



IV-2000MA

Sensor, Long range, Monochrome, Automatic focus model



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

Specifications

Model		IV-2000MA
Type		Long range
Installed distance		300 to 2,000 mm 11.81" to 78.74"
View		Installed distance 300 mm 11.81": 45 (H) × 33 (V) mm 1.77" (H) × 1.30" (V) to installed distance 2000 mm 78.74": 300 (H) × 225 (V) mm 11.81" (H) × 8.86" (V)
Image sensor	Type	1/3 inch monochrome CMOS
	Pixel	752 (H) × 480 (V) 29.61" (H) × 18.90" (V)
Focus adjustment		Auto*1
Exposure time		1/10 to 1/25,000
Lights	Illumination	Infrared LED
	Lighting method	Pulse lighting/DC lighting is switchable
Tools	Type	Shape Detection, Color Area*2, Area*3, position adjustment
	Number	Detection tools: 16 tools, position adjustment tool: 1 tool*4
Switch settings (programs)		32 programs
Image history	Numbers	300 images*5*6
	Condition	NG only/All is selectable*6
Analysis information		OFF/Statistics/Histograms is switchable Statistics: Processing time (latest value, MAX, MIN, AVE), number of OKs, number of NGs, trigger numbers, trigger errors, judgment results list by tools Histograms: Histogram, matching degree (latest value, MAX, MIN, AVE), numbers of OKs, numbers of NGs*7
Other functions		HDR, HighGain, Color filters*2, Digital zoom*8, Brightness correction, Tilt correction, White balance*2, Mask outline, Mask area, Test run, ToolAutoTune, Input monitor, Output test, Security settings, Simulator*9
Indicators		PWR/ERR, OUT, TRIG, STATUS, LINK/ACT
Input	Type	Non-voltage input/voltage input is switchable For non-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 26.4 V, ON voltage 18 V or higher, OFF current 0.2 mA or lower, ON current 2 mA (for 24 V)
	Inputs	6 inputs (IN1 to IN6)
	Function	IN1: External trigger, IN2 to IN6: Enable by assigning the optional functions Assignable functions: Program switching, Clear error, External master image registration
Output	Type	Open collector output NPN/PNP is switchable, N.O./N.C. is switchable For open collector NPN output: Maximum rating 26.4 V 50 mA, remaining voltage 1.5 V or lower For open collector PNP output: Maximum rating 26.4 V 50 mA, remaining voltage 2 V or lower
	Outputs	4 outputs (OUT1 to OUT4)

	Function	Enable by assigning the optional functions Assignable functions: Total judge result, RUN, BUSY, Error, Position adjustment result, Judge result of each tool, Result of the logical operation of each tool
Ethernet	Standard	100BASE-TX/10BASE-T* ¹⁰
	Connector	M12 4pin connector* ¹⁰
Network function		FTP client, EtherNet/IP™, PROFINET
Rating	Power voltage	24 VDC ±10 % (including ripple)
	Current consumption	0.6 A or less
Environmental resistance	Enclosure rating	IP67* ¹¹
	Ambient temperature	0 to +50 °C 32 to 122 °F (No freezing)
	Relative humidity	35 to 85 % RH (No condensation)
	Vibration resistance	10 to 55 Hz, Double amplitude 1.5 mm 0.06", 2 hours in each of the X, Y, and Z directions* ¹²
	Shock resistance	500 m/s ² , 3 times in each of 6 directions* ¹²
Material		Main unit case: Aluminium die-casting, Packing: NBR, Front cover: Acrylic, Mounting adapter: POM
Weight		Approx. 270 g

*¹ The focusing position can be automatically adjusted at the time of installation. Deactivated during the operation. Focusing position can be registered by program.

*² Color type only

*³ Possible with both the Color type and monochrome type

*⁴ Tools can be installed by programs.

*⁵ When using the FTP client function: 210 pictures

*⁶ Saves to the memory in the sensor. The images saved in the sensor can be backed up to the USB memory installed to the intelligent monitor (IV-M30) or to the PC by the software for IV (IV-H1).

*⁷ This can be displayed on the intelligent monitor (IV-M30) or by software for the IV/IV-G Series (IV-H1).

*⁸ Possible with both the color type and monochrome type

*⁹ Simulator can be used with the IV software (IV-H1).

*¹⁰ This is for connection with the intelligent monitor (IV-M30) or software for IV (IV-H1).

*¹¹ Except when polarized filter attachment (OP-87436/OP-87437) is mounted

*¹² Except when IV-G dome attachment (IV-D10) is mounted

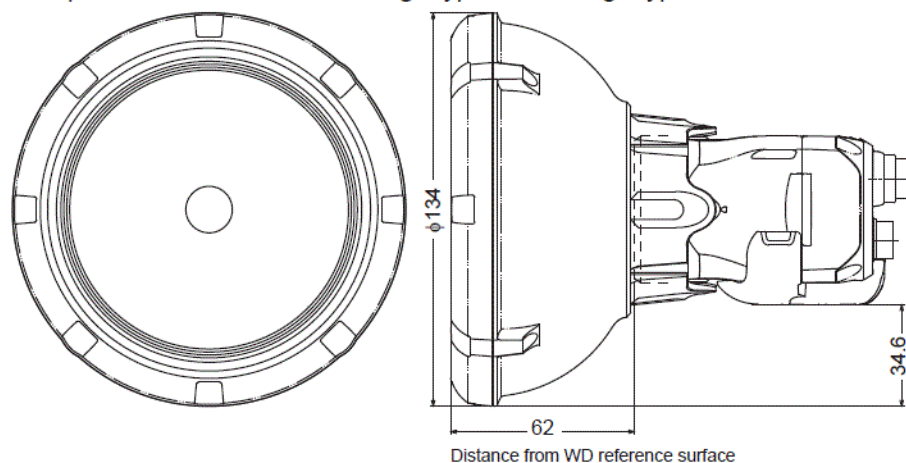
* Download CAD file or product manual for larger image/text and more detail.

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- Technical drawing of the MF-1000 camera showing multiple views and dimensions:
- Top View:** Shows a square body with a width of 56 mm and a height of 57.4 mm. The central lens area has a diameter of 50 mm. The distance from the center to the bottom edge is 32.4 mm.
 - Front View:** Shows a height of 50 mm and a width of 81.5 mm. A mounting adapter is indicated on the right side.
 - Side View:** Shows a height of 52 mm and a width of 102 mm. Two cables are shown extending from the side, each with a bend radius of R50.
 - Bottom View:** Shows a width of 58 mm and a height of 20 mm. It includes a "WD reference surface" and a "4-M4 (Depth 6mm)" screw location. The distance from the center to the bottom edge is 45.5 mm, and the distance from the center to the right edge is 25 mm.
 - Top View (Detailed):** Shows a square body with a width of 41 mm and a height of 20.5 mm. It includes a "Focusing position adjustment screw (MF type only)" and a "3-M3 (Depth 6mm)" screw location. The distance from the center to the top edge is 10.5 mm, and the distance from the center to the bottom edge is 10.5 mm. The distance from the center to the right edge is 6 mm.
 - Mounting Adapter:** A separate component shown in the bottom view, with a width of 58 mm and a height of 20 mm.

- **With dome attachment**

Installed distance: 0 to 50 mm from the front of the dome attachment

Compatible sensor: Standard range type/Short range type



- **With polarizing filter attachment**

