

### GS 85A7C01-17EN

#### ■ GENERAL

FC34 fixed angle zoom type CCTV color camera is compatible with a wide variety of applications, such as monitoring under severe environmental conditions and diagnosis of facilities.

Stainless chassis with electrolytic polishing is well suited for good corrosion-resistance, and is compact and lightweight.

Heater and defroster is standard equipment that can be used for a wide range of temperature. (-40°F to 140°F) Wiper and hood can be selected as option.

In control method, **multiplex signal type** and **RS-485 type** can be selected.

In multiplex signal type, a specific **Multiplexed controller** is required to control and monitor (input and output). RS-485 type can connect to a **Web camera server** as a controller which can use digital functions of video management system(s).



#### ■ STANDARD SPECIFICATIONS

##### ● Camera

Camera type:	Color
Image Sensor:	1/4" interline transfer CCD
Signal:	NTSC, PAL
Effective Pixels:	NTSC: 976 (H) 494 (V) PAL: 976 (H) 582 (V)
Horizontal resolution:	650TV line
Synchronous system:	Internal synchronization
Video S/N:	50 dB
White Balance:	ATW
Electronic shutter (Auto/Manual):	1/10,000 - 1/60 sec
Minimum illuminance of subject (shutter speed NTSC):	1/60sec, PAL: 1/50sec):
	Normal sensitivity (Sense Up: OFF):
	0.5 lx Color typical
	0.04 lx Color typical
	High sensitivity (Sense Up: ON):
	0.03lx Color typical
	0.0025lx B/W typical
	0.015lx Color AGC High
	0.00125lx B/W AGC High
Zoom Magnification:	(36x optical) x (20x digital)
Lens:	3.3 mm -119 mm / F1.4 - 4.2 (With auto focus)
Horizontal field of vision:	Approx. 60.2° (wide-angle) - Approx. 1.7° (telephoto)
Iris (Auto / Manual):	0: close - 255: open (Manual)

##### ● Input/output

###### Common to all models

Video output:	VBS 1.0 V p-p 75Ω
Video transmission distance:	Max.300m (when 5C-2V cable is used) Distance can be extended using a cable compensator (up to 1,200m) or an optical converter.

##### Multiplex signal control model

Control signal input:  
Multiplexed video and control signals (both signals into a single coaxial cable)  
Control signal transmission distance: Up to 1,200m \* *Note*

\* *Note: If the cable line will be exposed to intense noises, using a video transcoder is recommended.*

##### RS-485 control model

Control signal input:  
Asynchronous full duplex mode communication of 8-bit data, 1-stop bit, at 9,600 bps via RS-485 interface

##### ● Main Body

Material (case): Stainless steel SS316L  
Finish: Electrolytic polishing  
Weight: 8.9 kg

##### ● Recommended connection cables

**NOTE**  
 Any cabling work should be done at the customer's side

###### Power cable:

3-conductor 1.25mm (2 outer diameter Ø10.0mm; JIS C3312 or outer diameter 7.8mm: JIS C3306)

###### Video cable:

75Ω Coaxial \**Note* (5C-2V or 7C-2V)  
\* *Note: If the cable line will be exposed to intense noises, using a video transcoder is recommended.*

###### Control cable:

0.5mm 2-pair twisted pair shielded cable (Outer diameter Ø8.0mm) for RS-485

##### ● Power Supply

Allowable power supply: 100 to 240 V AC at 50/60 Hz,  
Power consumption: 30 VA (with heater)

● **Installation Environment**

Operating temperature: -40°C to +60°C (-40°F to 140°F)  
 Installation type: Upright / Inverted (Selectable)  
 Class of ship: DNV (Under examination)  
 Ingress protection: IEC IP66 equivalent (waterproof)

● **Regulatory Standards:** (Equipment: FC34E CCTV Cameras)

**IECEx Certificate**

Certificate No.: IECEx CML 18.0165X  
 Type of Protection: **Flameproof “db”**  
 Marking: Ex db IIC T5 Gb  
 Ta=-40°C to +60°C  
 Standards: IEC60079-0:2017 Ed.:7, IEC60079-1:2014-06 Ed.:7

**ATEX Certificate**

Examination Certificate: CML 14ATEX1052X  
 Directive: 2014/34/EU  
 Explosion protection: Flameproof  
 Marking:

 II 2 G  
 Ex d IIC T5 Gb  
 Ta= -40°C to +60°C

Standards: IEC60079-0:2018, IEC60079-1:2014

Compatible standards: 

Model code: FC34U, FC34E      Model name: Fixed Angle Zoom Type CCTV Color Camera

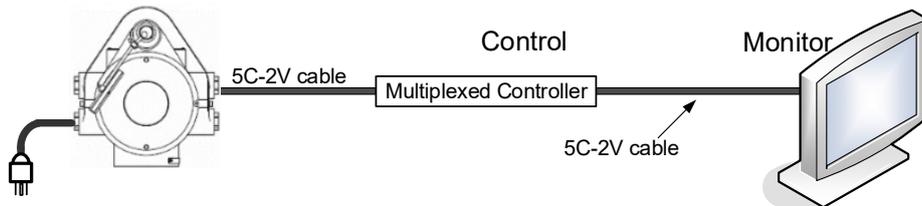
Directives	Standards
<b>2014/30/EU</b> (EMC)	<b>EN 61326-1:2013 Class A Table2</b> Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements <b>EN 55011:2009+A1: 2010 Class A Group1</b> <b>EN 55011:2016+A1:2017 Class A Group1</b> Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement <b>EN 61000-3-2:2014</b> Electromagnetic compatibility (EMC) – Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase) <b>EN 61000-3-3:2013</b> Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current 16 A per phase and not subject to conditional connection
<b>2014/35/EU</b> (LVD)	<b>EN 61010-1:2010</b> Safety requirements for electrical equipment for measurement, control, and laboratory use – Part1: General requirements
<b>2011/65/EU</b> (RoHS)	<b>EN 50581:2012</b> Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
<b>2014/34/EU</b> (ATEX)	<b>EN 60079-0:2018</b> Explosive atmospheres - Part 0: Equipment - General requirements <b>EN 60079-0:2018</b> Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" The marking of the equipment or protective system:  II 2 G Ex d IIC T5 Gb
<i>NOTE: This Directive is FC34E only</i>	
The number of the EU-Type Examination Certificate is issued by: The Name of the Notified Body: <b>CML B.V.</b> The Identification Number of the Notified Body: <b>2776</b> The Address of the Notified Body: Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands The Number of the EU-Type Examination Certificate: <b>CML 14ATEX1052X</b>	
Quality Assurance Notification is issued by: The Name of the Notified Body: <b>DEKRA Certification B.V.</b> The Identification Number of the Notified Body: <b>0344</b> The Address of the Notified Body: Meander 1051 6825 MJ Arnhem, The Netherlands The Number of Quality Assurance Notification: <b>DEKRA 11ATEXQ0127</b>	

## ■ SYSTEM CONFIGURATION FOR EACH TYPE OF CONTROL

### (1) Multiplex signal control model

Connection with two coaxial cables between a specific multiplexed controller and surveillance camera (FC34□). The FC34 can be controlled and operated remotely by the multiplexed controller in the monitoring room (in **Japan only**).

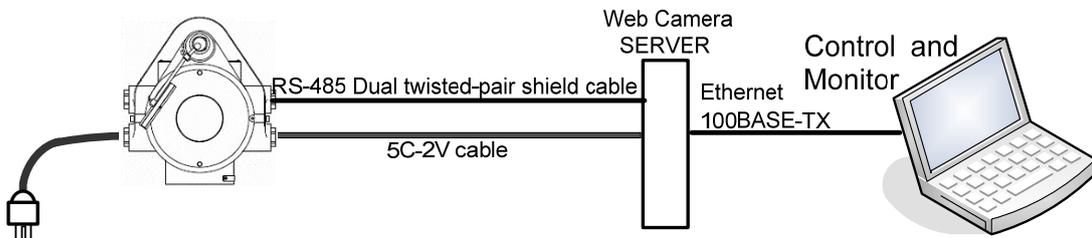
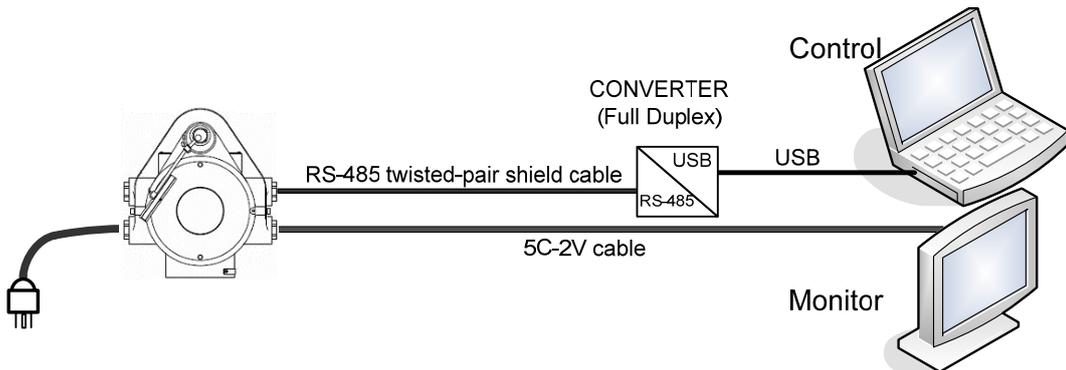
FC34□- N□N□□



### (2) RS-485 control model

Video signal connects with single coaxial cable. Control signal connects with RS-485 cable. By using a protocol converter (RS-485/USB), it makes possible to control the camera via USB port of the computer. Or via the Web camera server, both monitor and control of the camera becomes available on the browser of the personal computer.

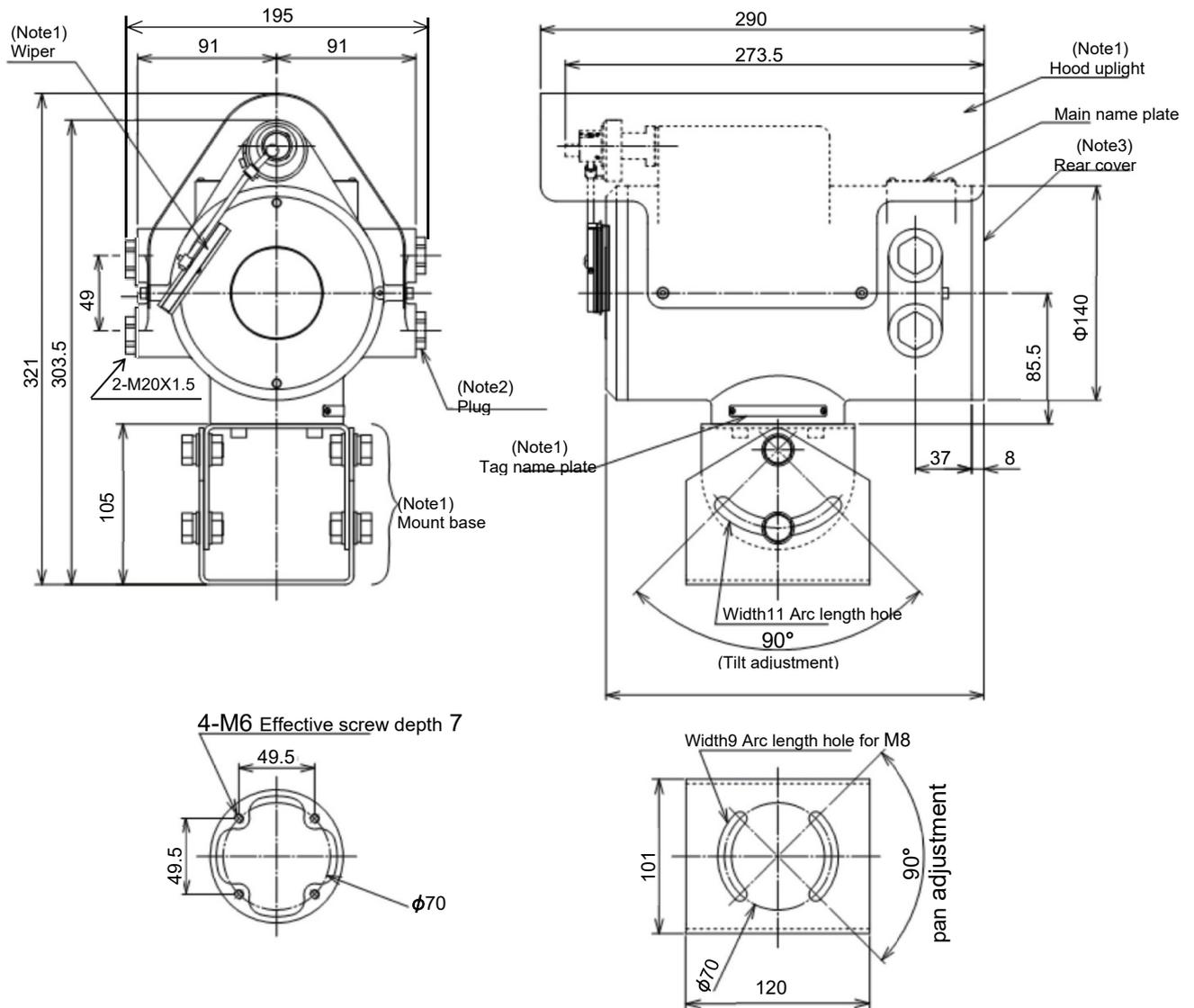
FC34□- □□S□□



## EXTERNAL DIMENSIONS

### • Main body of model FC34

**Upright Type**  
**FC34□-□□□□S**

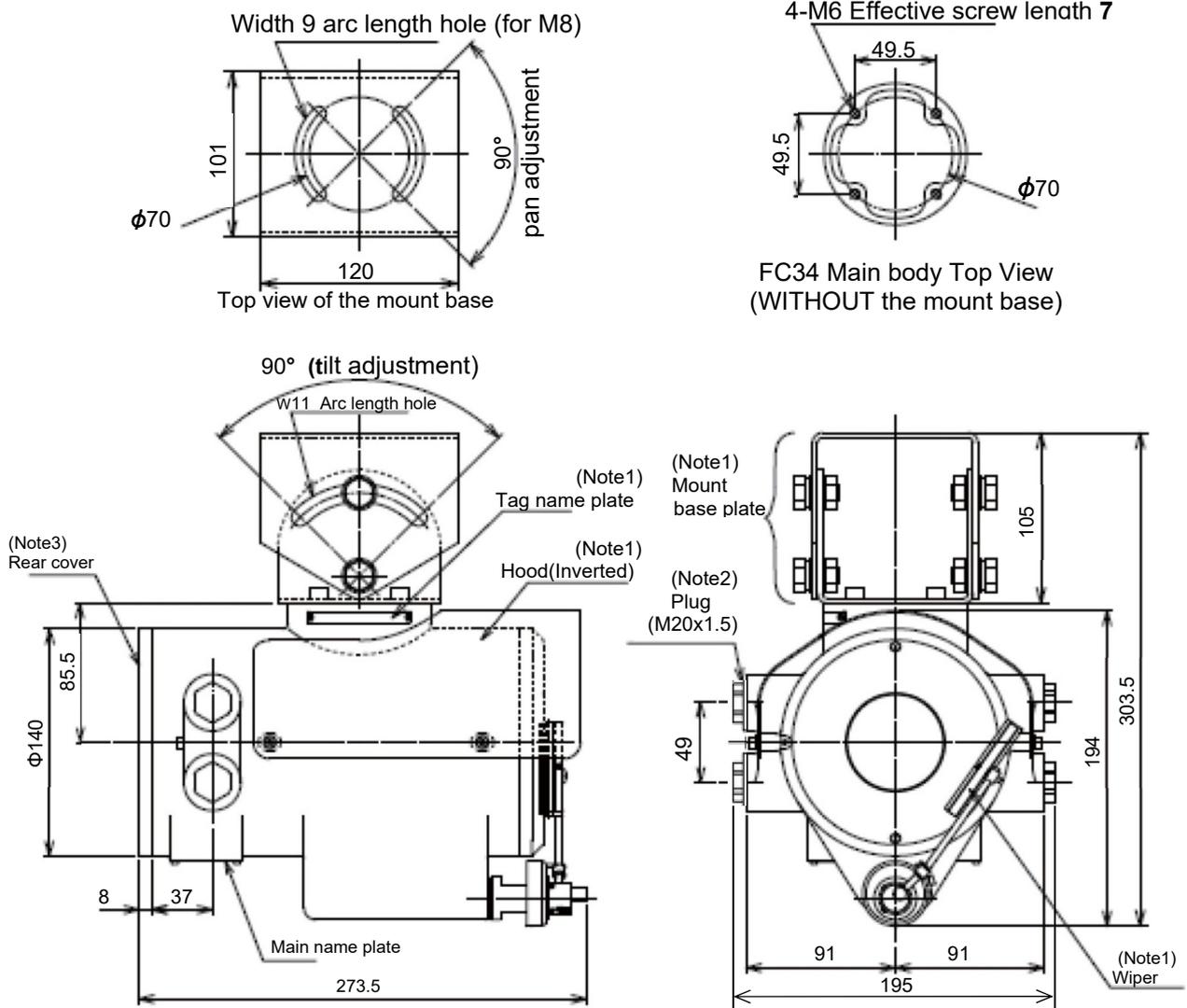


(Note 1): By using each option specification code at the time of order, it will be attached to the product at the time of shipment.  
 (Note 2): A plug is attached to each cable output port for prevention of water leakage into the main body. Please remove the plug before making a connection.  
 (Note 3): Please remove the rear cover when cables are connected.

## EXTERNAL DIMENSIONS

### • Main body of model FC34

**Inverted Type**  
**FC34□-□□□□U**



- (Note 1): By using each option specification code at the time of order, it will be attached to the product at the time of shipment.  
 (Note 2): A plug is attached to each cable output port for prevention of water leakage into the main body. Please remove the plug before making a connection.  
 (Note 3): Please remove the rear cover when cables are connected.

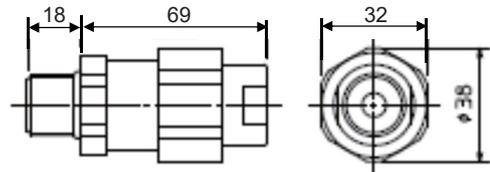
## ■ CABLE GLANDS

### ● Water-proof gland with union

UG2 (cabling port G1/2 cable gland 2)  
 UG3 (cabling port G1/2 cable gland 3)

UM2 (cabling port M20x1.5 cable gland 2)  
 UM3 (cabling port M20x1.5 cable gland 3)

Weight: approx. 230 g

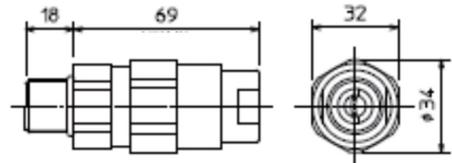


### ● Pressure-resistant packing metal rig

EG2 (cabling port G1/2 cable gland 2)  
 EG3 (cabling port G1/2 cable gland 3)

(Note1) This CABLE GLAND is Japanese standard

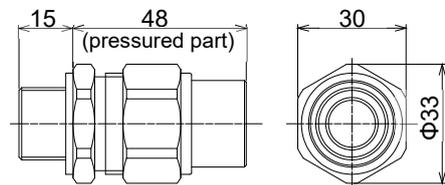
Weight: approx. 250 g



### ● Pressure-resistant packing metal rig

EM2 (connection home M20x1.5 cable gland 2)  
 EM3 (connection home M20x1.5 cable gland 3)

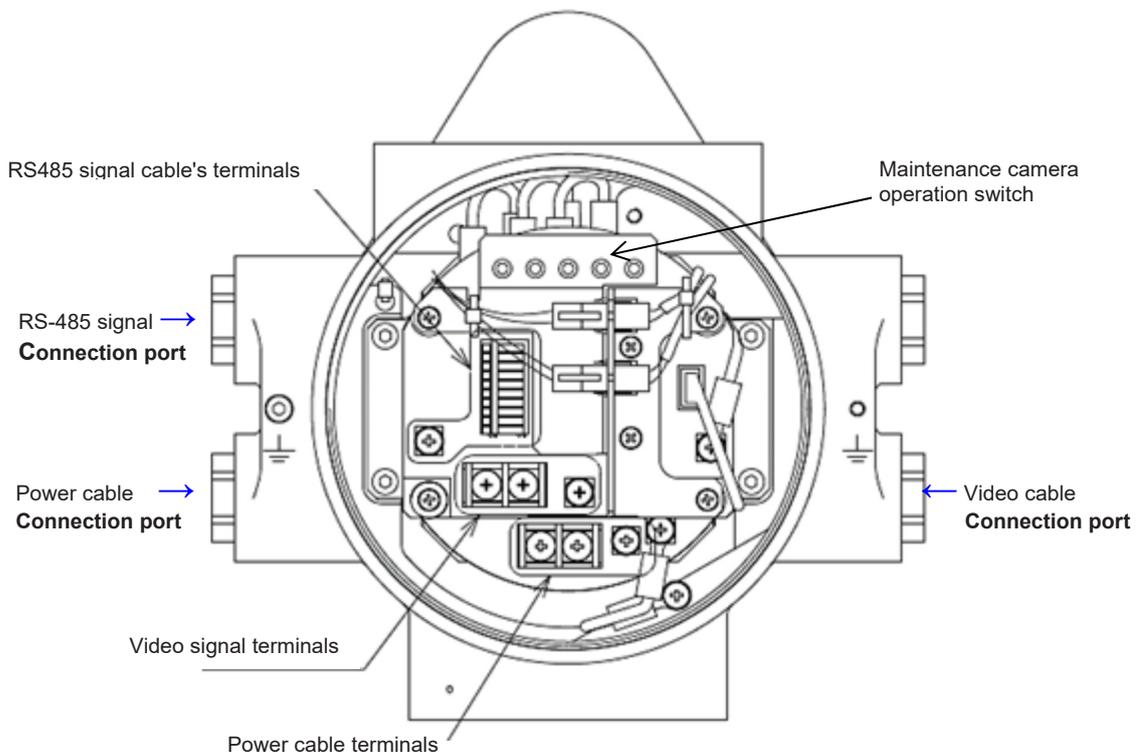
Weight: approx. 140 g



*Note: Each shape of the packing metal rig may be changed.*

## ■ CABLING (MAIN BODY)

● Recommended connection port assignment (internal connections: when a rear cover has been removed)



## ■ MODEL AND SUFFIX CODES

Model	Suffix Code	Description
FC34E		Explosion-proof Fixed angle Zoom type CCD Color Camera
FC34U		Outdoor Fixed angle Zoom type CCD Color Camera
Camera type	-N	High-sensitivity, 1/4-inch, 976 (H) x 494 (V) pixels 36 times optical zoom NTSC.
	-P	High-sensitivity, 1/4-inch, 976 (H) x 582(V) pixels 36 times optical zoom. PAL
Wiper	W	With wiper
	N	Without wiper
Control	N	Multiplexed signal (for Japan only)
	S	RS-485
Cable connection	0	G (PF) female thread (for Japan explosion protection)
	1	M female thread (for ATEX explosion protection overseas)
Installation	S	Upright
	U	Inverted
Cable gland	EG2	Explosion-proof packing adapter 2 pieces, female thread G1/2 (for an explosion protection in Japan)
	EG3	Explosion-proof packing adapter 3 pieces, female thread G1/2 (for an explosion protection in Japan)
	EM2	Explosion-proof packing adapter 2 pieces, female thread M20X1.5 (for ATEX explosion protection overseas)
	EM3	Explosion-proof packing adapter 3 pieces, female thread M20X1.5 (for ATEX explosion protection overseas)
	UG2	Water-proof gland with union 2 pieces, female thread G1/2 (for Japan)
	UG3	Water-proof gland with union 3 pieces, female thread G1/2 (for Japan)
	UM2	Water-proof gland with union 2 pieces, female thread M20X1.5 (for overseas)
	UM3	Water-proof gland with union 3 pieces, female thread M20X1.5 (for overseas)
	NNN	None (only FC34U is available)

(Note1) Heater (for camera protection), defroster (anti-fog function), and simple surge arrester (AC power line input) are being equipped internally.

(Note2) The product does not include connection cables. Please prepare it at the user side.

### ● OPTION SPECIFICATIONS

Additional arrangement items set forth below are requiring an optional specification at the time of ordering otherwise those are not attached to the product.

Item	Option code	Description
Mount base	/A	Mount base to attach the main body (Note3)
Name tag plate	/T	Installation of a stainless steel (Note4)
With Hood	/SH	Hood (Upright)
	/UH	Hood (Inverted)
Tool	/CT	Tool (for rear cover maintenance) (Note5)

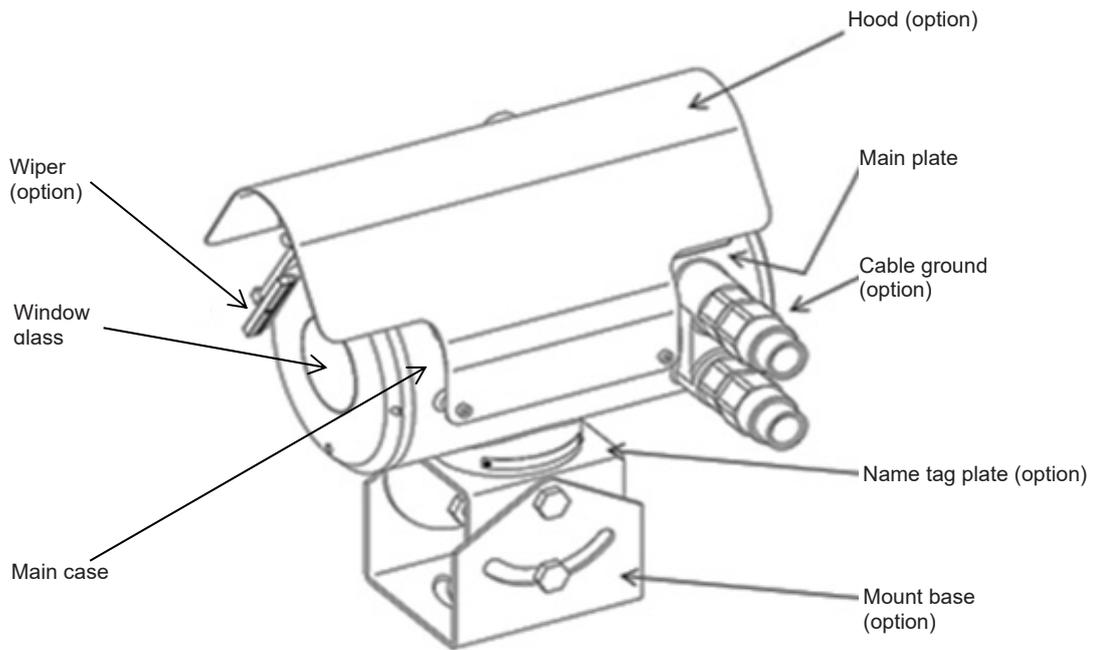
(Note3) If option code /A was omitted at the time of ordering, "Mount base" will not attach to the product.

(Note4) Up to 15 letters (alpha-numeral combination code) can be specified on the "Name tag plate" at the time of ordering.

(Note5) If option code /CT was omitted at the time of ordering, "Tool" will not attach to the product.

■ Item specified at the time of the order

1. Model and Suffix code
2. Tag name (Up to 15 letters), If “Name tag plate” (/T) option is specified.



Note): Every trade or company name used in this document is a trademark or registered trademark of the company