

KEYENCE

Vision Sensor with Built-in AI

NEW IV2 Series



Simple and Impressive Detection Stability

NEW! Large Control Panel

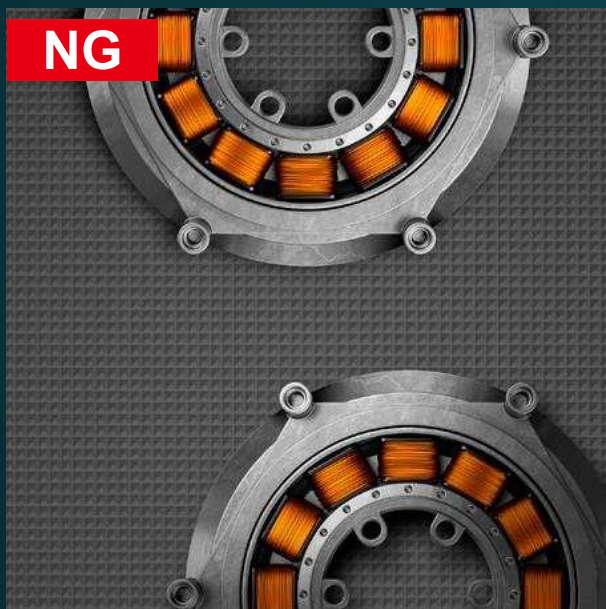


IV2 Series

With conventional vision sensors,
a variety of factors can lead to false detections.

False detections from trivial causes

Target misalignment



Varied products in lot



Vision Sensor with
Built-in AI
NEW IV2 Series

Oil stains



Ambient light



Every false detection results in wasted time and effort

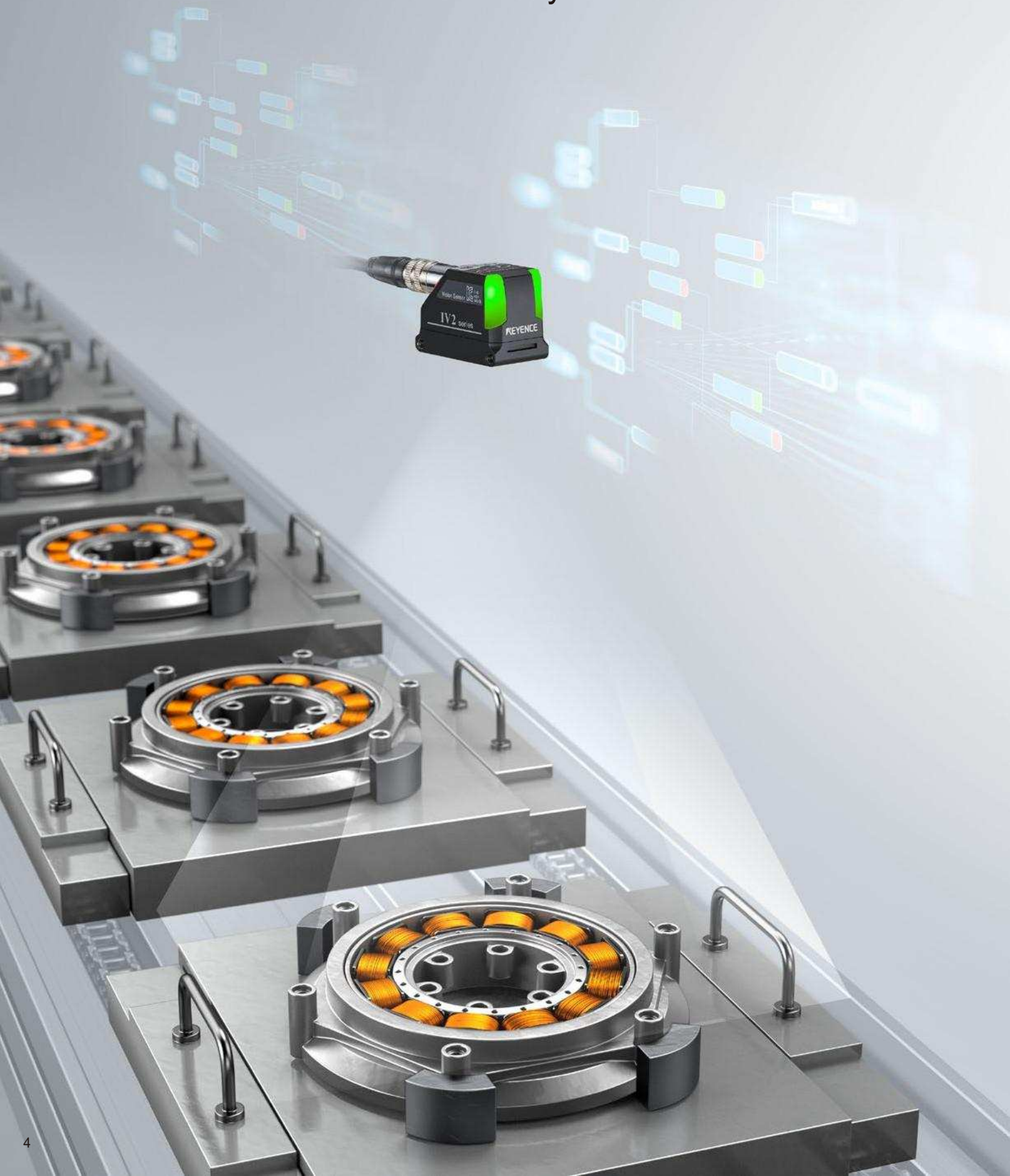


With the AI-equipped IV2 Series

Reliable detection algorithm that factors in individual product differences, imaging environments, and backgrounds

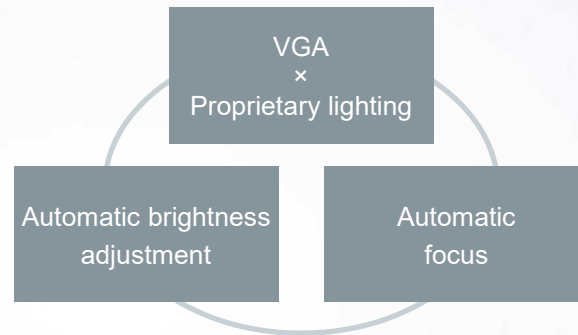
No false detections

Built-in AI specializing in GO/NO GO inspection results in stable detection in any environment



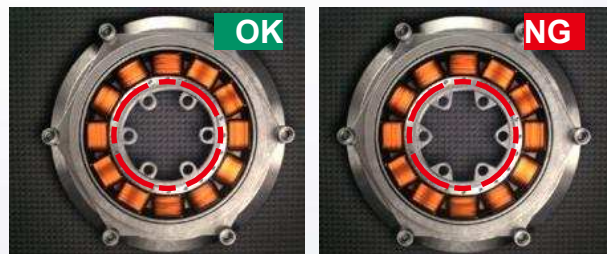
Imaging technology

The IV2 Series includes a built-in VGA, a high-performance lens, and proprietary lighting. Using a combination of optimized brightness and focus provides a clear representation of the target workpiece.



Optimal detection settings using AI

Simply register an OK product and an NG product to automatically configure the optimal settings. With no user-based variations to worry about, stable detection can be ensured for all users.

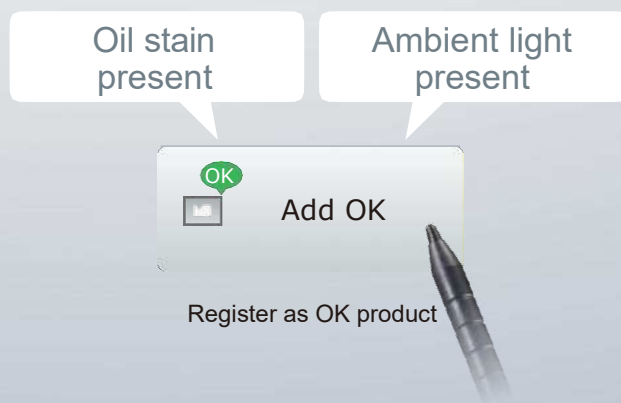


OK product registration

NG product registration

Additional learning possible for handling variations

Additional learning functions make it possible to handle variations such as individual product differences and environmental differences quickly. This greatly reduces downtime.



Stable detection starts with a quality image, and...



■ Improved CMOS allows for Brighter Images, Faster Processing Speeds, and Increased Working Distances

High-speed processing of images captured by the camera is possible thanks to the dedicated image processing IC built into the head and the high-performance CPU built into the amplifier. This not only enables faster and clearer imaging but also ensures stable detection over a wide field of view and at a distance from the target.

Instrument panel clip presence detection



PET bottle count check



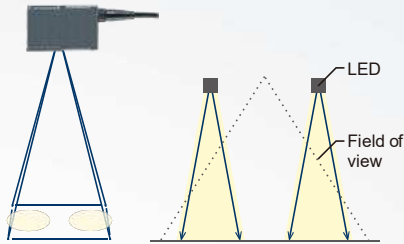
IV2 makes it easy for everyone

Uniform lighting with high-intensity Hi-R* illumination **NEW** * High Reflection

The IV2 Series comes with built-in LED lighting that offers 30% more intensity than the conventional IV Series. To minimize light intensity loss from the LEDs, KEYENCE investigated reflector shapes to ensure even, outstanding brightness.

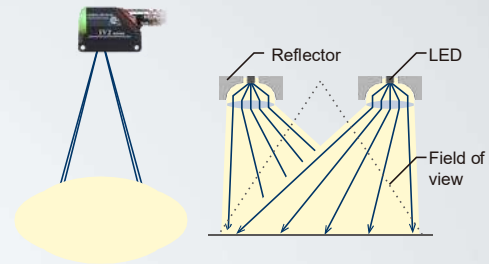
Conventional vision sensor

Overall, the images are dark and brightness is uneven.



IV2 Series

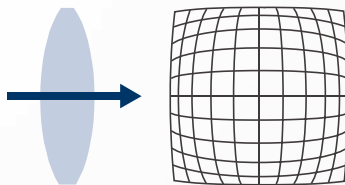
Bright, uniform light is provided throughout the entire field of view.



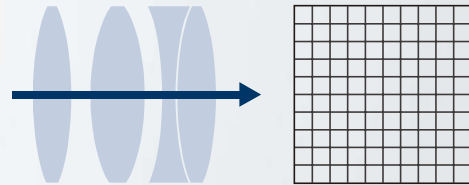
High-performance HP-Quad* lens for bright, clear images * High Precision-Quad

The IV2 Series' specialized 4-element glass lens minimizes the effects of lens distortion. This makes it possible to capture bright, clear images with low distortion.

Single-element lens



HP-Quad lens



Easy-to-mount sensor attachments help remove glare

Polarized light filter attachment

This filter reduces the effects of glare from glossy targets.



One-touch mounting



Not attached



Attached

Dome attachment **NEW**

This attachment generates indirect light from various directions to ensure the target is uniformly illuminated. This method is more effective than a polarized filter in reducing glare at a close range.



One-touch mounting



Not attached



Attached

No vision programming knowledge required

Setup

OK product



Register
OK product

OK



Degree of similarity: 100

NG product



Register
NG product

NG



Degree of similarity: 0

AI programs for you

■ Stable detection regardless of user

The built-in AI analyzes registered OK and NG product images using various characteristics such as color, brightness, shape, area, and edges to automatically configure optimal detection settings. Users need only register the OK and NG products to complete setup.

■ No need for a special PC or software for utilizing AI

The IV2 Series comes equipped with an AI specializing in OK/No Good determination by using a vast internal database. All users need to do to configure the settings is register at least one OK and one NG product. No high-performance PCs and PC software or large volumes of images for machine learning are required.

Stability increases over time

Operation



Just teach additional OK/NG targets

■ Flexible handling of individual product differences and changes at the production site

Product and production environment variations can be easily handled by registering additional OK products or NG products. Additional registration is easy from the operation screen, ensuring quick and flexible adaptation. (Up to 88 registration entries are possible.)

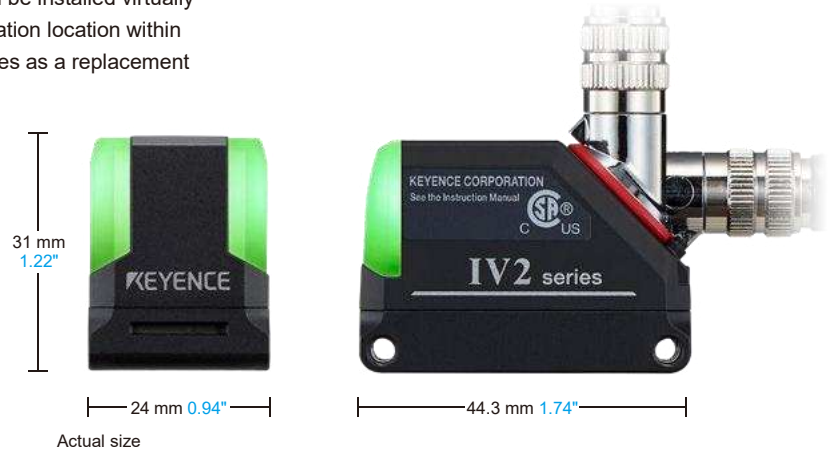
■ Reduced risk of line stoppage

Users can register additional products from the past 1000 images in the images history. With the ability to specify a time period and sort by date, time, and degree of similarity, finding the necessary data for additional learning is quick.

Industry's smallest ultra-compact sensor head, installable anywhere

All-in-one ultra-compact sensor for worry-free installation

The IV2 Series is the smallest device in its class. At about the same size as conventional sensors, this vision sensor can be installed virtually anywhere. Never worry about finding an installation location within limited space even when installing the IV2 Series as a replacement sensor or when retrofitting to a device.



Highly visible LED status light

The IV2 Series makes it easy to check the status of the sensor, even if the sensor is installed in a difficult-to-access location.



Flexible layout with a connector that can be rotated up to 330°

The cable connector on the IV2 Series can be rotated by up to 330° to match the available space and installation conditions. This ensures a high degree of freedom when it comes to installations.



Benefits of an ultra-compact head

1 Ability to meet equipment downsizing and retrofitting needs

Conventional vision sensor

The need for a large installation space for installing or retrofitting a vision sensor meant the equipment design needed to be large, or large-scale modifications were needed.



IV2 Series

The ultra-compact size enables installation even with limited space. This helps keep equipment sizes minimal while also eliminating the need for major modifications when retrofitting.



2 Minimal interference with operators or equipment operation

Conventional vision sensor

The large installation space required for the vision sensor may interfere with user or equipment operations.



IV2 Series

The ultra-compact size makes it possible to install the device in locations that won't interfere with user or equipment operations.



5.7-inch control panel
for even greater ease of use



Actual size

Large, easy-to-see screen for simple setup

The large screen size allows users to easily check the equipment operation status and image history. The touch panel-based operations make setting up and adjusting the sensor simple and intuitive.



Perform quick modifications as needed

When an unexpected variation of an OK or No Good product appears on the production line, quickly and easily modify the program to compensate. By using the IV2 Series control panel, adding new images to revise the program takes less than 1 minute.



Instantly view statistics and results

View OK vs No Good judgment result statistics in real-time for instant reporting. When using an SD card, search thousands of previously taken images and results to track production discrepancies.



1-minute automatic setup from image creation to tool configuration

Simple image creation



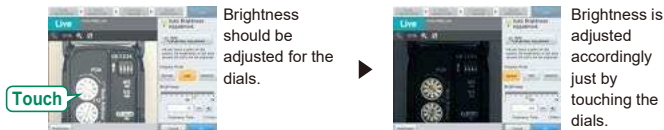
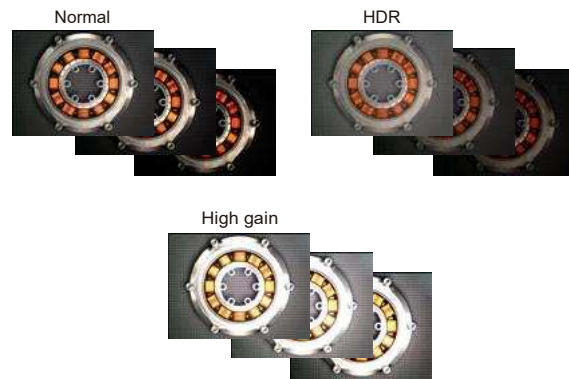
Automatic brightness adjustment

The one-touch brightness adjustment function automatically selects the optimal brightness settings by analyzing images captured under various conditions.

POINT

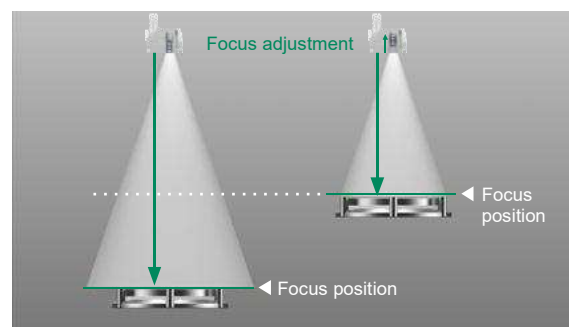
Optimal brightness at the specified location

Even with small targets or components with varied brightness, users only need to touch the target on the screen to automatically adjust the brightness as needed.



One-touch automatic focus adjustment

Focal positions are stored in each program, so users need only to switch the program whenever a changeover is performed. This eliminates the need to adjust the position of the camera.



Easy tool setup



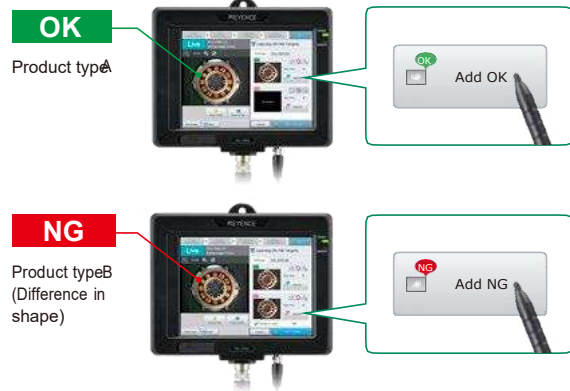
Learning mode: Simple OK/NG product registration

Simply registering an OK product and an NG product makes it possible for the AI to determine the optimal settings. With no user-caused setting variation, stable detection is achieved with minimal effort.

POINT

Improved stability with additional learning

If multiple OK or NG products are possible, learning can be performed by simply registering the products in advance. Additional learning after operation begins allows users to respond promptly to any changes that occur at the production site.



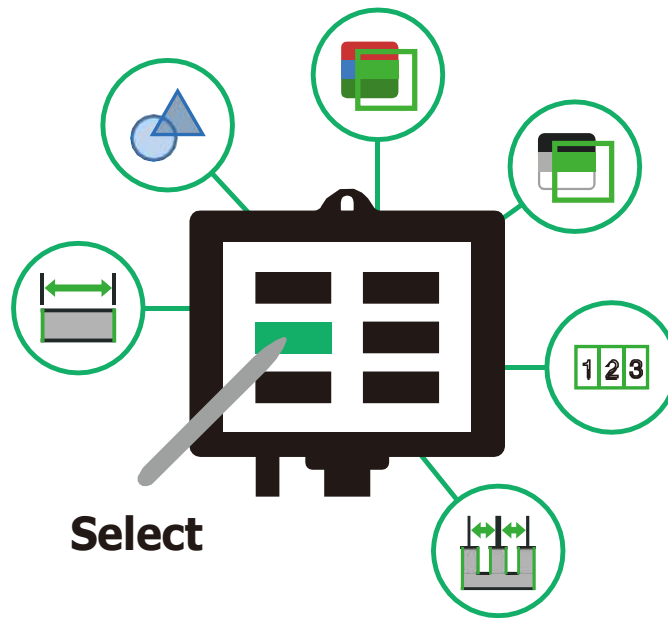
Standard mode: Set custom detection tools

Users also have the option to select a specific detection tool. The IV2 Series includes various detection tools for ensuring stable detection. Simply select the tool and the target to easily configure the settings.



Various detection tools for solutions in many applications

[Standard mode]



Basic tools



Outline



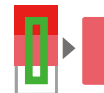
Edge pixels



Color area



Area



Color average



Brightness average

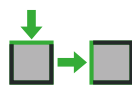
Extended tools



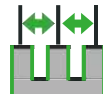
Width



Diameter



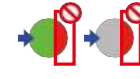
Edge presence



Pitch



OCR



Color/brightness prohibit

Position adjustment tools



Position adjustment



High-speed position adjustment



Outline

Inspection based on target shape

Simply specify the target to detect the outline automatically. Differences caused by varied brightness or differences in individual surface conditions that were previously difficult to detect with normalized correlation methods (pattern matching) can now be identified.



(Appearance-based difference check of metal components)

Edge pixels

Inspection based on contrasting pixels

Distinguishing between objects with varying shapes or surface conditions is possible.



(Tap processing presence detection)

Color area *Included with color types

Inspection based on color

By using the colors found on a registered product, the degree of similarity to a target product can be calculated. Selecting colors to inspect is as easy as touching the color on the screen.



(Connector wiring difference check)

Area *Included with monochrome types

Inspection based on brightness

By selecting a region and a brightness on the master product, a comparison can be made to a target product. This tool is effective at checking for differences in gloss or surface finish.



(Component assembly presence check)

Position adjustment

Target tracking function

This tool corrects for any misalignment or orientation differences between targets.



(Mark presence detection with rotational correction)

 **Color average** NEW *Included with color types

Inspection based on average color

Setting a threshold for the average HSV (H: Hue, S: Saturation, V: Value) values in the tool area makes it possible to check for differences in color.



(Color-based cap difference check)

 **Brightness average** NEW *Included with monochrome types

Inspection based on average brightness

Checking for differences in brightness is possible by setting a threshold for the brightness averages in the tool area.

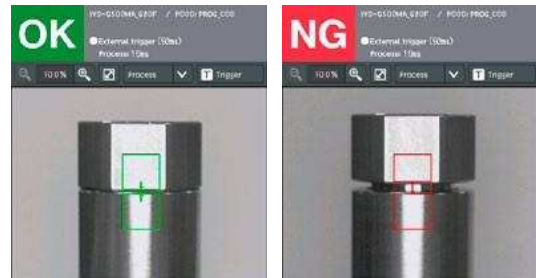


(Component difference check)

 **Width**

Inspection based on width between edges

Checking for differences based on the space between two edges is possible. Using the scaling function makes it possible to display actual dimensions.

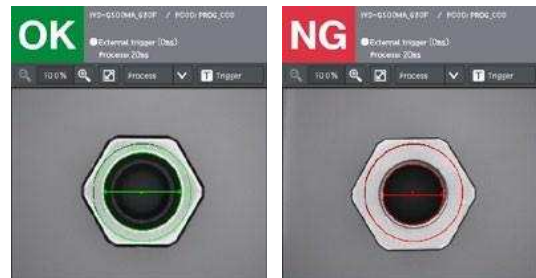


(Component assembly misalignment check)

 **Diameter**

Inspection based on number of edges

Users can select whether to inspect for a maximum diameter, minimum diameter, or specified diameter. Using the scaling function also makes it possible to display actual dimensions.

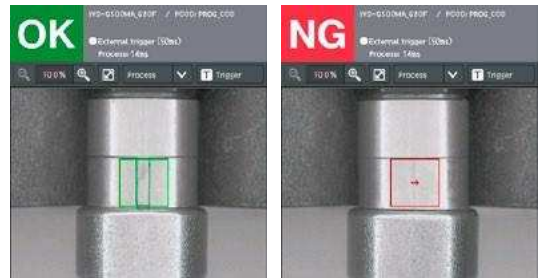


(Diameter-based difference check of metal components)

Edge presence

Inspection based on number of edges

Product type differentiation and positioning can be performed by looking at the number of edges present.



(Type-based difference check of metal components)

Pitch

Inspection based on pitch

It is possible to inspect not only on pitch but also pin width. Using the scaling function also makes it possible to display actual dimensions.

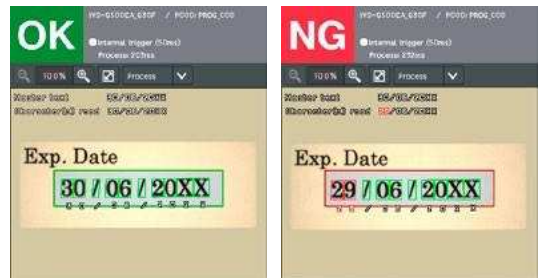


(Pin pitch check)

OCR

Inspection based on text, numbers, or dates

This tool detects whether the text/date on the target being inspected matches the text/date information in the registered master image.



(Expiration date-based inspection)

Color/brightness prohibit NEW

Inspection based on target position

By analyzing the color or brightness of a target within a specified area, it is now possible to check for position and misalignment.

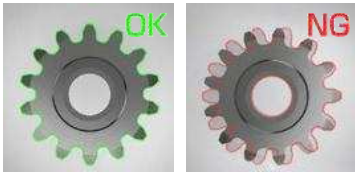
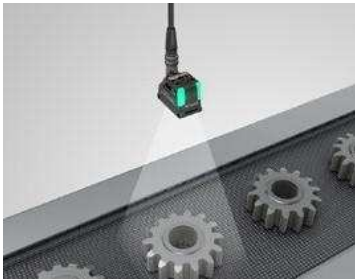


(Sticker alignment detection)

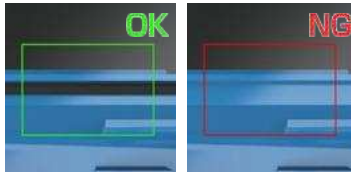
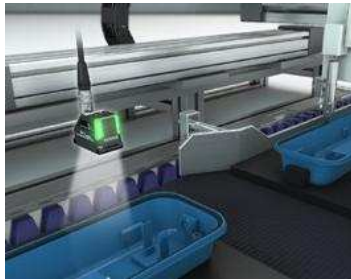
Applications

AUTOMOTIVE & METAL

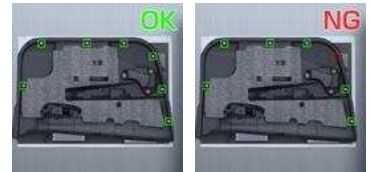
Gear teeth count



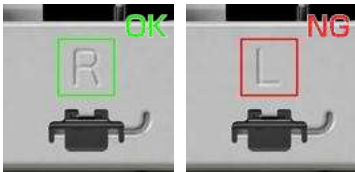
Adhesive application check



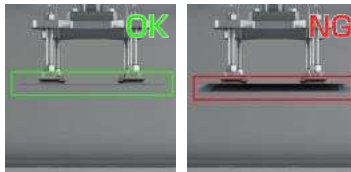
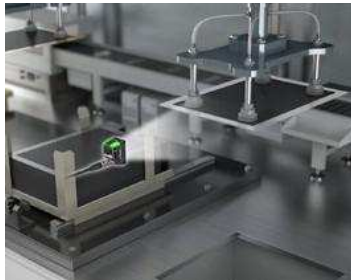
Instrument panel clip presence



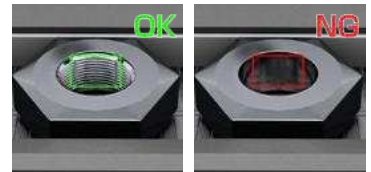
Stamping-based product difference check



Double blank material sheet detection

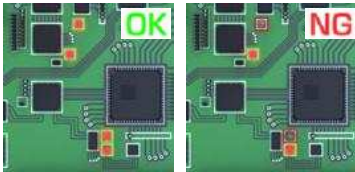


Processing-based metal component difference check



ELECTRONICS

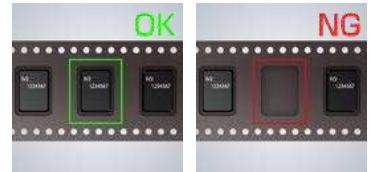
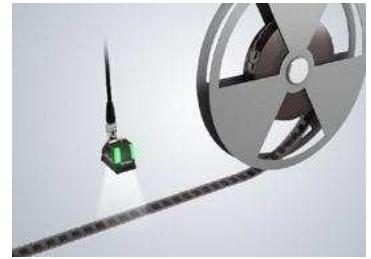
LED lighting check



Connector pin breakage check



Electronic component presence/ orientation difference check

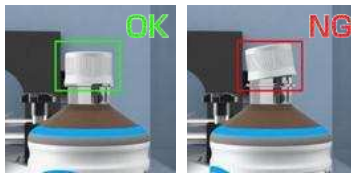


FOOD & PHARMACEUTICAL

Expiration date print check



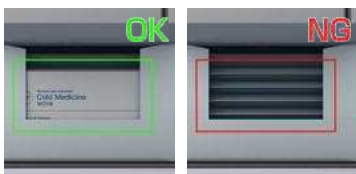
Cap tightening check



Label type differentiation



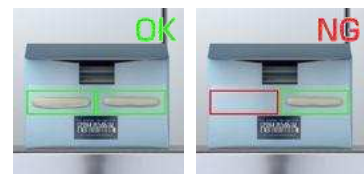
Text presence



Sealing tape presence

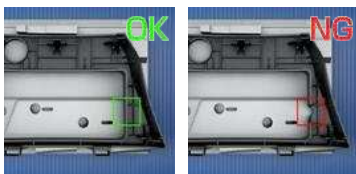


Hot melt presence



RESIN & RUBBER

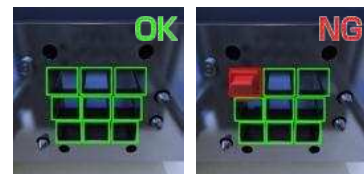
Molded product form check



Mark detection on tires

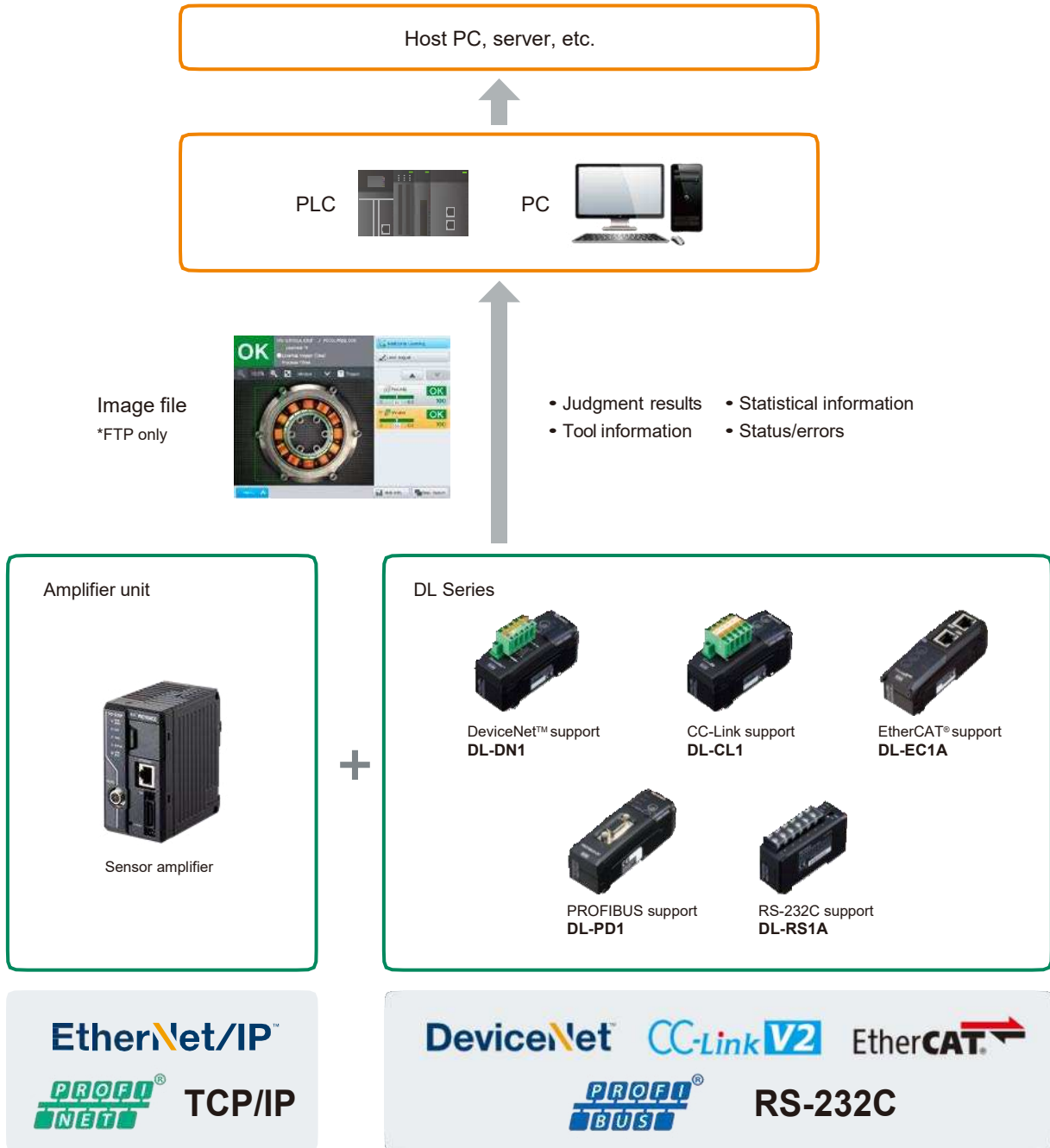


Residual molding in machine check



Network compatibility

Connect the IV2 Series to a communication unit for global communication standard support. Connecting to a PLC, host PC, or other device makes it possible for users to read or write individual parameters. The included FTP client function can also be used for transferring image data to an FTP server. Connecting the sensor to the overall device/line network provides various benefits including simplified wiring, centralized data management, and paperless control.



*EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

*DeviceNet™ and EtherNet/IP™ are a registered trademark or a trademark of ODVA.

*CC-Link is a registered trademark or a trademark of Mitsubishi Electric Corporation.

High-performance amplifier

SD card port for extended amplifier functionality

Support for up to 128 programs and multi-product production lines

Using an SD card with the IV2 Series enables up to 128 programs (compared with 32 without an SD card). This provides usability for multi-product production lines.

Image data storage

The SD card can also be used to save image data. Easily manage a database of image data history even in environments without an FTP server.



High-reliability industrial SD card

KEYENCE provides highly reliable SLC-type* SD cards.

The cards are ideal for saving essential configuration programs and for saving images for traceability.



Industrial specification
SD card (16 GB) **CA-SD16G**
(4 GB) **CA-SD4G**

*SLC
With SLC (single level cell) cards, each bit of data is recorded into a single cell. This ensures high-quality data storage.

MLC
With MLC (multiple level cell) cards, multiple bits of data are recorded into a single cell. Because midpoint potential is used, MLC cards are not as reliable or as efficient at power consumption as SLC cards.

SD card	Number of programs	Image data transfer capacity (typical example)
16 GB	128 (32 + 96)	Approx. 156000 images*
4 GB	128 (32 + 96)	Approx. 39000 images*
No card	32	—

* Extended programs: Not used
File size varies depending on the image when using JPEG format.

IV2-Navigator software IV2-H1

IV2-Navigator allows users to configure IV2 Series settings and to check the status of operations from a PC rather than from just the control panel (IV2-CP50).

Setup flow shows the current step at a glance

Captured image

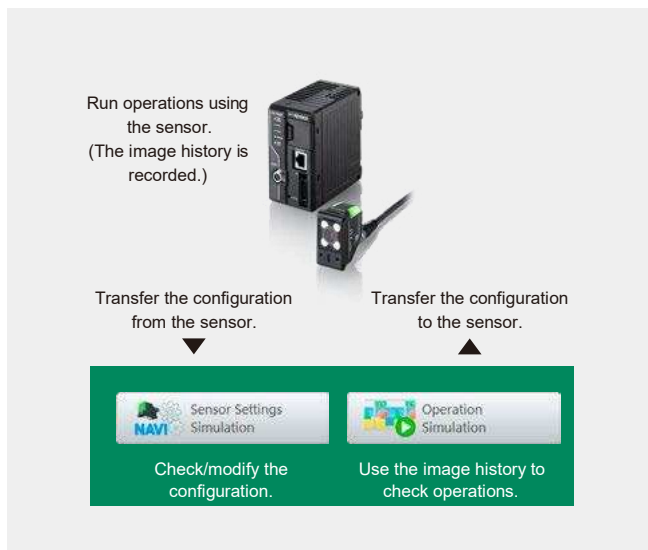


Parameter setup fields show the current value

Click and interact directly with parameter settings

Simulation function

This function allows users to modify program settings and perform operation simulations based on the image history without connecting to the sensor. This allows optimization through additional learning or threshold adjustment, even when away from the actual worksite.



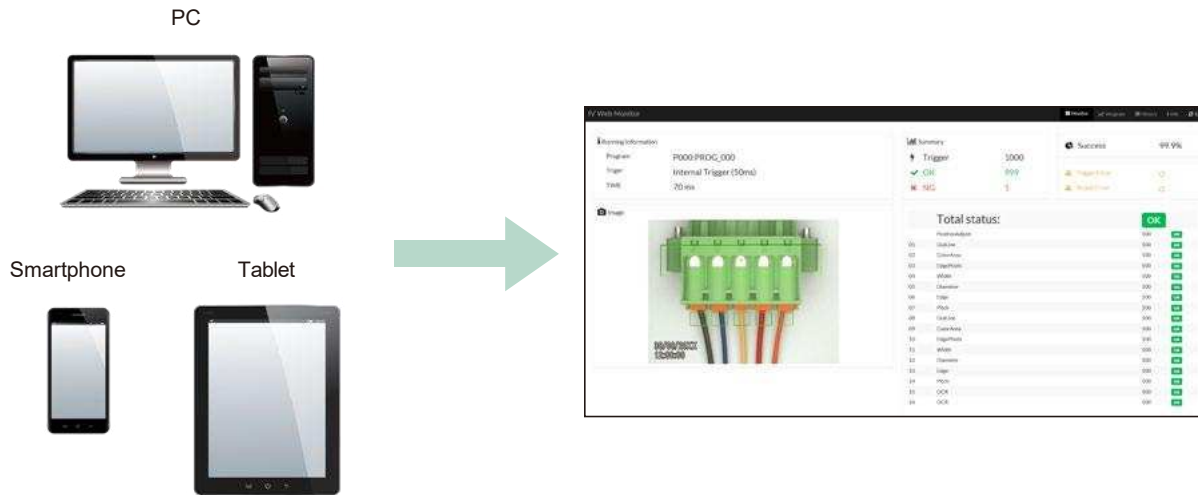
Rerun all tests button

Operation screen display

OK/NG count

Web Monitor function NEW

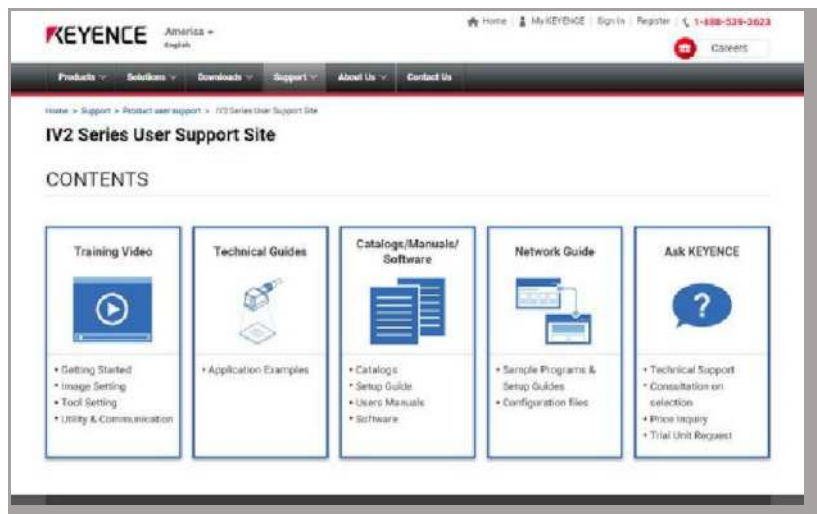
The Web Monitor function allows users to check the operation screen, judgment results, statistical information, and histograms of a network-connected IV2 Series device. This function also enables image history review, which can be useful for monitoring production line conditions at remote locations.



User support site

This is a dedicated informational site that contains answers to questions such as, "How can I use the IV2 Series?", "What should I do when a problem occurs?", and "What do people in other industries do?" This site is designed not only for people who are considering purchasing the IV2 but also current users.

www.keyence.com/iv2-support



Specifications

Sensor head

Model	IV2-G500CA	IV2-G500MA	IV2-G150MA	IV2-G300CA	IV2-G600MA
Type	Standard model		Narrow field of view sensor model	Wide field of view sensor model	
Reference distance	20 to 500 mm 0.79" to 19.69"		40 to 150 mm 1.57" to 5.91"	40 to 300 mm 1.57" to 11.81"	40 to 600 mm 1.57" to 23.62"
Field of view	Installation distance of 20 mm 0.79" : 10 (H) × 7.5 (V) mm 0.39" (H) × 0.30" (V) to Installation distance of 500 mm 19.69" : 200 (H) × 150 (V) mm 7.87" (H) × 5.91" (V)		Installation distance of 40 mm 1.57" : 8(H)×6(V)mm 0.31"(H)×0.24"(V) to Installation distance of 150 mm 5.91" : 32(H)×24(V)mm 1.26"(H)×0.94"(V) ¹	Installation distance of 40 mm 1.57" : 42(H)×31(V)mm 1.65"(H)×1.22"(V) to Installation distance of 300 mm 11.81" : 275(H)×206(V)mm 10.83"(H)×8.11"(V)	Installation distance of 40 mm 1.57" : 42(H)×31(V)mm 1.65"(H)×1.22"(V) to Installation distance of 600 mm 23.62" : 550(H)×412(V)mm 21.65"(H)×16.22"(V)
Image receiving element	1/3 inch color CMOS	1/3 inch monochrome CMOS	1/3 inch monochrome CMOS	1/3 inch color CMOS	1/3 inch monochrome CMOS
Number of pixels	752 (H) × 480 (V)				
Focus adjustment	Automatic ²				
Exposure time	1/10 to 1/50000		1/20 to 1/50000	1/25 to 1/50000	1/50 to 1/50000
Lights	illumination	White LED			Infrared LED
Lighting method	Switchable between pulse lighting and DC lighting			Pulse lighting	
Indicators	2 (the same display details for both indicators)				
Environmental resistance	Ambient temperature	0 to +50°C 32 to 122°F (No freezing)			
	Relative humidity	35 to 85% RH (No condensation)			
	Vibration ³	10 to 55 Hz; double amplitude 1.5 mm 0.06" ; 2 hours in each of the X, Y, and Z directions			
	Shock resistance ³	500 m/s ² 1640.4/g ² , 6 times in each of the 3 directions			
Enclosure rating ⁴	IP67				
Material	Main unit case: Zinc die-casting, Front cover: Acrylic (hard coat), Operation indicator cover: TPU				
Weight	Approx. 75 g				

¹ When using the magnifying lens attachment (OP-87902): 4 (H) × 3 (V) mm **0.16" (H) × 0.12" (V)** (at installation distance of 18 mm **0.71"**) to

7 (H) × 5.2 (V) mm **0.28" (H) × 0.20" (V)** (at installation distance of 27 mm **1.06"**)

² The focus position can be automatically adjusted at the time of installation. This function is deactivated during operation. A different focus position can be registered for each program.

³ Except when the IV2 dome attachment (IV2-GD05/IV2-GD10) is mounted.

⁴ Except when the polarized light filter attachment (OP-87899/OP-87900/OP-87901) or the magnifying lens attachment (OP-87902) is mounted.

Sensor amplifier

Model	IV2-G30F	IV2-G30
Type	Learning/standard type	Standard type
Tools	Available modes	Learning mode / Standard mode
	Standard mode built-in tools	Outline, Color area ¹ , Area ² , Edge pixels, Color average ¹ , Brightness average ² , Width, Diameter, Edge presence, Pitch, OCR, Color/brightness prohibit, Position adjustment, High-speed position adjustment (1-axis edge/2-axis edge)
	Number of tools ³	Detection tools: 16 tools, position adjustment tool: 1 tool
Switch settings (programs)	128 programs (when using SD card) / 32 programs (when not using SD card)	
Image history ⁴	Number of storable images	1000 images
	Save conditions	Selectable between NG only, NG and OK near threshold ⁵ , and All
Image data transfer	Transfer destination	Selectable between SD card and FTP server
	Transfer format	Selectable between bmp, jpeg, iv2p, and txt
	Transfer conditions	Selectable between NG only, NG and OK near threshold ⁵ , and All
Analysis information ⁶	RUN display	Tools list (Judgment results, degree of similarity, or degree of similarity bar display)
	RUN information	Switchable between OFF, histogram, processing time, count, and output monitor Histograms: Histogram, degree of similarity (Max., Min., Ave.), Number of OKs, Number of NGs Processing time: Processing time (latest, Max., Min., Ave.), Image capture interval (latest, Max., Min., Ave.) Count: Trigger numbers, Number of OKs, Number of NGs, Trigger errors, Strobe errors Output monitor: ON/OFF status by output
Other functions	Image capture function	Image buffer, Image capture range, Digital zoom (2×, 4×), HDR, High gain, Color filter ¹ , White balance ¹ , Brightness correction
	Tool functions	Learning mode: Additional learning Standard mode: Mask outline, Masking function, Color extraction/exclusion ¹ , Color histogram function ¹ , Monochrome histogram function ² , Scaling function
	Utilities	Failing sensor list, Failure hold, Test run, I/O monitor, Security settings, Simulator ⁷
Indicators	PWR/ERR, OUT, TRIG, STATUS, LINK/ACT, SD	
Input		Switchable between non-voltage input and voltage input 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)
	Number of inputs	8 (IN1 to IN8)
	Function	IN1: External trigger, IN2 to IN8: Enable by assigning optional functions Assignable functions: Program switching, Clear error, External master image registration, SD card save cancel
Output		Open collector output: NPN/PNP switchable, N.O./N.C. switchable For open collector NPN output: Maximum rating of 26.4 V, 50 mA, residual voltage of 1.5 V or less For open collector PNP output: Maximum rating of 26.4 V, 50 mA, residual voltage of 2 V or less
	Number of outputs	8 (OUT1 to OUT8)
Function	Enable by assigning optional functions Assignable functions: Total judgment (OK/NG), Run, Busy, Ready, Strobe, Position adjustment result, Judgment result of each tool, Result of the logical operation of each tool, Error, SD card error	
Ethernet	Standard	100BASE-TX/10BASE-T
	Connector	RJ45 8-pin connector
Network function	FTP client, SNTTP client	
Interface compatibility	Built-in Ethernet	EtherNet/IP™, PROFINET, TCP/IP non-procedure communication
	Communication unit ⁸	EtherCAT®, CC-Link, DeviceNet™, PROFIBUS, RS-232C
Expanded memory	SD card (SD/SDHC) ⁹	
Rating	Power voltage	24 VDC ±10% (including ripple)
	Current consumption	1.8 A or less (including communication unit and output load)
Environmental resistance	Ambient temperature	0 to +50°C 32 to 122°F (No freezing)
	Relative humidity	35 to 85% RH (No condensation)
Material	Main unit case: PC, Power connector: PA/POM, I/O connector: PA, Sensor head connector: Zinc + Ni plating/PA, Ethernet connector: Copper alloy + Ni plating, Main unit rear heat sink: Aluminum, Main unit rear DIN rail fixing tab: POM, Nameplate: PC	
Weight	Approx. 330 g	

¹ Color type only. ² Monochrome type only. ³ Tools can be installed by programs.

⁴ Saves to the sensor amplifier's internal memory. The images saved to the sensor amplifier can be backed up to a USB memory stick inserted into the control panel (IV2-CP50) or to the PC where the software for the IV2 Series (IV2-H1) is being used.

⁵ Learning mode only. ⁶ Can also be displayed on the control panel (IV2-CP50) or the software for the IV2 Series (IV2-H1). ⁷ Usable on the software for the IV2 Series (IV2-H1).

⁸ When a communication unit (DL Series) is connected. ⁹ Use only products recommended by KEYENCE.

Control Panel

Model		IV2-CP50
Compatible series		IV2 Series, IV Series
Display panel		5.7" TFT color LCD, 640 × 480 (VGA)
Backlight	Method	White LED
	Duration	Approx. 50000 hours (25°C 77°F)
Touch panel	Method	Analog resistive
	Actuating force	0.8 N or less
Indicators		PWR, SENSOR
Ethernet*1	Standard	100BASE-TX/10BASE-T
	Connector	M12 4-pin connector
Languages*2		English / Japanese / German / Chinese (Simplified) / Chinese (Traditional) / Korean / Italian / French / Spanish / Portuguese / Czech / Hungarian / Polish
Expanded memory		USB memory*3
Rating	Power voltage	24 VDC ±10% (including ripple)
	Current consumption	0.3 A or less
Environmental resistance	Ambient temperature	0 to +50°C 32 to 122°F (No freezing)
	Relative humidity*4	35 to 85% RH (No condensation)
	Vibration	10 to 55 Hz; double amplitude 0.7 mm 0.03"; 2 hours in each of the X, Y, and Z directions
	Drop impact resistance	1.3 m 4.3' onto concrete (2 times in an arbitrary direction)
	Enclosure rating	IP40
Material		Main unit case: PC, Power connector: Brass + Ni plating, Ethernet connector: Zinc + Ni plating / PA, USB connector cover: EDPM, Pen holder: PC, Adapter fixing hook: POM, LED lamp cover: PC, Mounting adapter: PC, Stylus: POM
Weight		Main unit: Approx. 450 g With wall mounting adapter and stylus attached: Approx. 485 g

*1 Dedicated for use in connecting to the IV2 Series and IV Series.

*2 When connected to the IV2 Series. When connected to the IV Series, the supported languages are the same as the IV-M30.

*3 Use only products recommended by KEYENCE.

*4 If the ambient operating temperature exceeds 40°C 104°F, use the product under conditions where the absolute humidity is 85% RH or less at 40°C 104°F.

PC software

Model		IV2-H1
Compatible series		IV2 Series, IV Series
Included software		IV2 Series: IV2-Navigator, IV Series: IV-Navigator
System requirements	Interface	Equipped with an Ethernet (100BASE-TX) interface
	OS*1	Windows 10 Home/Pro/Enterprise Windows 7 (SP1 or higher) Home Premium/Professional/Ultimate Either of the OS above needs to be pre-installed
	Languages*2	English / Japanese / German / Chinese (Simplified) / Chinese (Traditional) / Korean / Italian / French / Spanish / Portuguese / Czech / Hungarian / Polish
	Processor	Compliant with OS system requirements
	Memory capacity	4 GB or more
	Required capacity for installation	4 GB or more
	Monitor	Resolution: 1024 × 768 pixels or higher, Display color: High Color (16 bit) or higher
	Operating conditions	.NET Framework 4.5.2 or later installed*3 Microsoft Visual C++ 2015 Redistribution Package Update 3 or later installed*3

*1 32-bit and 64-bit versions supported.

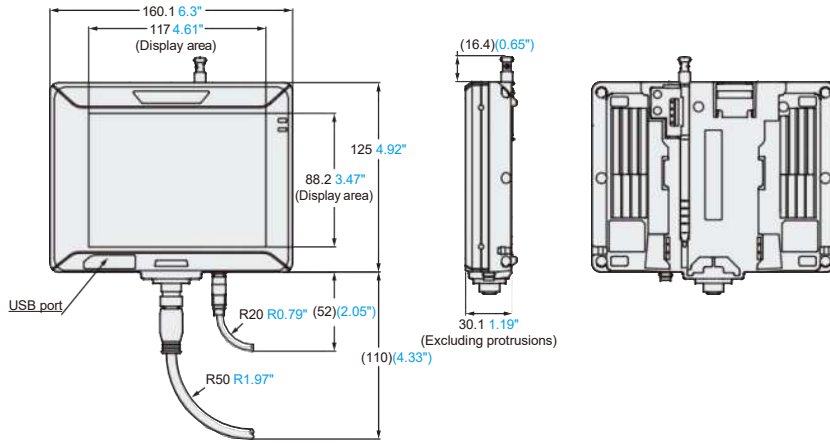
*2 When connected to the IV2 Series. When connected to the IV Series, the supported languages are the same as the IV-H1.

*3 .NET Framework 4.5.2 will be automatically installed during IV2-H1 installation if .NET Framework 4.5.2 or later version is not installed.

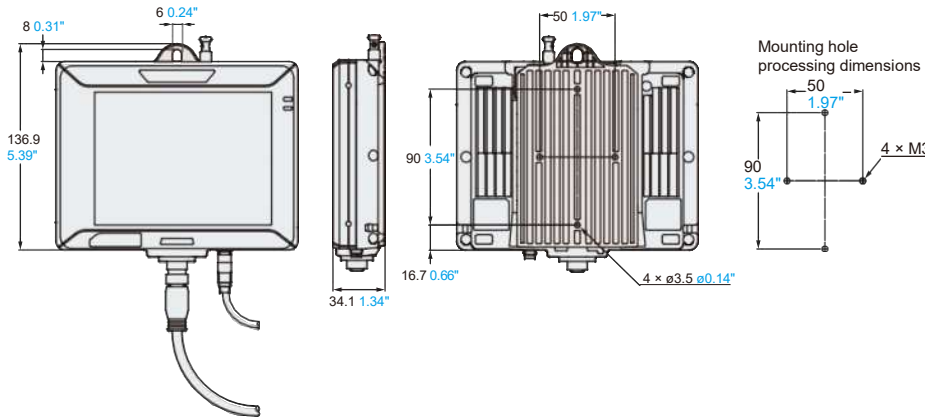
*IV-Navigator starts when the IV Series is connected.

Control panel IV2-CP50

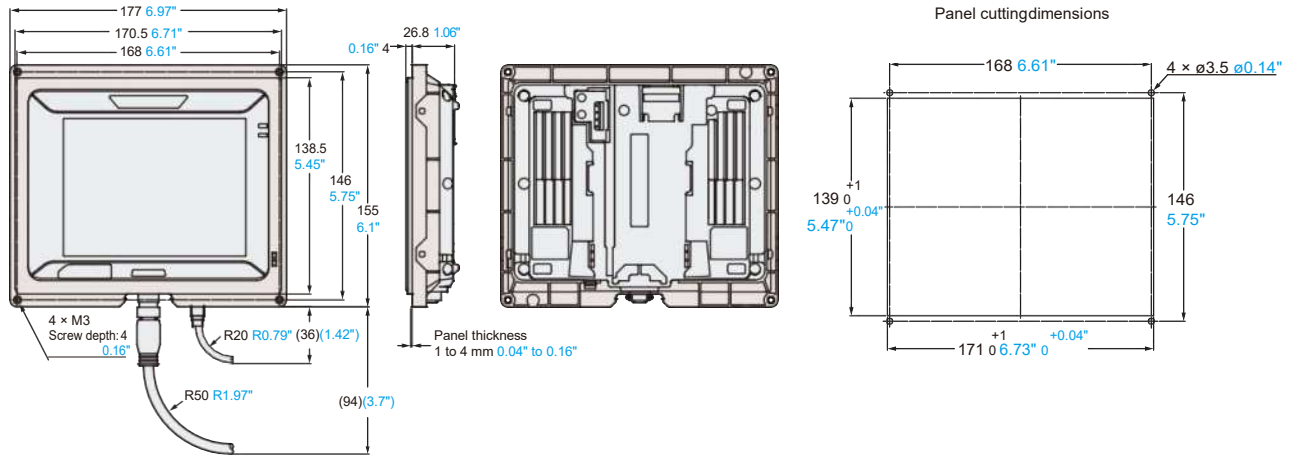
Unit: mm inch



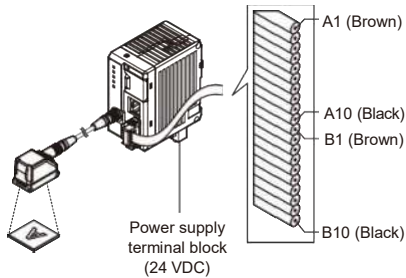
When using the wall mounting adapter



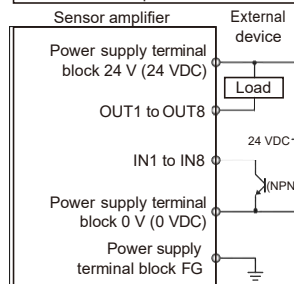
When using the control panel mounting adapter



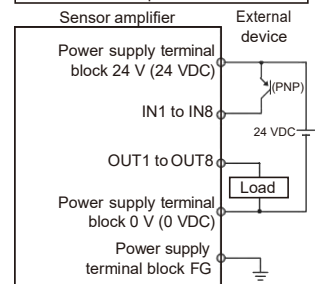
Wiring example



NPN output selected

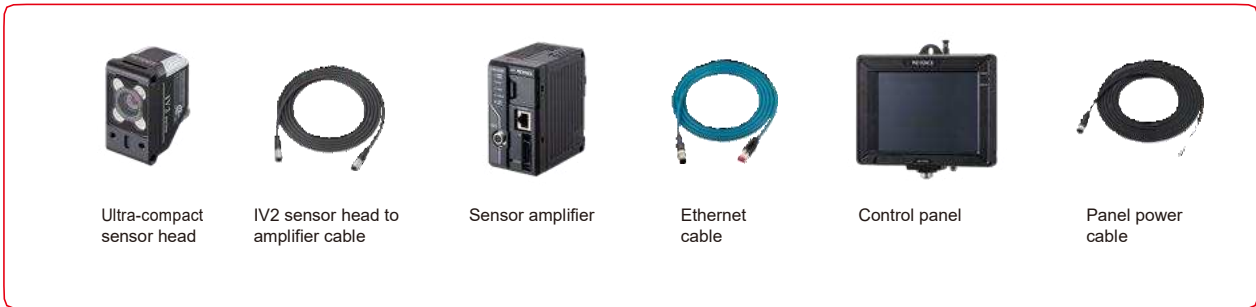


PNP output selected



Component List

IV2 standard system



Sensor head

Ultra-narrow field of view sensor model (with attachment)



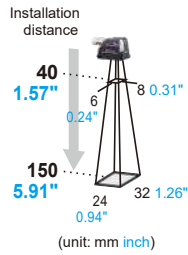
Monochrome AF type
IV2-G150MA
+
Magnifying lens attachment
OP-87902



Narrow field of view sensor model



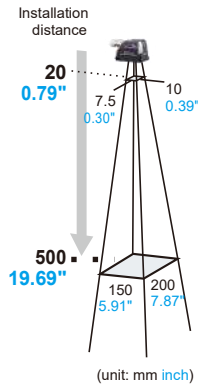
Monochrome AF type
IV2-G150MA



Standard model



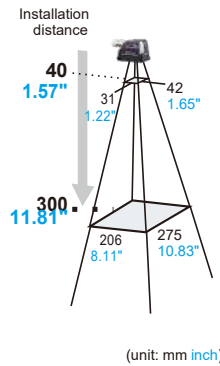
Color AF type
IV2-G500CA
Monochrome AF type
IV2-G500MA



Wide field of view sensor model (Color)



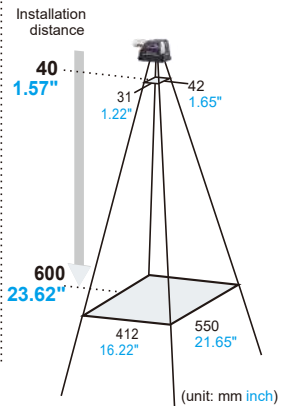
Color AF type
IV2-G300CA



Wide field of view sensor model (Monochrome)



Monochrome AF type
IV2-G600MA



AF...Automatic focus model

* View and optical axis have individual differences.

* If a wider field of view or longer range is required, please contact your nearest KEYENCE sales office.

Countermeasures against glare



IV2 dome attachment (large)
IV2-GD10



IV2 dome attachment (small)
IV2-GD05

Polarized light filter



attachment for narrow field of view & standard models
OP-87899

Polarized light



filter attachment for IV2-G300CA
OP-87900

Polarized light



filter attachment for IV2-G600MA
OP-87901

Attachment

Magnifying lens



attachment for IV2-G150MA
OP-87902

Mounting brackets



IV2 vertical mounting bracket
OP-87908



IV2 rear mounting bracket
OP-87909



IV2 adjustable bracket
OP-87910



Ethernet cable
(M12 4-pin - RJ-45)
NFPA79-compatible

Straight cable

OP-87907 (1 m 3.3')
OP-87457 (2 m 6.6')
OP-87458 (5 m 16.4')
OP-87459 (10 m 32.8')

Right angle cable

OP-88042 (1 m 3.3')
OP-88043 (2 m 6.6')
OP-88044 (5 m 16.4')
OP-88045 (10 m 32.8')



Panel power cable
(M8 4-pin - strand wire)
OP-87443 (2 m 6.6')
OP-87444 (5 m 16.4')
OP-87445 (10 m 32.8')

Optional panel accessories



Control panel
IV2-CP50



Wall mounting adapter
OP-88349
(Included with IV2-CP50)



Touch panel protective
sheet
OP-88351

USB memory stick
(1 GB)
OP-87502



Control panel mounting
adapter
OP-88350



Stylus
OP-88352
[Included with IV2-CP50]



Ultra-compact
sensor head



IV2 sensor head to
amplifier cable
OP-87903 (2 m 6.6')
OP-87904 (5 m 16.4')
OP-87905 (10 m 32.8')



Sensor amplifier
Learning/
standard mode
IV2-G30F



Sensor amplifier
Standard mode
IV2-G30

EtherNet/IP™
PROFIBUS®
TCP/IP



LAN cable
(RJ-45 - RJ-45)
OP-87950 (1 m 3.3')
OP-87951 (3 m 9.8')
OP-87952 (5 m 16.4')
OP-87953 (10 m 32.8')



Software for
the IV2 Series
IV2-H1

* When connecting to a PC, the IV2-H1
software and a LAN cable are also required.



SD card, 16 GB
CA-SD16G
4 GB
CA-SD4G

I/O

IV2
I/O cable (3 m 9.8')
OP-87906



DL Series



DeviceNet™ support
DL-DN1

DeviceNet™



CC-Link support
DL-CL1

CC-Link V2



EtherCAT® support
DL-EC1A

EtherCAT®



PROFIBUS support
DL-PD1

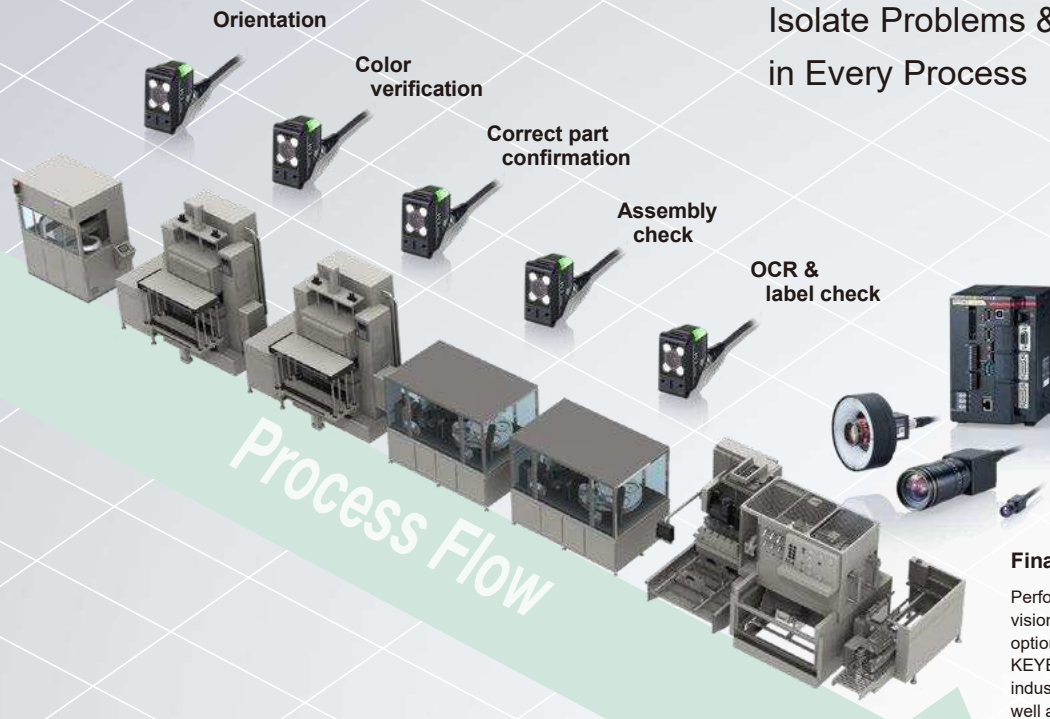
PROFIBUS®



RS-232C support
DL-RS1A

RS-232C

Use "Sensor-Like" IV2 Series to Isolate Problems & Improve Yield in Every Process



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Perform final inspection with KEYENCE vision systems. Featuring resolution options ranging from VGA to 21MP, KEYENCE machine vision employs both industry standard camera inspections as well as KEYENCE developed techniques.

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SAFETY INFORMATION
 Please read the instruction manual carefully in order to safely operate any KEYENCE product.

CONTACT YOUR NEAREST OFFICE FOR RELEASE STATUS

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