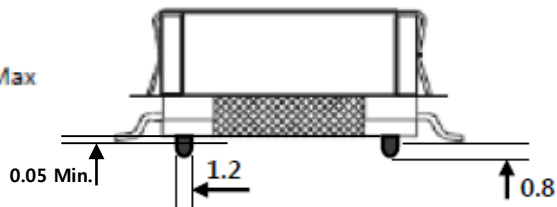
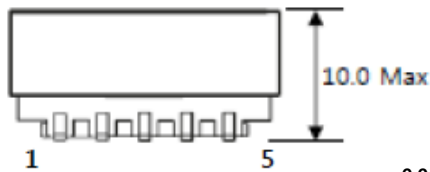
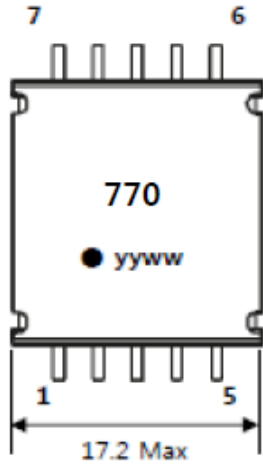
- The pan angle is  $0^{\circ} - 350^{\circ}$ .
- The tilt angle is  $-35^{\circ} - 70^{\circ}$ .
- The rotation angle is  $0^{\circ} - 355^{\circ}$ .

### ■ Methods of adjustment

1. Adjust the pan angle taking account of the direction to monitor.
2. Adjust the horizontal angle so that the video does not flip when rotated.
3. Adjust the tilt angle toward the direction to monitor.

The following Page(s) are related to Miscellaneous-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

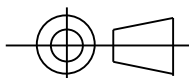
## 1. Dimension. [mm]



| MARKING SPEC. |        |
|---------------|--------|
| YEAR          | WEEK   |
| 2010Y→10      | 1W →01 |
| 2011Y→11      | 2W →02 |
| 2012Y→12      | 3W →03 |
| 2013Y→13      | .      |
| .             | .      |
| .             | .      |

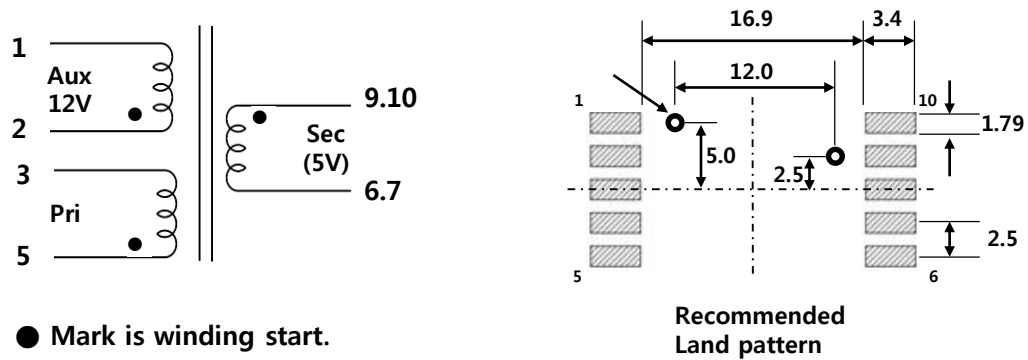
EX) 770  
 ● 19 15  
 └───┬───┘  
 PRODUCT WEEK  
 PRODUCT YEAR

※ The pin length not Including Solder Ball

|              |            |            |            |                                                                                                            |      |          |                                  |
|--------------|------------|------------|------------|------------------------------------------------------------------------------------------------------------|------|----------|----------------------------------|
| Des. by      | Che. by    | Ins. by    | App. by    | Scale                                                                                                      | Unit | Customer | HANWHA TECHWIN                   |
| H.S<br>Shin  | Y.S<br>Kim | J.H<br>Lee | S.H<br>Lee | N/A                                                                                                        | mm   | Item     | POE TRANSFORMER                  |
| R & D Center |            |            |            | THIRD ANGLE PROJECT<br> |      | Part No. | EP23-001051<br>(STEFD15F-5R0770) |
|              |            |            |            |                                                                                                            |      | STDN     | -                                |



2-1 Winding Schematic.



2-2 Winding Specification.

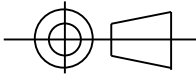
| W  | TERMINAL |     | WIRE        | Ts | WINDING METHOD | INSULATION TAPE |                       |    |
|----|----------|-----|-------------|----|----------------|-----------------|-----------------------|----|
|    | S        | F   |             |    |                | MATERIAL        | T/W                   | Ts |
| W1 | 5        | 3   | 1UEW 0.18x2 | 20 | Solenoid       | P.E             | 0.025t/9.0mm (Yellow) | 1  |
| W2 | 9.10     | 6.7 | 1UEW 0.25x6 | 3  | Space          | P.E             | 0.025t/9.0mm (Yellow) | 2  |
| W3 | 5        | 3   | 1UEW 0.18x2 | 20 | Solenoid       | P.E             | 0.025t/9.0mm (Yellow) | 1  |
| W4 | 2        | 1   | 1UEW 0.18   | 6  | Space          | P.E             | 0.025t/9.0mm (Yellow) | 2  |

|              |         |         |         |                         |      |          |                               |
|--------------|---------|---------|---------|-------------------------|------|----------|-------------------------------|
| Des. by      | Che. by | Ins. by | App. by | Scale                   | Unit | Customer | HANWHA TECHWIN                |
| H.S Shin     | Y.S Kim | J.H Lee | S.H Lee | N/A                     | mm   | Item     | POE TRANSFORMER               |
| R & D Center |         |         |         | THIRD ANGLE PROJECT<br> |      | Part No. | EP23-001051 (STefd15F-5R0770) |
|              |         |         |         |                         |      | STDN     | -                             |

### 3. Electrical Characteristics

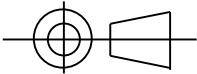
| No. | Item                      | Terminal                       | Spec                                           | Remarks                                                      |
|-----|---------------------------|--------------------------------|------------------------------------------------|--------------------------------------------------------------|
| 1   | Inductance                | 5 – 3<br>9.10 – 6.7            | 77 $\mu$ H $\pm$ 15%<br>1.73 $\mu$ H $\pm$ 15% | HP-4263A, 4284A,<br>LCR meter or eqv.<br>at 100KHz, 1.0Vrms. |
| 2   | Leakage Inductance        | 5 – 3<br>(Secondary all short) | 1.2 $\mu$ H Max.<br>(@Idc=0A)                  |                                                              |
| 3   | D.C Resistance            | 5 – 3<br>9.10 – 6.7            | 110 m $\Omega$ Max.<br>9.0 m $\Omega$ Max.     | HIOKI3220,<br>m $\Omega$ HI tester or eqv.                   |
| 4   | Hi-pot Test<br>(C.C=10mA) | Pri. – Sec.<br>Pri,Sec – Core  | AC 1.5Kv(rms)<br>for 2 Sec.                    | TOS-8750, Withstanding<br>Voltage                            |
| 5   | Turns ratios              | Pri : Sec : Aux                | 1 : 0.15 : 0.30                                |                                                              |

1. Test conditions of Electrical characteristics : 23°C ambient.
2. Operating temperature range -40°C to +125°C (Including self-temperature rise)
3. Storage temperature range -40°C to +125°C

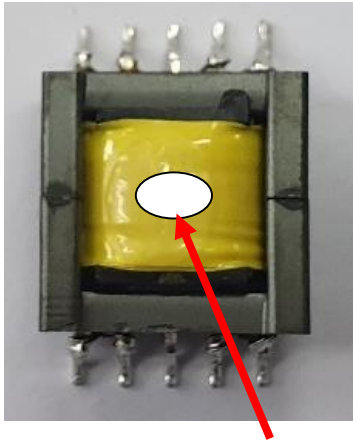
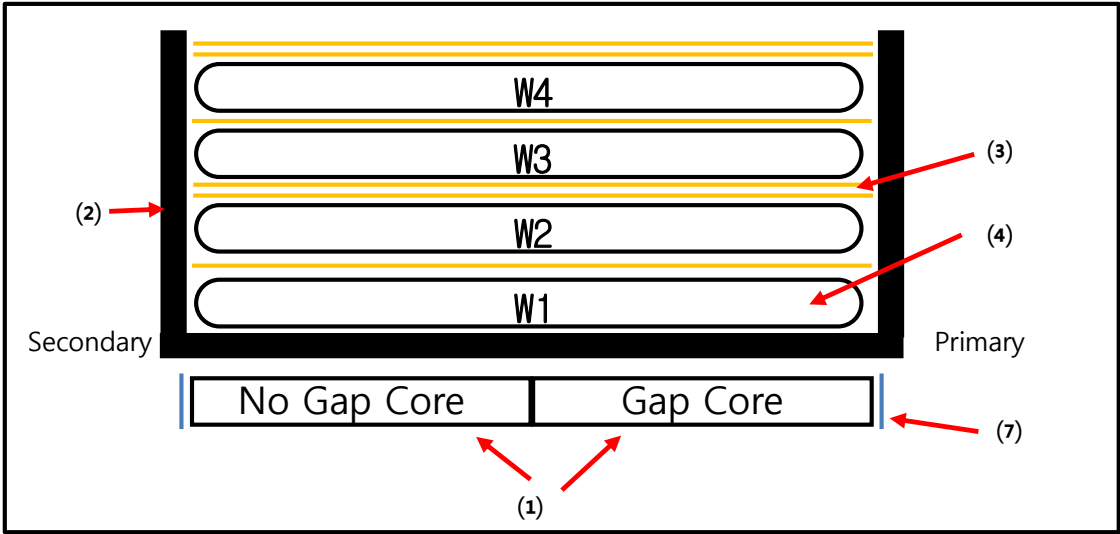
| Des. by      | Che. by    | Ins. by    | App. by    | Scale                                                                                                      | Unit | Customer | HANWHA TECHWIN                  |
|--------------|------------|------------|------------|------------------------------------------------------------------------------------------------------------|------|----------|---------------------------------|
| H.S<br>Shin  | Y.S<br>Kim | J.H<br>Lee | S.H<br>Lee | N/A                                                                                                        | mm   | Item     | POE TRANSFORMER                 |
| R & D Center |            |            |            | THIRD ANGLE PROJECT<br> |      | Part No. | EP23-001051<br>(STFD15F-5R0770) |
|              |            |            |            |                                                                                                            |      | STDN     | -                               |

## 6. Material List

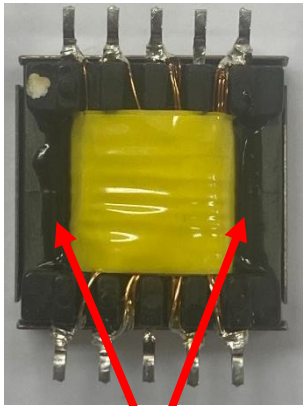
| No. | Parts Name | Material       | Type                                   | Manufacturer                                                        | UL Yellow Card             |
|-----|------------|----------------|----------------------------------------|---------------------------------------------------------------------|----------------------------|
| 1   | Core       | Ferrite, Mn-Zn | EFD15                                  | AnHui Hualin Magnetic<br>Samwha Electronics<br>Ruyuan Dongyangguang | -                          |
| 2   | Bobbin     | Phenolic       | EFD15 SMD 10P                          | Sumitomo Bakelite<br>Hexion Gmbh<br>Chang Chun Plastics             | E41429<br>E61040<br>E59481 |
| 3   | Tape       | Polyester      | DTS-204 , 631S<br>0.025t/9.0mm(Yellow) | Duck Sung Hitech<br>Teraoka Seisakusho                              | E105147<br>E56086          |
| 4   | Wire       | Copper         | 1UEW<br>0.18Ø, 0.25Ø                   | PT Ewindo                                                           | E228267<br>E210918         |
| 5   | Adhesive   | Epoxy          | SK-1000<br>SK-031F                     | SE KYE Chemical                                                     | -                          |
| 6   | Solder     | Solder BAR     | LF-120                                 | PT.Supra sukses trinusa                                             | -                          |
| 7   | Clip       | SUS301         | EFD15                                  | Posco<br>Mingschin                                                  | -                          |

| Des. by      | Che. by    | Ins. by    | App. by    | Scale                                                                               | Unit | Customer | HANWHA TECHWIN                   |
|--------------|------------|------------|------------|-------------------------------------------------------------------------------------|------|----------|----------------------------------|
| H.S<br>Shin  | Y.S<br>Kim | J.H<br>Lee | S.H<br>Lee | N/A                                                                                 | mm   | Item     | POE TRANSFORMER                  |
| R & D Center |            |            |            | THIRD ANGLE PROJECT                                                                 |      | Part No. | EP23-001051<br>(STefd15F-5R0770) |
|              |            |            |            |  |      | STDN     | -                                |

7. Internal Construction



\* Clip : SK-1000



\* Core + Bobbin : SK-031F

|              |         |         |         |                     |      |          |                                  |
|--------------|---------|---------|---------|---------------------|------|----------|----------------------------------|
| Des. by      | Che. by | Ins. by | App. by | Scale               | Unit | Customer | HANWHA TECHWIN                   |
| H.S Shin     | Y.S Kim | J.H Lee | S.H Lee | N/A                 | mm   | Item     | POE TRANSFORMER                  |
| R & D Center |         |         |         | THIRD ANGLE PROJECT |      | Part No. | EP23-001051<br>(STefd15F-5R0770) |
|              |         |         |         |                     |      | STDN     | -                                |



NETWORK CAMERA,QNV-C6083R

PoE(48V $\overline{\text{---}}$  ) 0.2A

M/C: QNV-C6083R/KEX Fac.ID:D



DATE S/N:XXXXXXXXXXXXXXXXXX

MAC ADDRESS: XX-XX-XX-XX-XX-XX

CAN ICES-3(A)/NMB-3(A)

HANWHA VISION CO.,LTD.

MADE IN KOREA

Rainproof/ Étanche  
IP66













