KEYENCE

IV3-600CA
Smart camera Wide field of view sensor model Colour AF type

CE   CSus

*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model		IV3-600CA
Type		Wide view
Installed distance		50 mm or more [1]
Tools	Available modes	Standard mode / Sorting mode
	Available Tool	Learning, Outline, Colour area [2], Area [3], Edge pixels, Colour average [2], Brightness average [3], Width, Diameter, Edge presence, Pitch, OCR, Colour prohibit [4], Brightness prohibit, Position adjustment, High-speed position adjustment (1-axis edge/2-axis edge), Blob count
	Number of tools	Total: 65 tools [5]
Field of view		Installed distance 50 mm : 51 (H) × 38 (V) mm to Installed distance 3000 mm : 2730 (H) × 2044 (V) mm
Switch settings (programs)		128 programs (when using SD card) / 32 programs (when not using SD card)
Image receiving element	Type	1/2.9 inch colour CMOS
	Number of pixels	1280 (H) × 960 (V)
Image history	Number of storable images	100 images [6]
	Save conditions	Selectable between NG only, NG and OK near threshold [7], and All [6]
Focus adjustment		Auto [4]
Image data transfer	Transfer destination	Selectable between SD card, FTP server and SFTP server
	Transfer format	Selectable between bmp, jpeg, iv3p, and txt, and file names can be modified
	Transfer conditions	Selectable between NG only, NG and OK near threshold [8], and All
Exposure time		12 µs to 10 ms
Analysis information	RUN display	Tools list (Judgement results, degree of similarity, or degree of similarity bar display) [8]
	RUN information	Switchable between OFF, histogram, processing time, count, and output monitor Histogram: Histogram, degree of similarity (Max., Min., Ave.), Number of OKs, Number of NGs Processing time: Processing time (latest, Max., Min., Ave.) Count: Trigger numbers, Number of OKs, Number of NGs, Trigger errors, Strobe errors Output monitor: ON/OFF status by output [8]
Lights	Illumination	White LED
	Lighting method	Pulse lighting/ continuously lighting is switchable.
Other functions	Image capture function	Digital zoom (2×, 4×), HDR, High gain, Colour filter [2], White balance [2], Brightness correction, AI capture
	Tool functions	Additional learning, Mask outline, Masking function, Colour extraction/exclusion [2], Colour histogram function [2], Monochrome histogram function [3], Scaling function
	Utilities	Failing sensor list, Failure hold, Test run, I/O monitor, Security settings (Two-factor password), Simulator [9], Additional FTP/SFTP Image Information,

		Multi-position adjustment, Multi-master image registration, High-speed program switching, Auto program switching, Auto setting backup/restore, Threshold changing in RUN
Indicators		OUT, TRIG, STATUS, LINK/ACT, SD
Input	Type	Switchable between non-voltage input and voltage input For no-voltage input: ON voltage 2 V or lower, OFF current 0.1 mA or lower, ON current 2 mA (short circuit) For voltage input: Maximum input rating 30 V, ON voltage 18 V or higher, OFF current 0.15 mA or lower, ON current 2 mA (for 24 V)
	Number of inputs	6 ports, 3 ports are selectable as IN/OUT
	Function	IN1: External trigger, IN2, IN3, I/O1 to I/O3: Enable by assigning optional functions Assignable functions: Program switching, Clear error, External master image registration, SD card save cancel
Output	Type	Photo MOS relay output, N.O./N.C. Switchable Maximum rating 30 V 50 mA, residual voltage 1.5 V or less [10]
	Number of outputs	6 ports, 3 ports are selectable as IN/OUT
	Function	Enable by assigning the optional functions Assignable functions: Total judgement (OK/NG), Run, Busy, Position adjustment result, Judgement result of each tool, Result of the logical operation of each tool, Error, SD card error, Variety discrimination result, Master judgement result
Power/I/O	Connector	M12 12 pin A code Male connector
	PoE	PoE power Class 3/4/6 [11]
Ethernet	Standard	1000BASE-T/100BASE-TX
	Connector	M12 8 pin X code Female connector
Network function		FTP client, SFTP client
Interface compatibility	Built-in Ethernet	EtherNet/IP™, PROFINET [12], TCP/IP non-procedure communication
Expanded memory		microSD card (microSD/microSDHC) [13]
Ratings	Power voltage	24 VDC +25%/-20% (including ripple) [14]
	Current consumption	3.3 A or less (without the AI Lighting unit, and including the output load) 1.8 A or less (AI Lighting unit, and including the output load) [15]
Environmental resistance	Enclosure rating	IP67 [16]
	Ambient temperature	0 to +50°C (No freezing) [17]
	Relative humidity	35 to 85% RH (No condensation)
	Vibration resistance	10 to 55 Hz; double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions [18]
	Shock resistance	500 m/s^2, 3 times in each of the 6 directions [18]
Material		Main unit case: Aluminium die-casting/PBT/TPU Indicator light cover: TPU Ethernet connector: Aluminium die-casting/LCP Front cover: Acrylic (hard coating) Power connector: Aluminium die-casting/LCP Nameplate: PET Water proof cap for the Power connector: PC+ABS alloy Water proof cap for the Ethernet connector: PC
Weight		Approx. 300 g (without the AI Lighting unit) Approx. 495 g (with the AI Lighting unit)

[1] Removing the polarising filter is recommended when used at distances of 3 m or more.
[2] Colour type only.
[3] Monochrome type only.
[4] The focusing position can be automatically adjusted at the time of installation. Disabled during operation. The focusing position can be registered by programs.
[5] Tools can be installed by programs. This is the number of detection tools and position adjustment tools. Up to 64 detection tools can be set. The number of detection tools in Sorting mode are eight tools.
[6] Saves to the sensor's internal memory. The images saved to the sensor can be backed up to a USB memory stick inserted into the control panel (IV3-CP50) or to the PC where the software for the IV3 Series (IV3-H1) is being used.
[7] Learning tool only.
[8] Can also be displayed on the control panel (IV3-CP50) or the software for the IV3 Series (IV3-H1).

[*9] Usable on the software for the IV3 Series (IV3-H1).

[*10] Make sure to keep a total of each output with 120 mA or less.

[*11] For a PoE power supply device, IEEE802.3at power class 4 or higher is recommended when using the AI Lighting unit, and IEEE802.3bt power class 6 or higher is recommended when the AI Lighting unit is not used. When using PoE operation may be restricted due to power limitation.

[*12] Conformance Class B, applicable protocol: LLDP, SNMP.

[*13] Use only products recommended by KEYENCE.

[*14] When using the OP-88656 (10 m), the power voltage is 24 V DC +25%/-10% (including ripple).

[*15] The peak current is designed to be smaller if the AI Lighting unit is mounted. The peak current is greater if the AI Lighting unit is not mounted.

[*16] Except when the polarising filter (OP-88640/OP-88641/OP-88644/OP-88645) is mounted.

[*17] For situations where the operating ambient temperature will exceed 40°C, follow KEYENCE's specified heat dissipation measures to ensure the case temperature does not exceed the rated maximum temperature (65°C). Check the instruction manual for more information.

[*18] Except when the dome attachment (IV3-D10) is mounted.

Dimensions

* Download CAD file or product manual for larger image/text and more detail.

IV3-500CA/500MA/600CA/600MA/L5C/L5M/L6C/L6M
OP-88634

Center Position of the
Received Light.

59

6

45.3

Ø3.4

R2.25

85

42.5

40

24.2

5.5

30

9.5

40

35

11.7

R1.7

Ø4.5

7.9

Center Position of the
Received Light

(169)

(181)

smallest 56.5

smallest 56.5
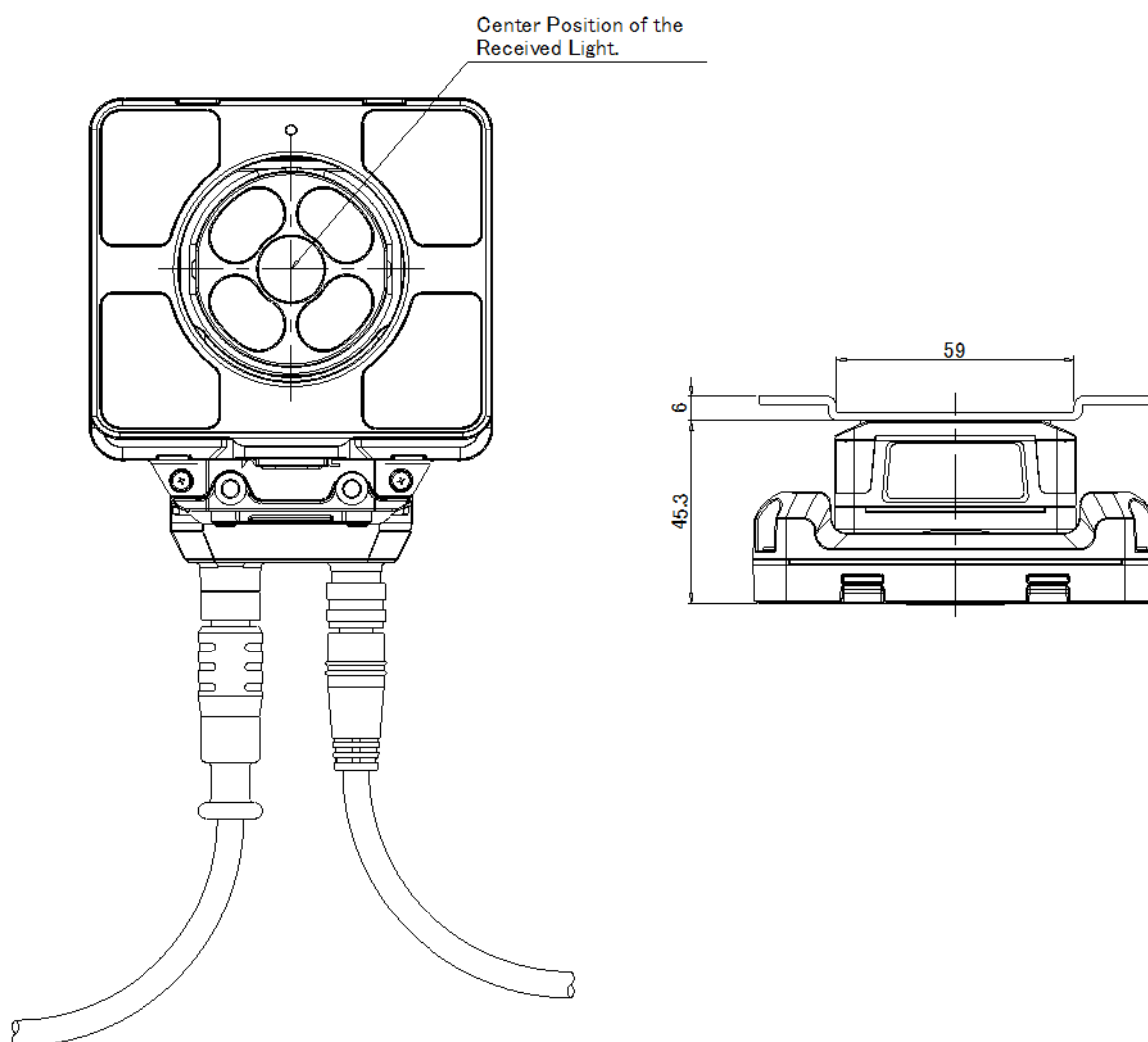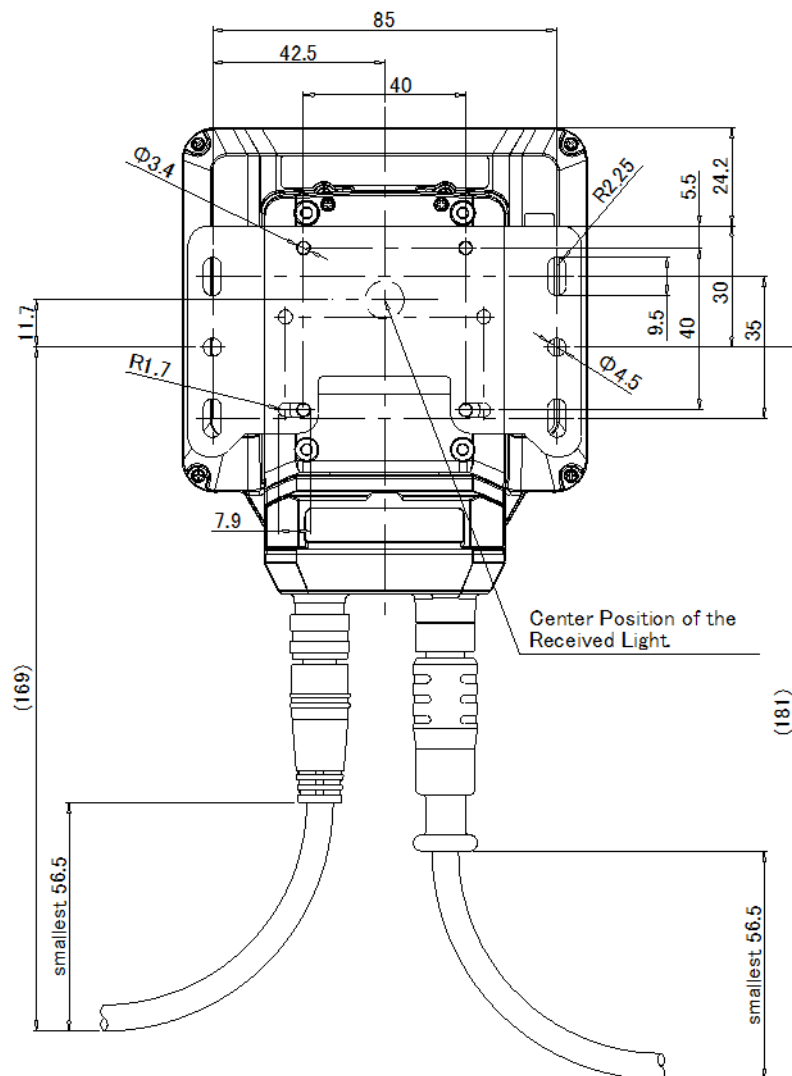
IV3-500CA/500MA/600CA/600MA/L5C/L5M/L6C/L6M
OP-88644/88645

Center Position of the
Received Light.

104

52

30.2

44.5

100.8

IV3-500CA/500MA/600CA/600MA/L5C/L5M/L6C/L6M

100

42.5

127.4

45.3

Center Position of the Received Light

IV3-500CA/500MA/600CA/600MA
OP-88634

Center Position of the Received Light.

IV3-500CA/500MA/600CA/600MA
OP-88640/88641

Center Position of the Received Light.

(54.6)

50

27

Φ51.5

47.3

7

5.5
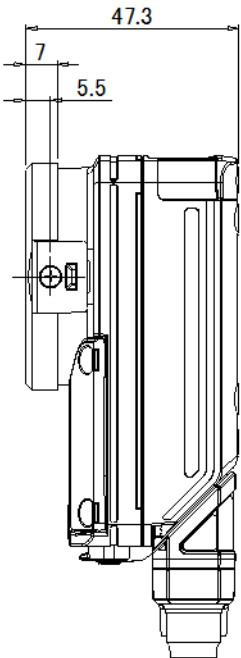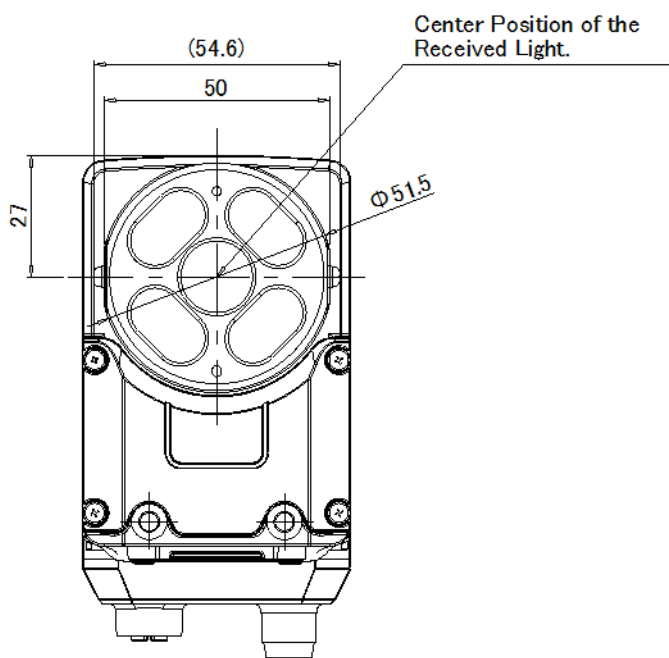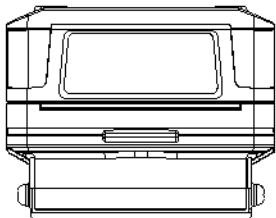
IV3-500CA/500MA/600CA/600MA
When the connector is rotated 90 degrees.
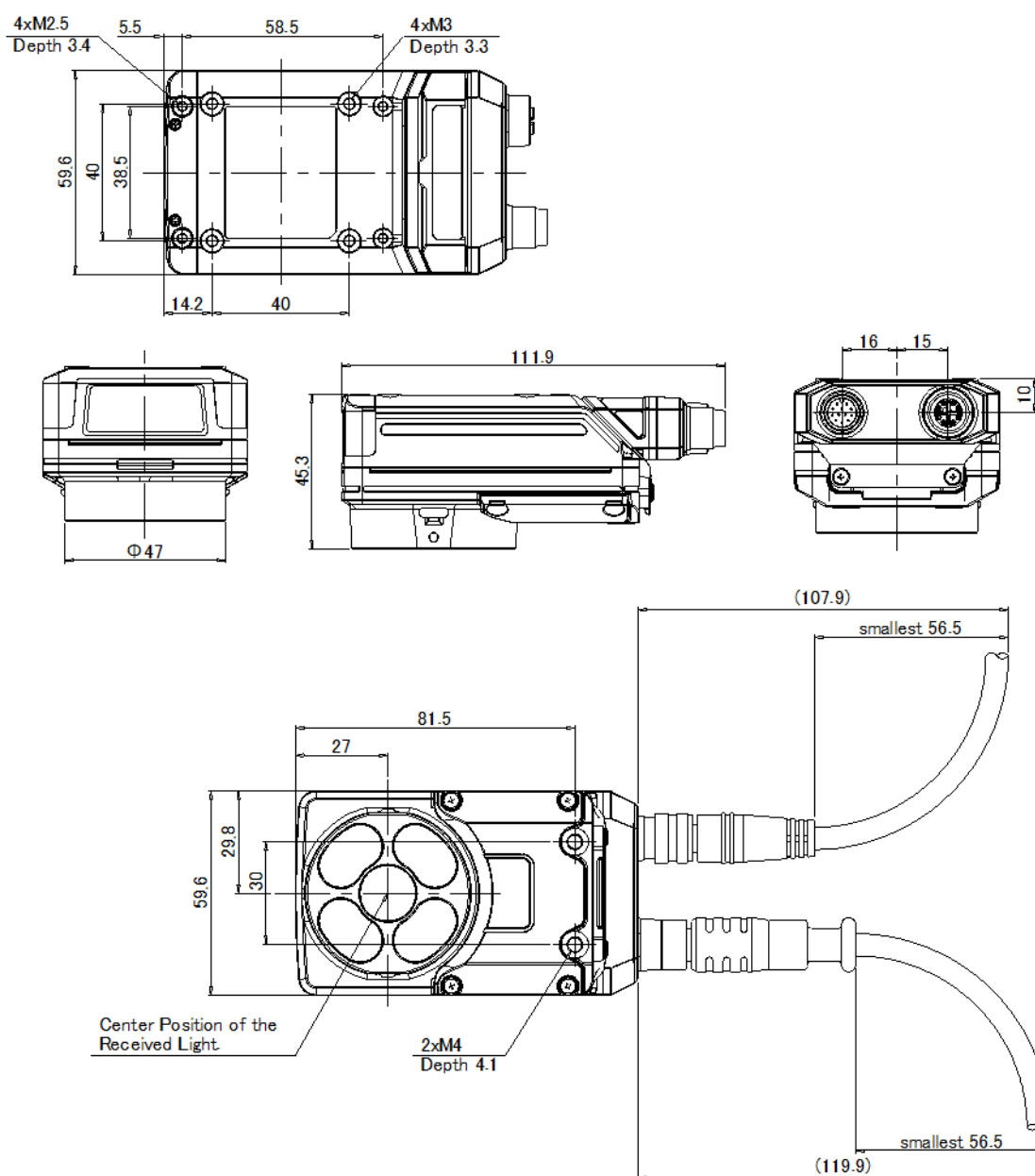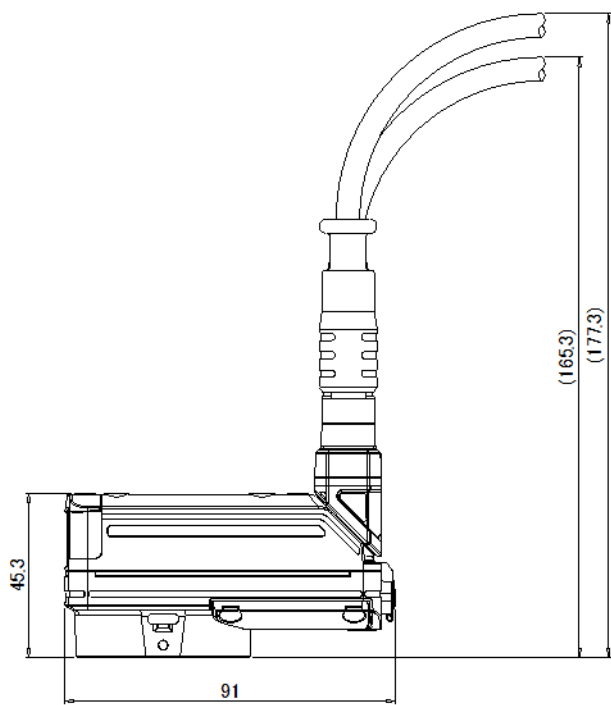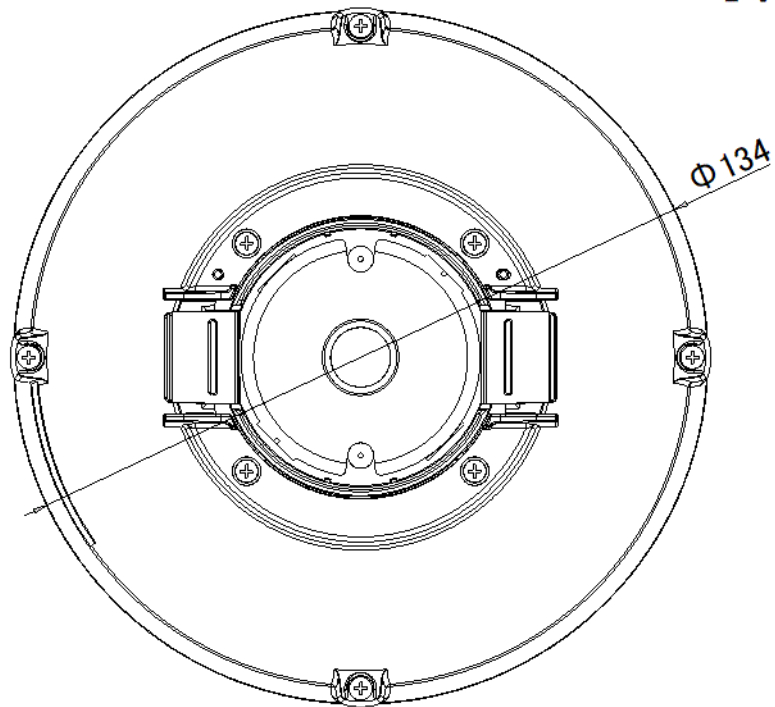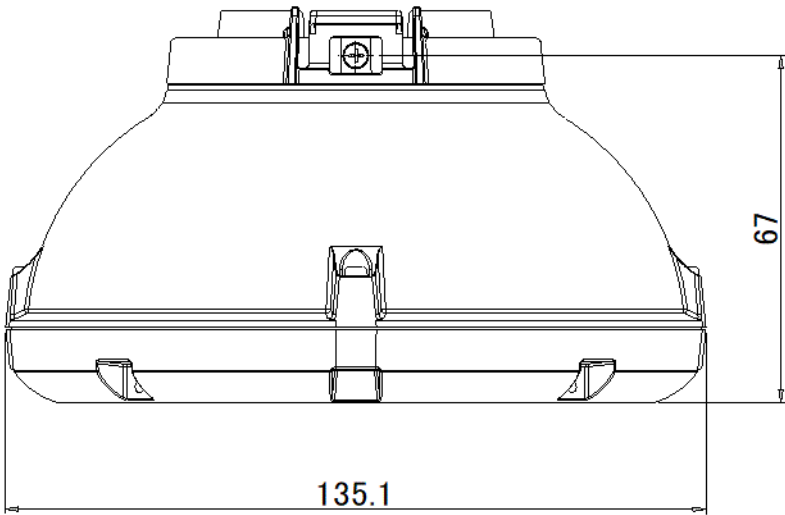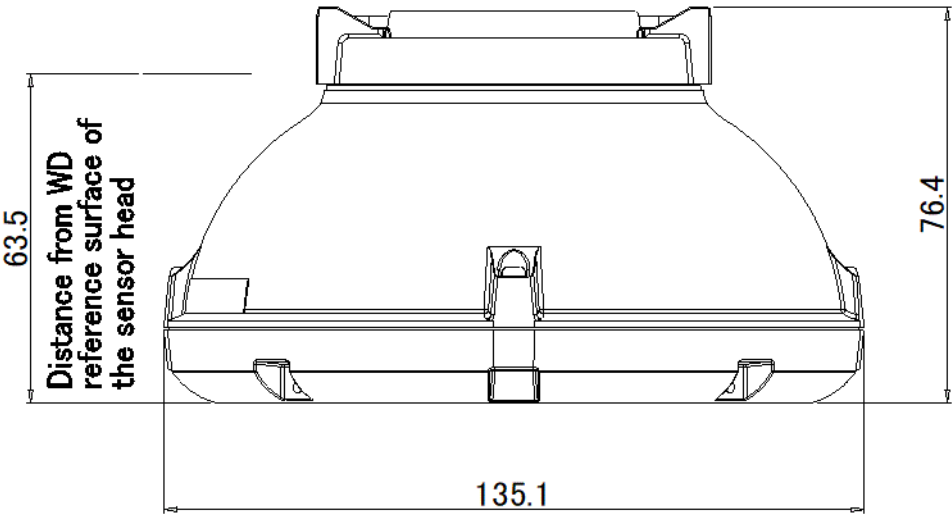
KEYENCE
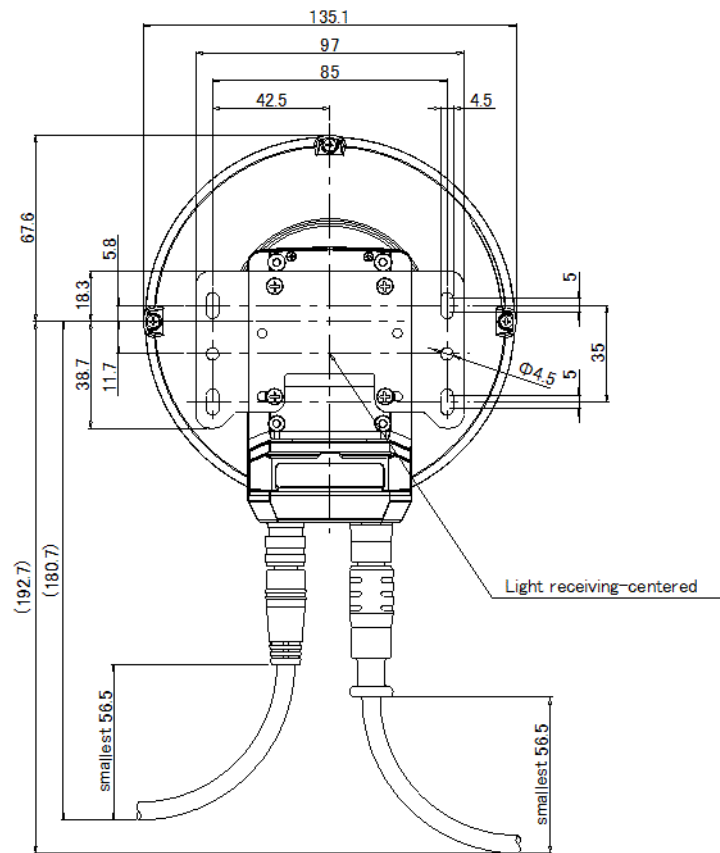

45.3

91

(165.3)

(177.3)

IV3-D10

Φ134

63.5

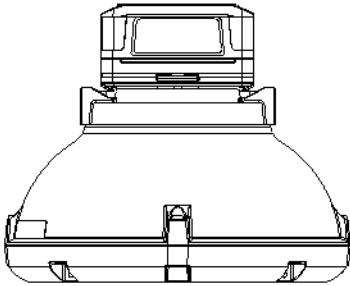Distance from WD reference surface of the sensor head

76.4

135.1

67

135.1

IV3-500CA/500MA/600CA/600MA/D10/OP-88634

Light receiving-centered

Light receiving-centered

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IV3-500CA/500MA/600CA/600MA/D10

KEYENCE

Light receiving-centered

(107.9)
smallest 56.5
67.6
(119.9)
smallest 56.5
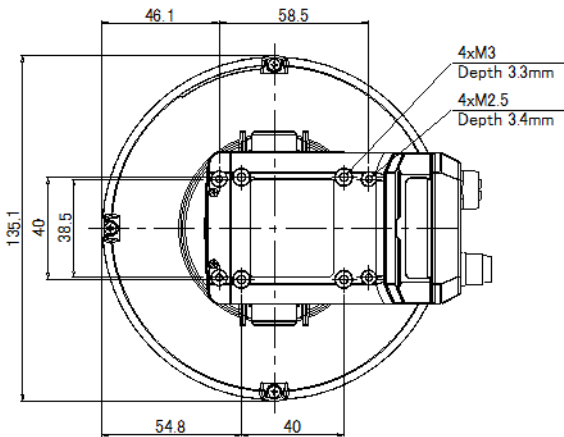
(228.8)
(240.8)
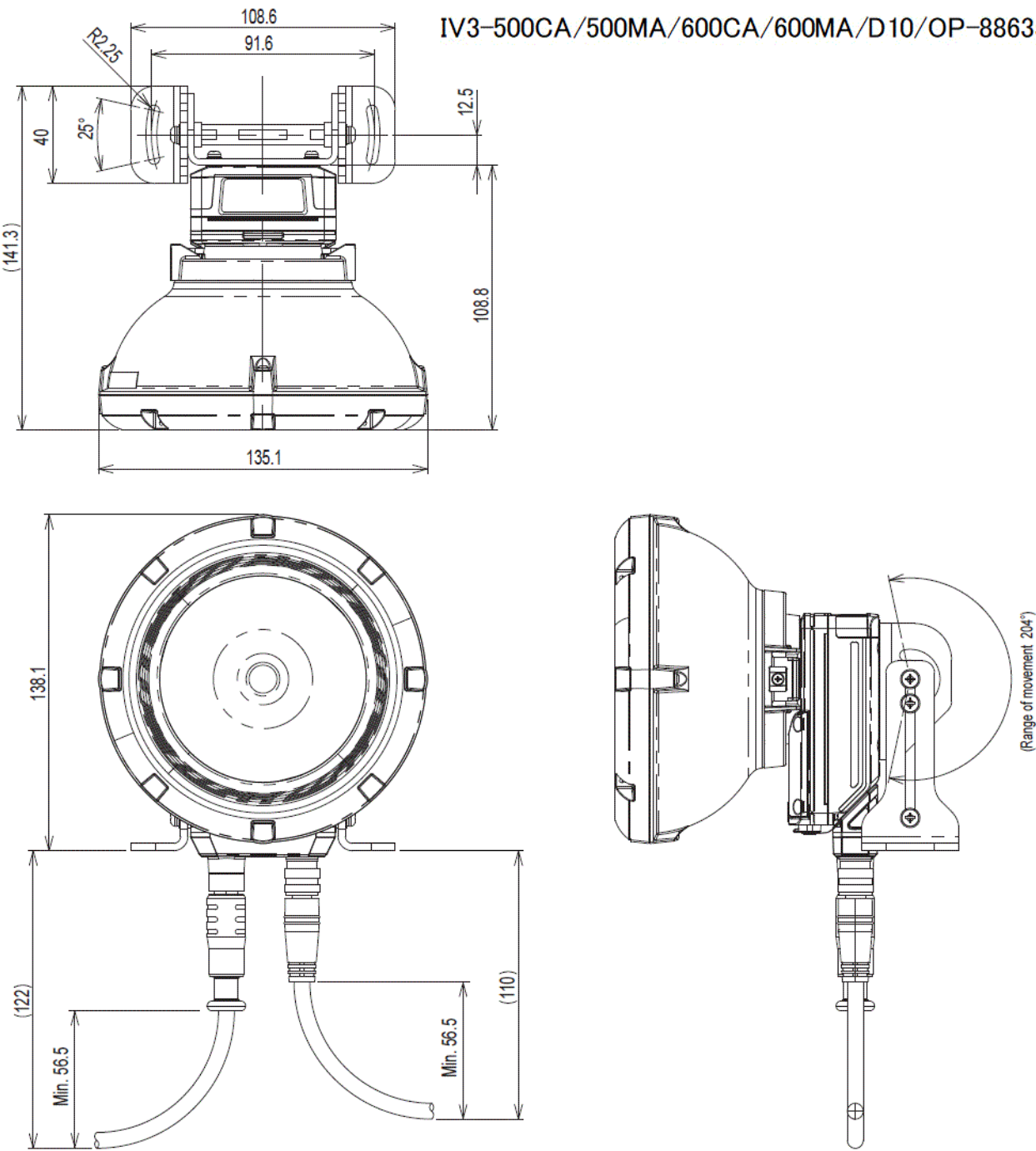40.6
3.6
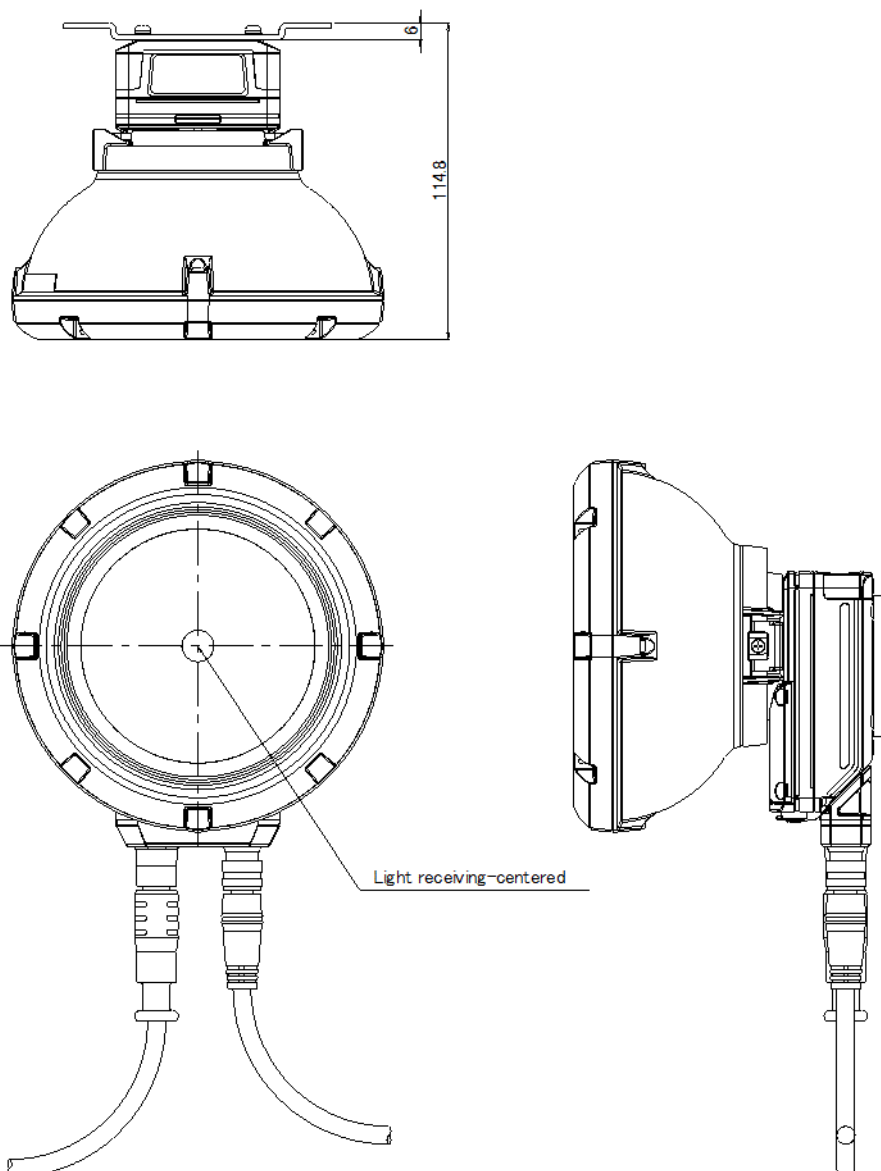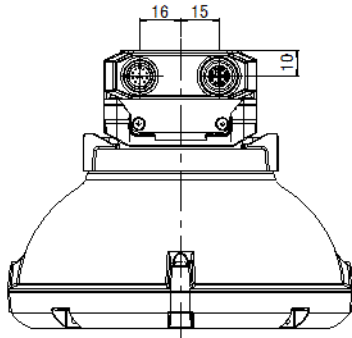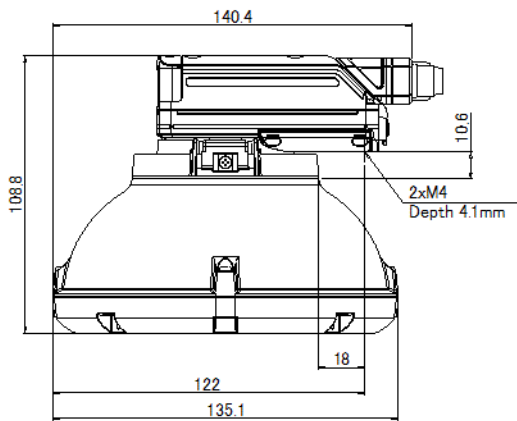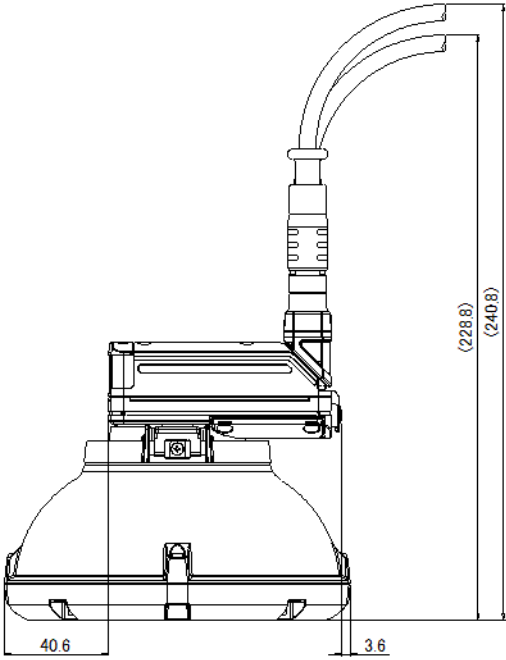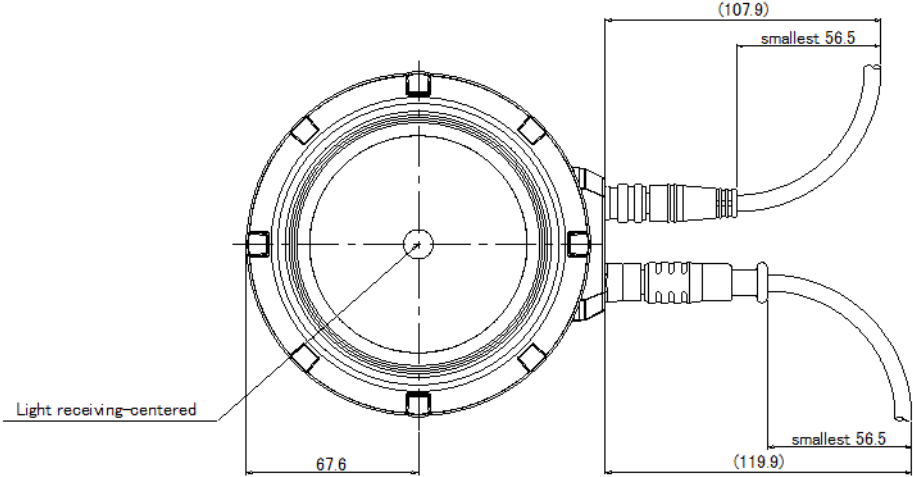
When the connector is rotated 90 degrees.

IV3-500CA/500MA/600CA/600MA/D10/OP-88635

IV3-500CA/500MA/600CA/600MA/D10/OP-88636

φ12 (+0.04 / -0.06)

47

28

151.8

136.8

114.6

133.9

135.1

67.6

Center of light reception

(193)

Min. 56.5

(181)

Min. 56.5

17.8

50

7.2

(Range of movement 204°)

(174)

(186)