General Specifications

FC33E (Explosion-proof), FC33U (Outdoor) Full HD IP type Pan Tilt Zoom type CCTV Camera

FIELDEYE II

GS 85A7C01-22EN

■ GENERAL

► Model FC33:

• *FC33 Series explosion-proof or outdoor pan tilt zoom type Color Camera is a self-contained, compact and lightweight.*
• *Most suitable for installation in high place and/or confined spaces.*
• *Designed to continuously operating in the most adverse environments of offshore and onshore oil & gas industries, marine and heavy industrial sectors*
• *High-sensitivity that permits whole day continuous monitoring without special lighting. (Day/Night camera)*

► Full HDIP type:

• *Camera image comes in by Full HD:1080 pixels, 60(fps)*
• *IP (Internet Protocol)*

► Options:

◆ *Hood/Shade*
◆ *Integrated Wiper*
◆ *Upright/Inverted Installation*

■ MODEL AND SUFFIX CODES

Model	Suffix Code	Option Code	Description		
FC33E			Explosion-proof pan-tilt zoom color camera		
FC33U			Weather-proof pan-tilt zoom color camera		
Camera type	-D		Full HD:	High-sensitivity 1/2.8" CMOS, 1920x1080 pixels 、30x optical zoom	
Wiper	W		With wiper		
	N		Without wiper		
Control type	E		10BASE-T 100BASE-TX (Full HDIP type)		
Cable Entries (Explosion-proof Certification) *1		0	G1/2 female thread, Cable glands on the Base Box (Explosion-protection in Japan only)		
		1	M20 female thread, Cable glands on the Base Box (ATEX/IECEx Certification)		
		2	M20 female thread, Cable glands on the Base Box (CSA Certification) *2		
Installation		S	Upright		
		U	Inverted		
Additional Specification code		/T	Name tag plate: Up to 15 letters (alpha-numeral combination code)can be specified		
		/SHD	Hood (Upright) for Full HDIP type		
		/UHD	Hood (Inverted) for Full HDIP type		
		/SD	Shade(Only Upright Installation)		
		/L10	Cable length 10m (2 cables lengths set 10m from 5m of std. length)		
		/ADP	Mounting adapter plate for the previous FC13		

*1 For the cable entry code of FC33U (Outdoor), specify 0 for Japan and 1 for overseas.
*2 CSA explosion-proof certified products cannot be ordered.

YOKOGAWA ◆
Yokogawa Electric Corporation

■ STANDARD SPECIFICATIONS

Full HDIP type:

Item		Description
Video	Image Sensor	1/2.8" CMOS
	Effective Pixels	Up to 1920x1080p. (2.13 Megapixels)
	Video S/N	> 50 dB
	White Balance	ATW (auto tracing white balance)
	Zoom Magnification	(30x optical) x (12x digital)
	Lens	f: 4.3mm - 129mm, F1.6 - 4.7 (with auto focus)
	Angle of View	63.7° (wide-angle) to 2.3° (telephoto)
	Compression	H.264, MJPEG
	Frame rate	Maximum 60 fps
	Minimum illumination	**Normal Sensitivity** ICR-Off mode 0.1lux (1/30 sec, 50%) 0.013 lux (1/4 sec, 1/3 sec, 50%) ICR-On mode 0.006 lux (1/30 sec, 50%) **High Sensitivity** ICR-Off mode 0.01 lux (1/30 sec, 50%) 0.0013 lux (1/4 sec, 1/3 sec, 50%) ICR-On mode 0.0015 lux (1/30 sec, 50%) 0.0008 lux (1/4 sec, 1/3 sec, 30%)
I/O	LAN Interface [1]	Ethernet (Ethernet comply with 10BASE-T IEEE 802.3, 100BASE-TX, IEEE 802.3u, higher than Cat5e cable)
	Client PC requirements	Windows10 (Browser: Microsoft Edge Chromium) [4] [5]
	Access control	Administrator / User (when network login via PC)
	Communication	ONVIF® (Profile S), Fieldeye command (Web application for Full HDIP type)
	Supported Protocols:	IPv4,TCP, UDP,HTTP,RTSP,RTP,NTP,SNMP, HTTPS;
Main Body	Housing Material	Die Casted SS316L (Stainless steel) no welding parts
	Finish	Electrolytic Polishing
	Weight	20kg (except cable(s))
	Cable Entry (2-port)	- For Multiple-cable input (LAN-cable and relay-connection lines are combined within one-cable. Std. length:5m) - For Power-cable input (Std. length: 5m)
Mechanical	Pan Operation	360° continuous and endless
	Tilt Operation	180° (0±90°)
	Rotation Speed	Up to Pan-tilt 40°/sec
	Installation style	Upright /Inverted
Electrical	Rated Power Supply	100VAC to 240VAC, 50Hz or 60Hz, 0.6A
	Maximum Power Consumption	Approx. 60VA
	Relay driving circuit	Single (1) contact,(Normally Open) Dry type interface, Max:DC48V,100mA, provided by "JB" port(1) usually,
Environment	Operation Temperature/Humidity	−40°C to +60°C (−40°F to +140°F) / 20 to 95 %R.H.(Non-codensation) (except for 2-pigtailed cables)
	Storage Temperature/Humidity	−40°C to +60°C / 5% to 95% RH (at 40°C)
	Installation location	Maximum altitude of 2000 m
Others	Preset points	128 points , Preset Accuracy: ±0.25°(PAN/ TILT)
	Wiper	Option
	Defroster	Standard equipment
Certifications	ATEX Flameproof "db" Dust-ignition "tb"[2]	CML 14 ATEX1097X (EN IEC 60079-0:2018, EN60079-1:2014, EN60079-31:2014) II 2GD Ex db IIC T5 Gb Ex tb IIIC T100°C Db
	IECEx Flameproof "db" Dust-ignition "tb"[2]	IECEx CML 16.0096X (IEC 60079-0:2017, IEC 60079-1:2014, IEC 60079-31:2013) Ex d b IIC T5 Gb Ex tb IIIC T100°C Db,
	Degree of Protection of enclosure	IP66
	CE[3]	2014/30/EU (EMC) EN55032:2015+A11:2020 Class A, EN50130-4:2011+A1:2014 Clause7, EN 61000-3-2: 2014, EN IEC 61000-3-2: 2019, EN 61000-3-3: 2013, EN IEC 61000-3-3:2013+A1:2019
		2014/35/EU (LVD) EN61010-1:2010+ A1:2019 (Indoor/Outdoor use, Pollution degree II, Overvoltage Category I)
		2011/65/EU(RoHS) EN IEC 63000:2018

Note : This product is designed only for large industrial equipment.

[1] This is the specification for input/output of the built-in LAN interface board. Since there is wiring loss inside the main body, use the external connection within 50m including the attached composite cable length.
[2] Only when FC33E Cable Entries code is 1.
[3] Only for FC33U, or when FC33E Cable Entries code is 1.
[4] Installation of ActiveX attached to the product and execution in Internet Explorer mode are required.
[5] Operation has been confirmed with Windows10 Pro 64bit version.

## ■ BODY CONNECTION CABLES

Full HDIP type:

Function	Film Color (being covered)		Symbol / Type
Power Cable	Brown		L
	Blue		N
	Green yellow		PE
Multiple Cable	Ethernet comm.	Orange/White	Twisted pair cable	TX+
		Orange		TX−
		Green/White	Twisted pair cable	RX+
		Green		RX−
		(annealed copper wire)	drain line	(Shield)
	Relay contact	Blue	Twisted pair cable	N.O
		White		COM.

● **Connection cables** （**Standard lengths are 5m.**）
 - Any cabling work should be done at the customer's side in accordance with each specific requirement.
 - Removing cable from the main body is not permitted due to violate the integrity of explosion proof certifications.
 - **10m extension**(s) is available by /L10 option
 - **Power Cable:** (**AWG16** equivalent, each cable of three)
 - **Composite Cable:** Composite of Ethernet comm. and relay-driving output signals (**AWG24** equivalent, each twisted pair)

■ External dimensions of the Full HDIP Type

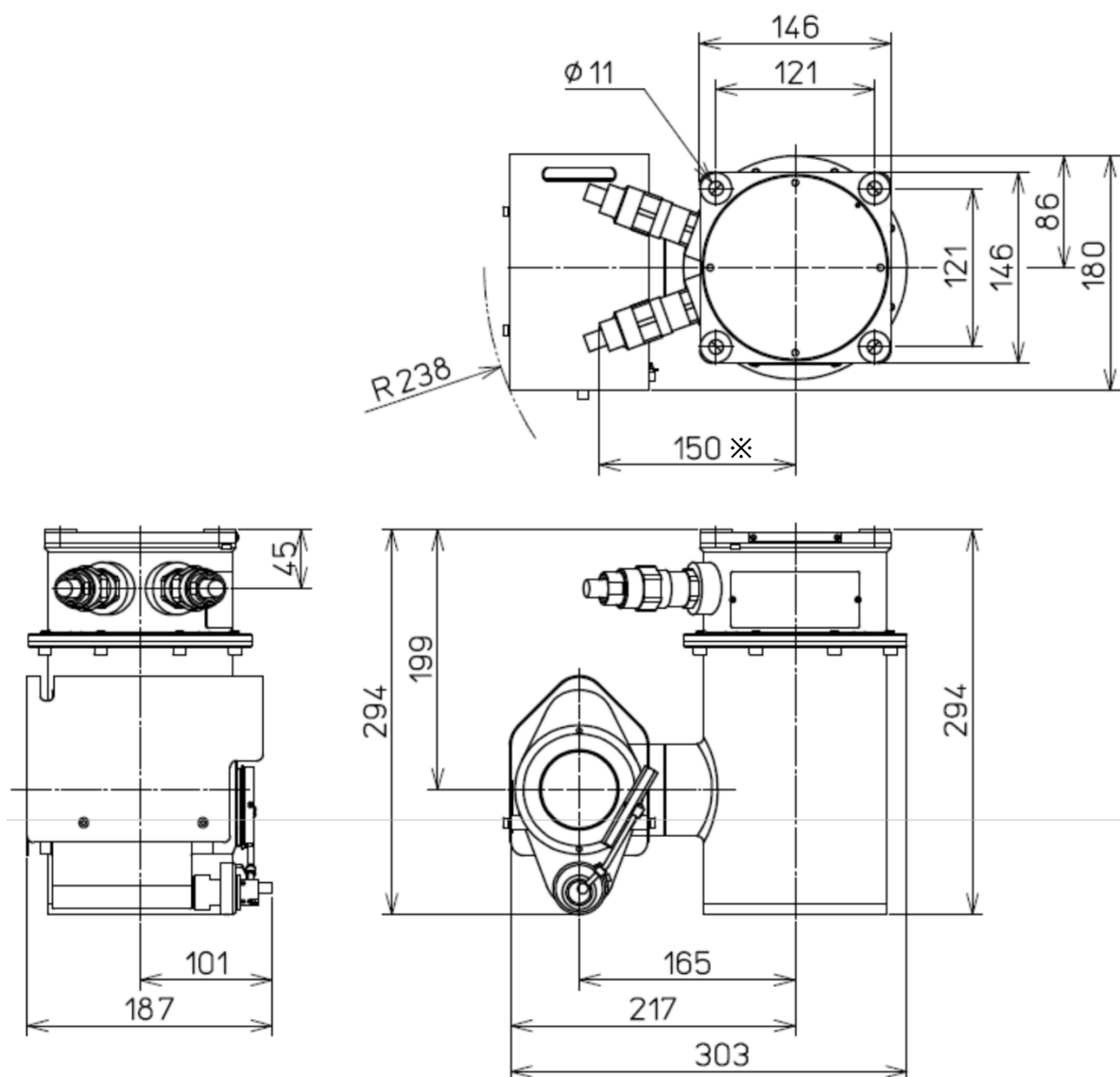### ● Full HDIP / Upright Type FC33□-D□□□□S
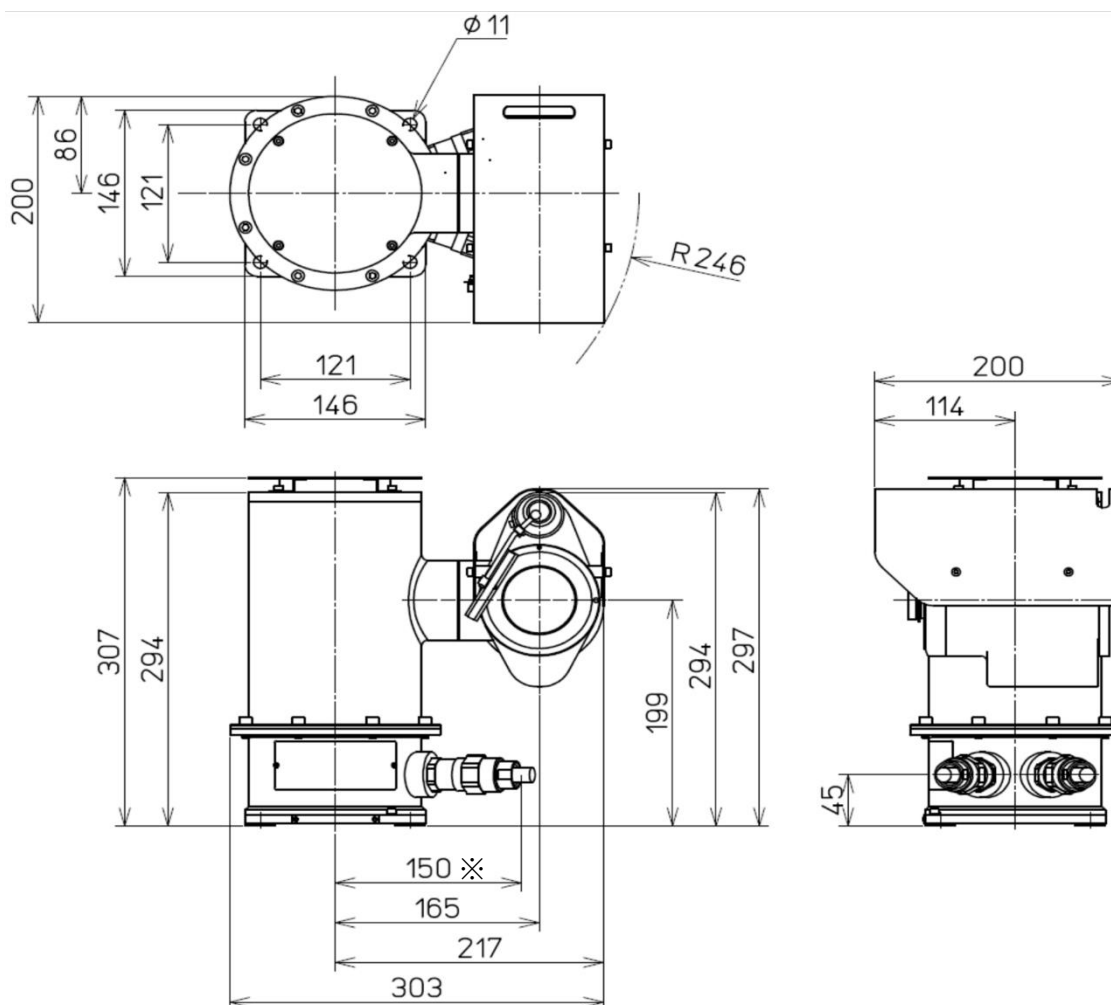
※**NOTE** This description's size < 150, when FC33E/U-□□□2□ **only**

●Full HDIP / Inverted Type   FC33□-D□□□□U

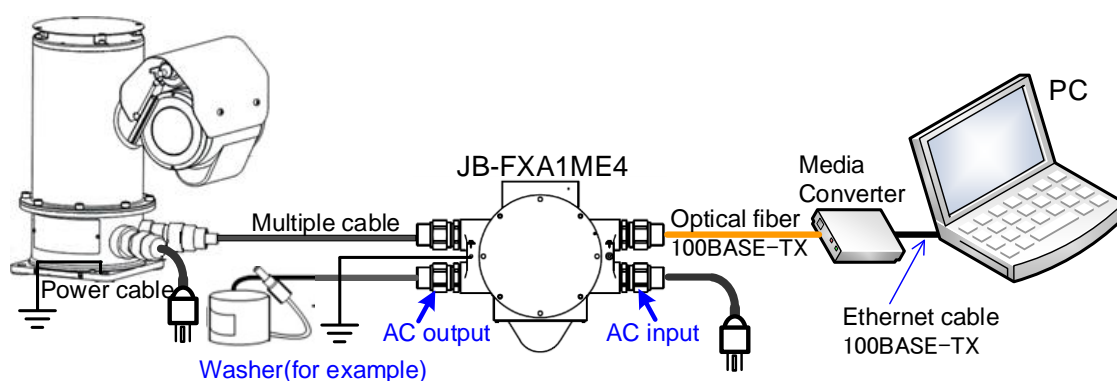Note1: Effective depth 4 x M10-bolts within tapped-(threaded)-material: 6 or more
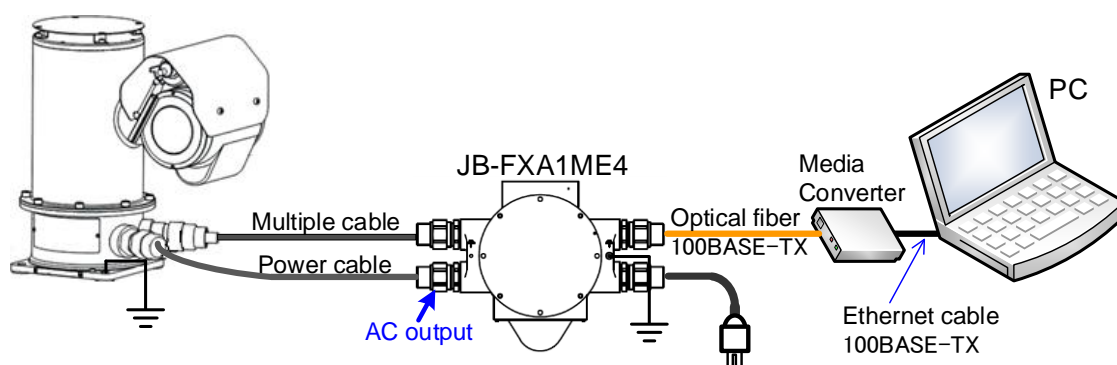Note2: Fix certainly 2 cables form the main-body to the ceiling.

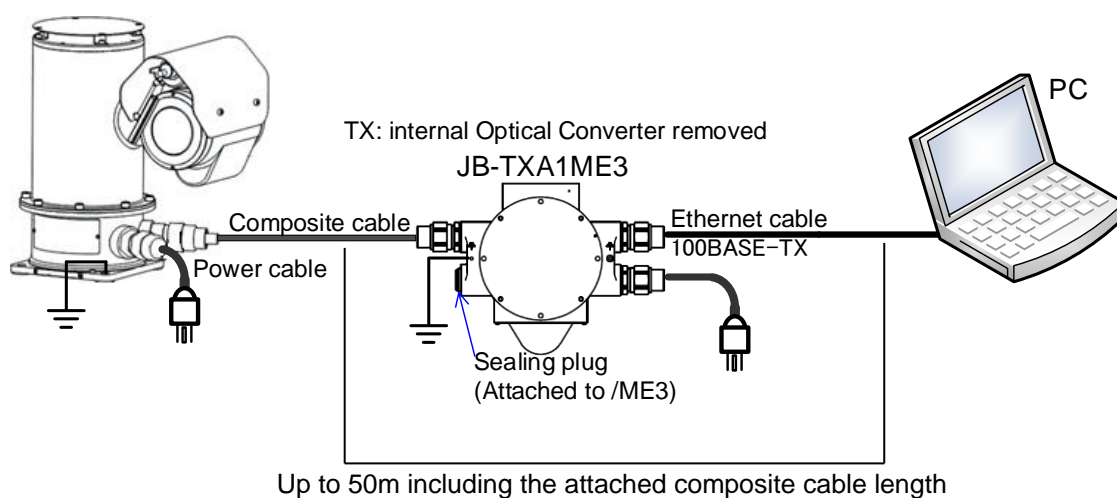※**NOTE** This description's size < **150**, when FC33E/U-□□□2□ **only**

■ EXTERNAL CONNECTION (EXAMPLE)

(1) Using an Optical fiber

PC

JB-FXA1ME4

Media Converter

Multiple cable

Optical fiber
100BASE−TX

Power cable

AC output

Washer(for example)

AC input

Ethernet cable
100BASE−TX

(2) Using Optical cable (without peripheral equipment)

PC

JB-FXA1ME4

Media Converter

Multiple cable

Optical fiber
100BASE−TX

Power cable

AC output

Ethernet cable
100BASE−TX

(3) Using LAN cable (without peripheral equipment)

PC

TX: internal Optical Converter removed

JB-TXA1ME3

Composite cable

Ethernet cable
100BASE−TX

Power cable

Sealing plug
(Attached to /ME3)

Up to 50m including the attached composite cable length

■ Designating option codes for making your order

Shade (option)

Main case

Hood (option)
Full HDIP type is different appearance

Wiper (option)

Camera housing

Main nameplate

Multiple Cable:
→Full HDIP type: Ethernet and Relay connection;
→Std. length 5 m, **/L10** (option) is available.

Base box*

Power cable:
→Std. length 5 m, **/L10** (option) is available

Tag plate (**TAGNO**)
(option)
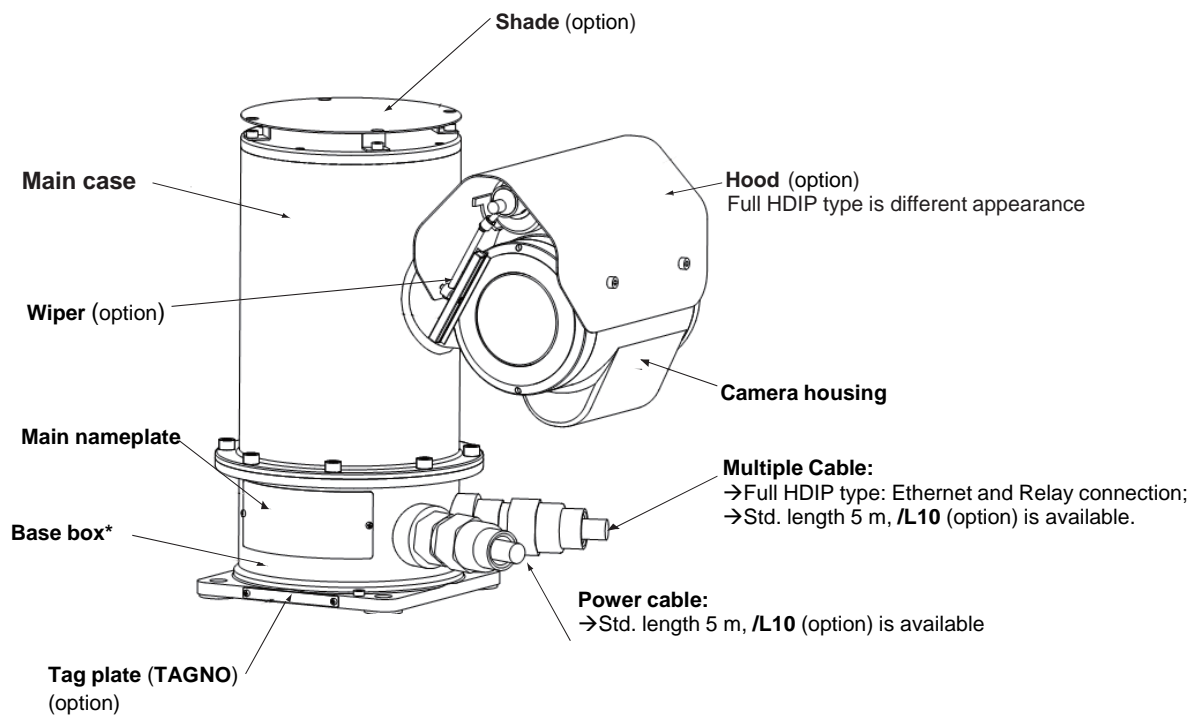
NOTES): This product is manufactured by Mikami Corporation and sold by Yokogawa Electric Corporation.

NOTES): This specification sheet will be subject to change without prior notice.

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