KEYENCE

Vision System with Built-in AI

NEW VS Series

Delivers the Fastest Set-up Time for All Vision System Users

WORLD'S FIRST **ZoomTrax**

Fully adjustable field of view and resolution with just a single click.

A game-changing vision system for all vision users

Best image **with a single click**

ZoomTrax

Select the optimal tool **any time**

Edge AI × Rule-based system

Program any inspection **quickly**

Newly developed software VS Creator

Real-time data visualisation

Vision Dashboard

Smart camera lineup

Vision System
with Built-in AI
NEW **VS Series**

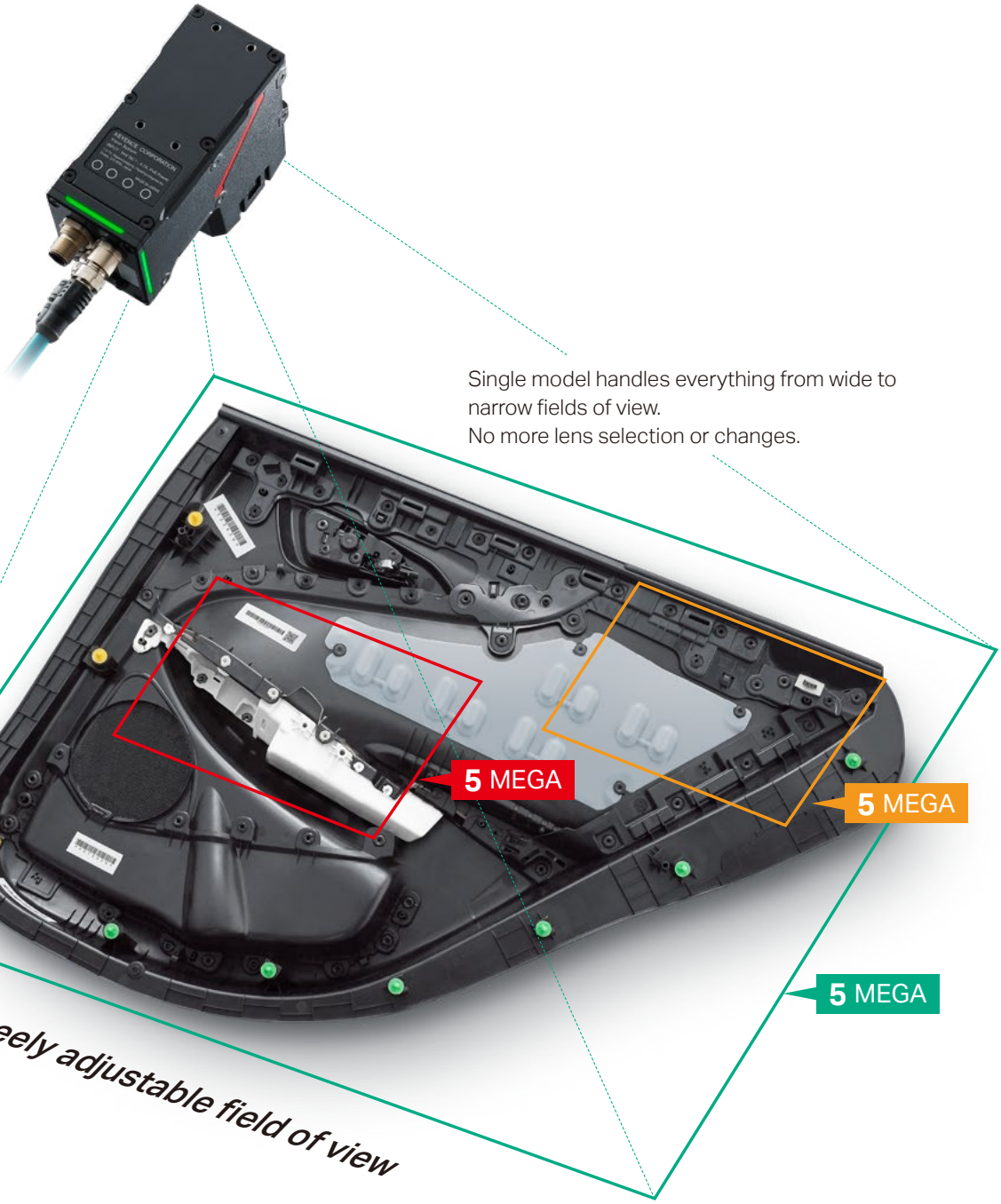
Standard zoom
smart camera
VS-L

Short-range zoom
smart camera
VS-S

C-mount
smart camera
VS-C

Image optimisation used to require a great amount of time and skill.

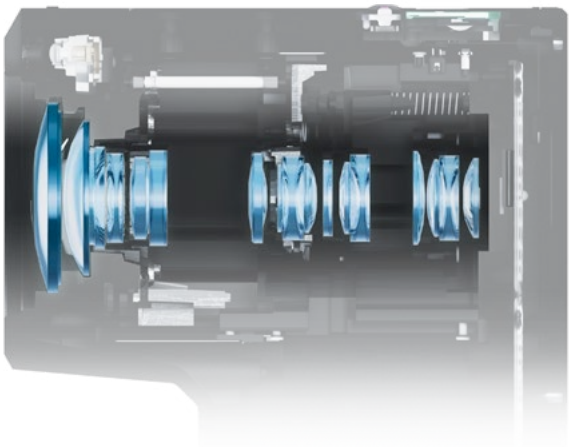
Adjust focus and field of view with one click



See the video for more information

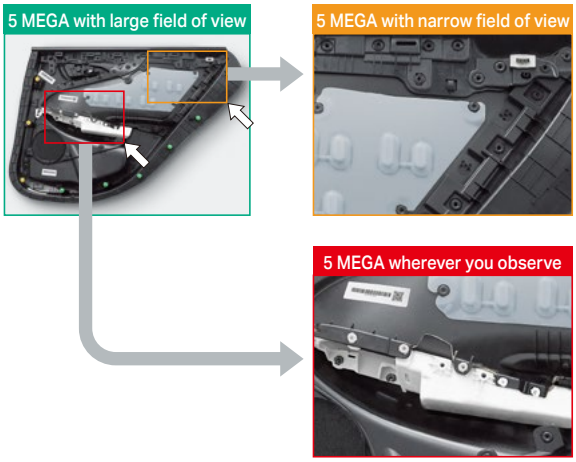
Optical zoom with no loss in resolution: ZoomTrax

A series of mechanical zoom lenses allows a single camera to be used across a wide range of mounting distances and fields of view without changing lenses. Customised CMOS sensors are available from 1.6 to 15 MP. By integrating a series of 19 lenses and a CMOS sensor, the VS Series realises high-grade optical performance with minimal distortion.



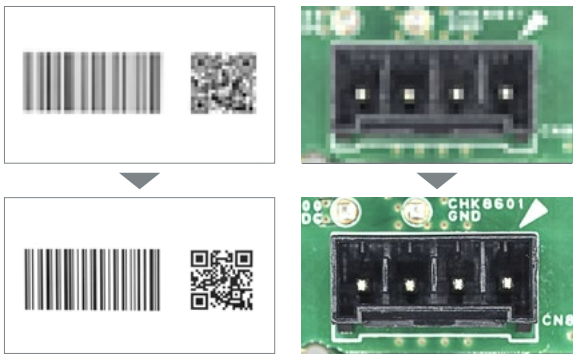
Simply specify the area to get the best field of view and resolution

Using optical zoom, the VS can easily change the field of view without sacrificing resolution. All adjustments can be completed from the software. No mechanical changes necessary!



Optimised images for robust inspections

The VS Series utilises a unique auto-focus algorithm to create the best image.
This optimises images for code reading, measurement, and flaw detection applications that require high resolution.

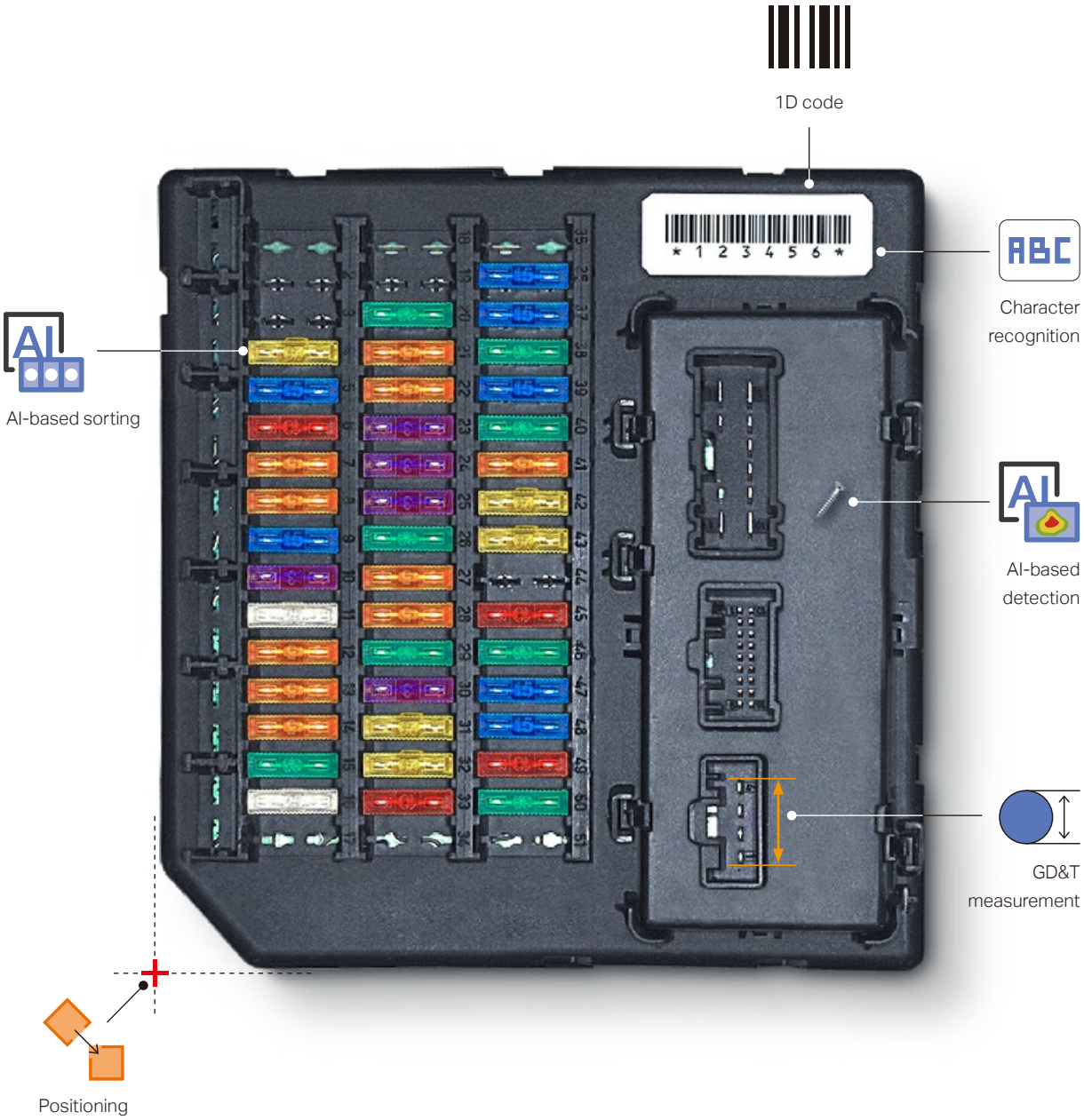


Select the optimal tool **any time**

Edge AI × Rule-based system

AI and rules-based systems both have pros and cons.
Having only one option limits capability.

Use both AI and rules-based tools on the same image

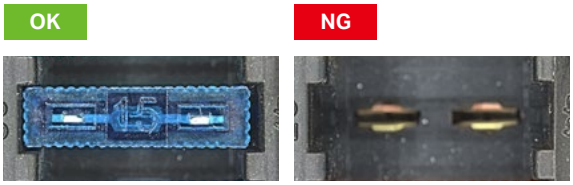


See the video for more information

Choose from two built-in Edge AI Tools

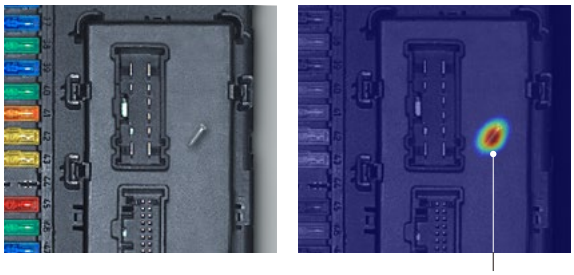
The VS Series offers two easy-to-use AI tools that can be used by teaching images.

Specialising in identification and detection
AI Classification



Simply register an OK product and an NG product

Detecting tiny defects
AI Detection



Defects are flagged on the heat map

Features of Edge AI

Edge AI tools can be programmed with almost any number of images. Unlike typical deep learning tools, Edge AI tools can be applied quickly and easily.

	AI-based sorting	AI-based detection	Typical deep learning
Number of images learned	2 to 5 images	Several to dozens of images	100+ images
Learning time	10 seconds	10 seconds to several minutes	Several hours to days
GPU	Not required	Not required	Required

Proven rules-based tools

Robust detection algorithms. Detection capability can be increased by fine-tuning set parameters.

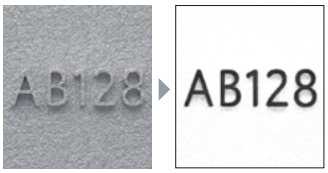
Presence check | Scratches | GD&T measurement | Positioning | Colour inspection | Count | Character recognition | 1D code | 2D code | Calibration

Advanced image and lighting optimisation functions are available

The VS Series offers solutions to on-site issues that software alone cannot handle. Use imaging features such as ZoomTrax's high-resolution images and LumiTrax's lighting techniques along with other functions. The flexible system allows for quick changes with no rework.

LumiTrax

Stamping identification on cast products

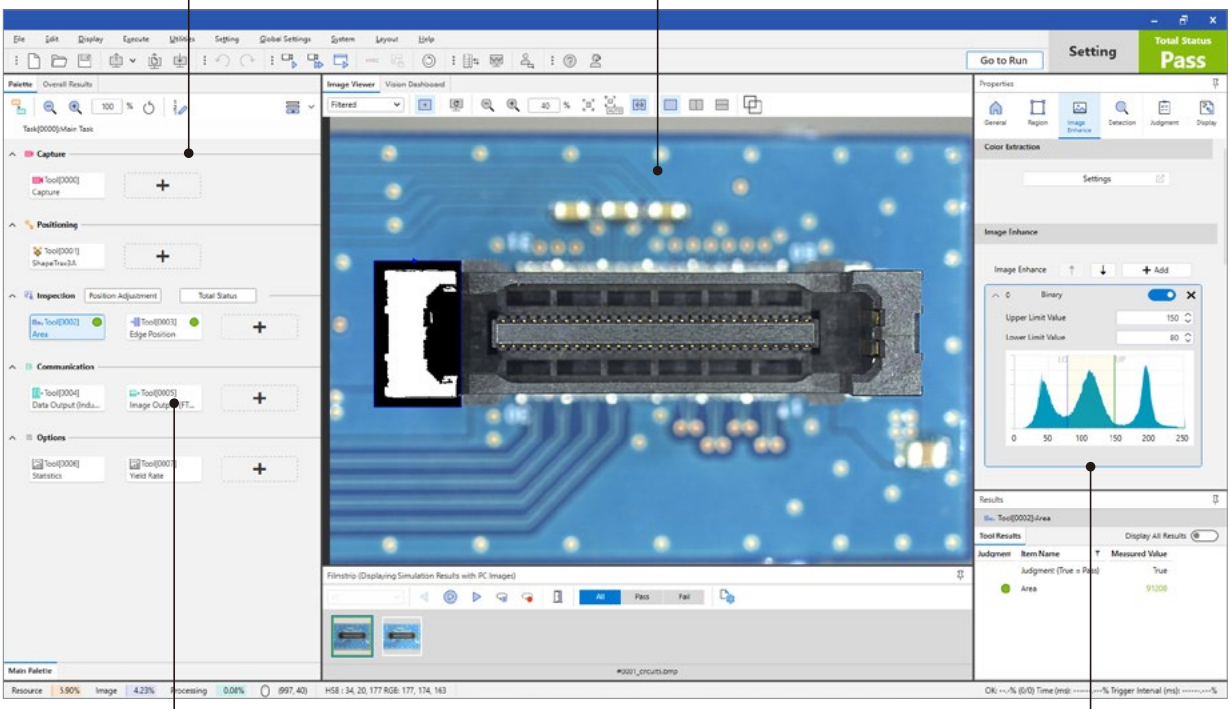


Vision users used to have to choose between software that is easy to use and software that is flexible.

Create both simple and sophisticated inspections in no time using one software package

Intuitive programming
Task View

Easy-to-see
Image View



Easy copy & paste
Shortcut keys available

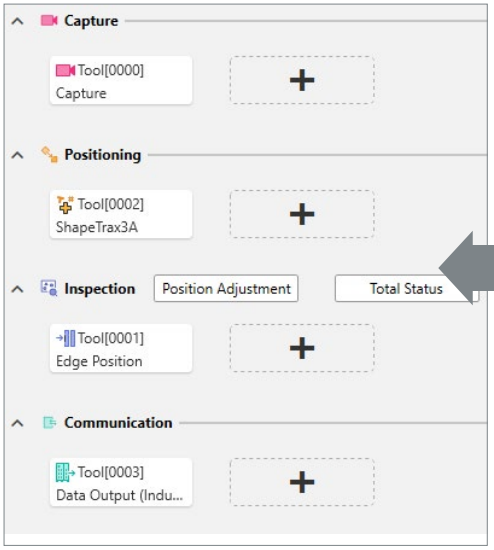
Efficient setup
Properties View

See the video for more information

Capable, flexible, and easy to understand

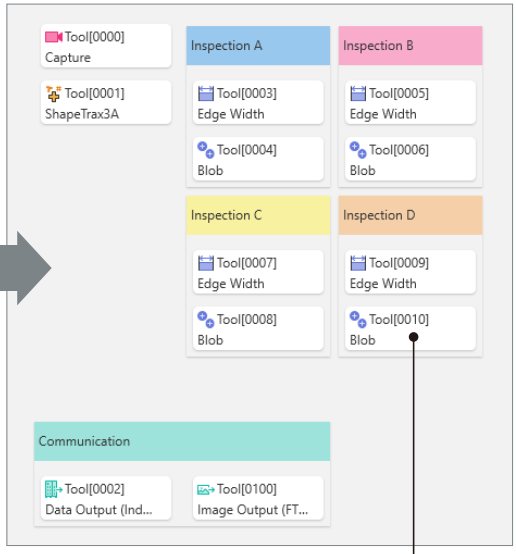
The number of inspection tools needed tends to increase with application complexity. The VS Series keeps it simple and organised.

Step layout made in four steps



Switch anytime

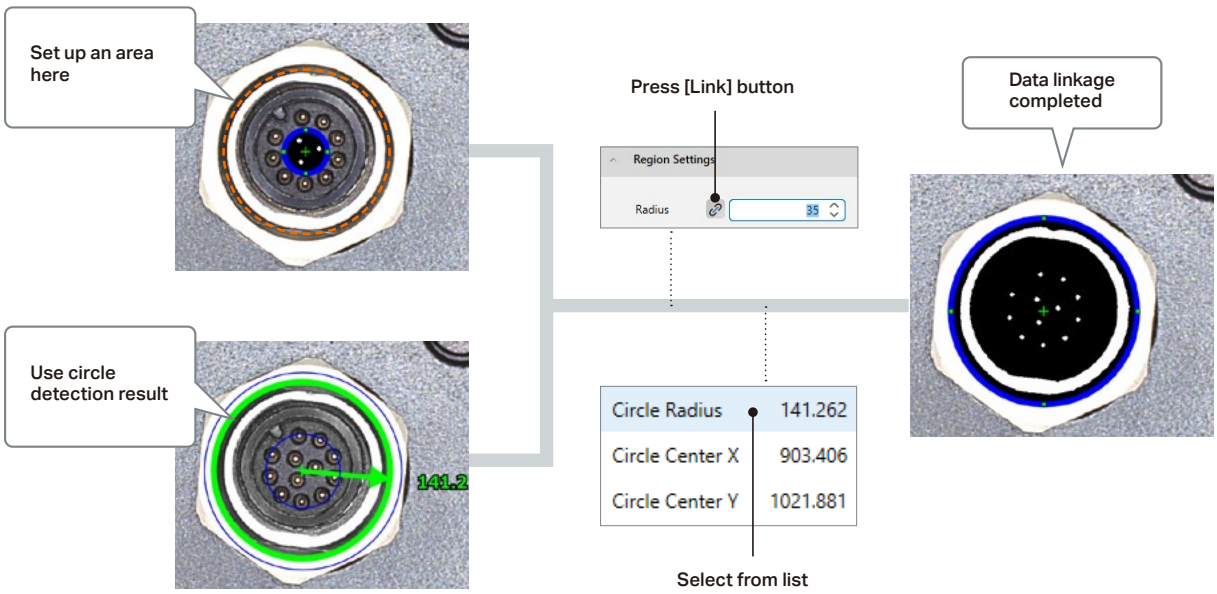
Free layout for easy organisation



Check inspection items at a glance

Link tool results with ease

Create complex inspections by linking tools using conditional formatting.

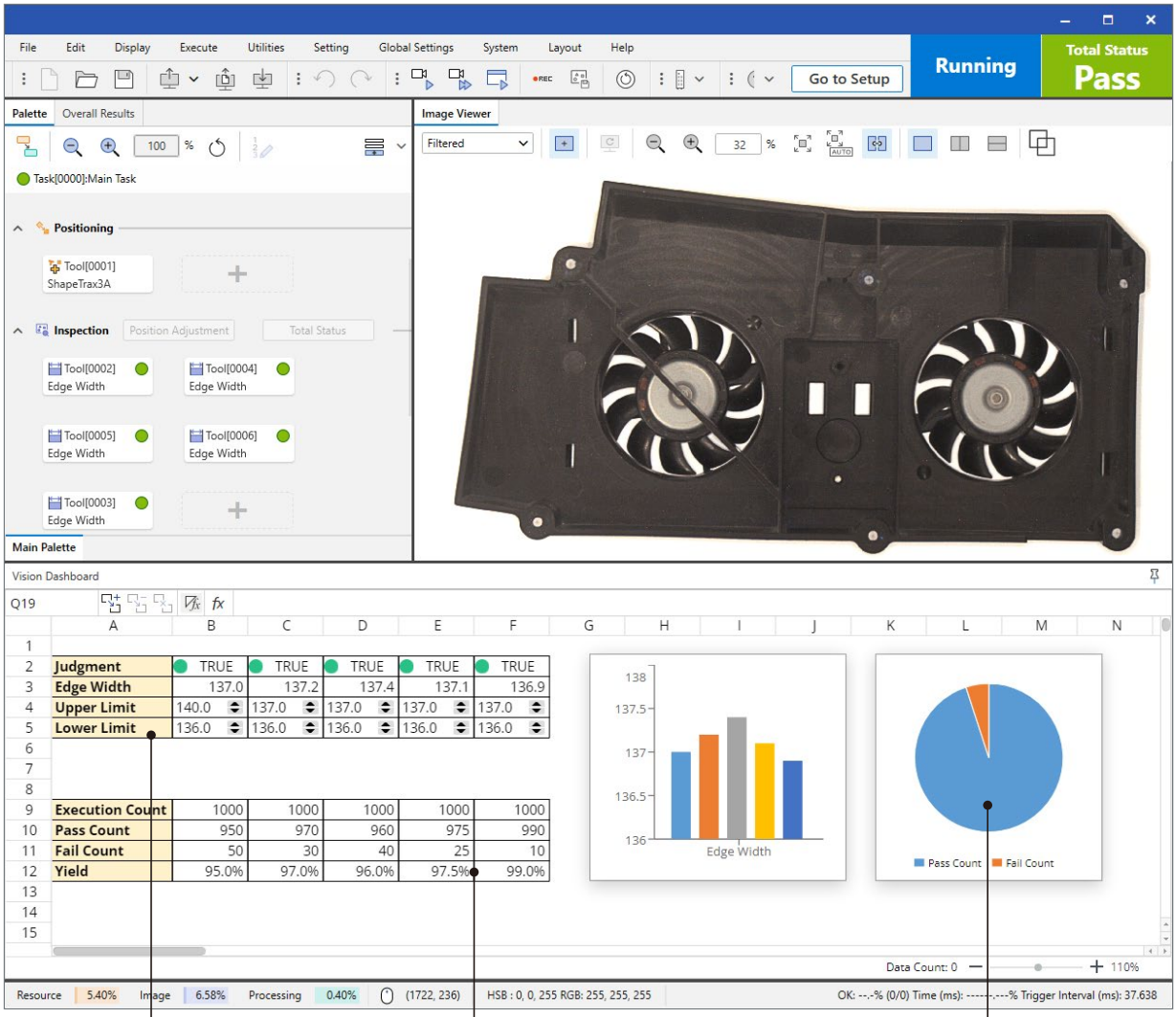


Real-time data visualisation

Vision Dashboard

Specialised knowledge and programming skills were required to make use of image inspection data.

Visualise and analyse data quickly and easily



Lists
for threshold adjustment

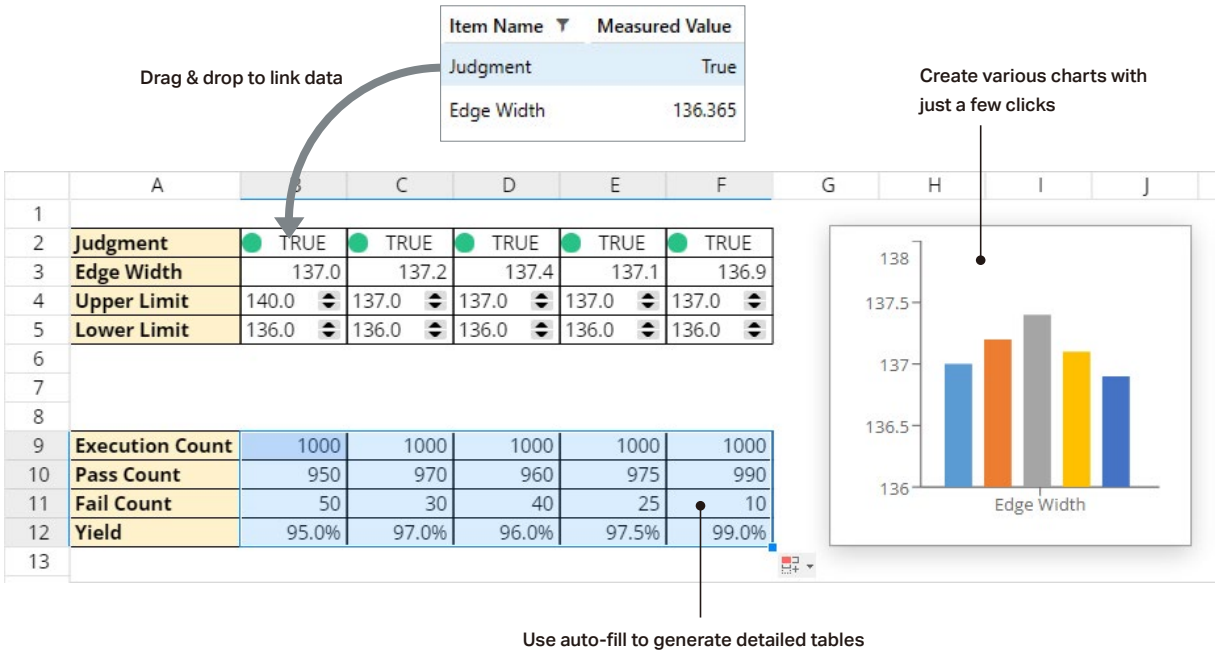
Table format
for yield rate management

Graphs
for quality analysis

See the video for more information

Quickly access necessary data

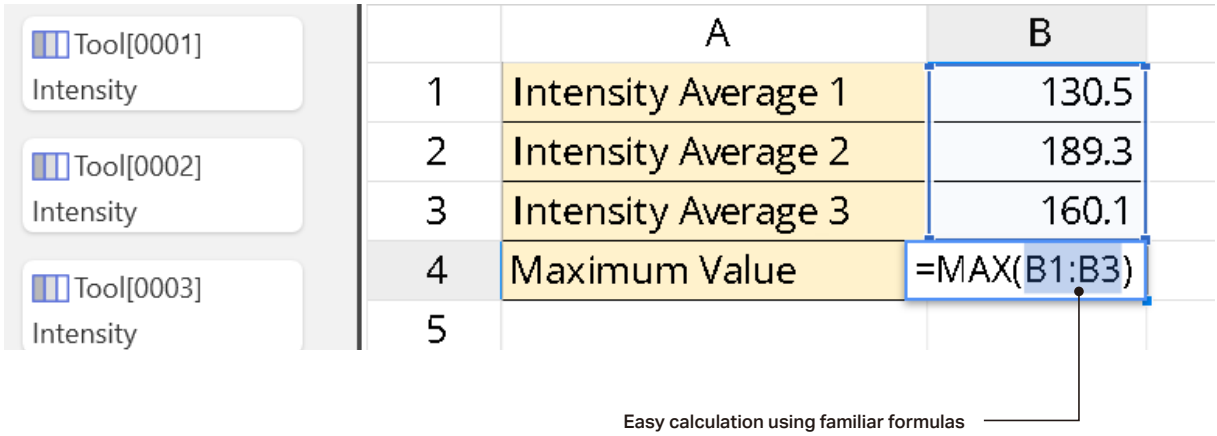
Create lists and graphs in an instant by utilising standard spreadsheet functions.



Quick calculations using selected data

Formulas can be easily applied using the same rules as common spreadsheet software. You can also calculate multiple cells in a batch.

Example Calculating maximum value



Intuitive operation screens for onsite use

Easy operation screen customisation

Custom Screen NEW

Dedicated screens that are easy to use for onsite personnel can improve overall efficiency, but making the screens can take a long time. Custom Screen makes it easy to create intuitive, user-friendly operation screens quickly.

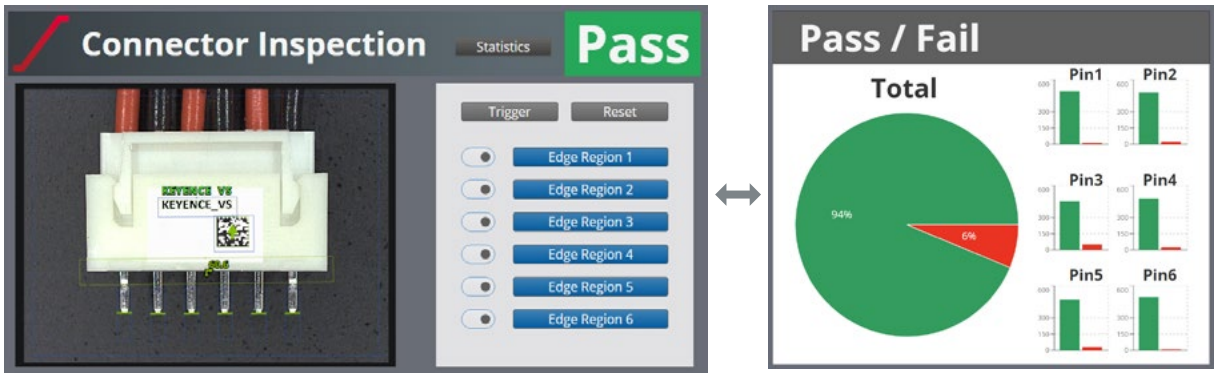
Multiple image processing screens displayed side by side

Customisable graphical component locations

History and NG image displays

Easy-to-view screens for onsite use

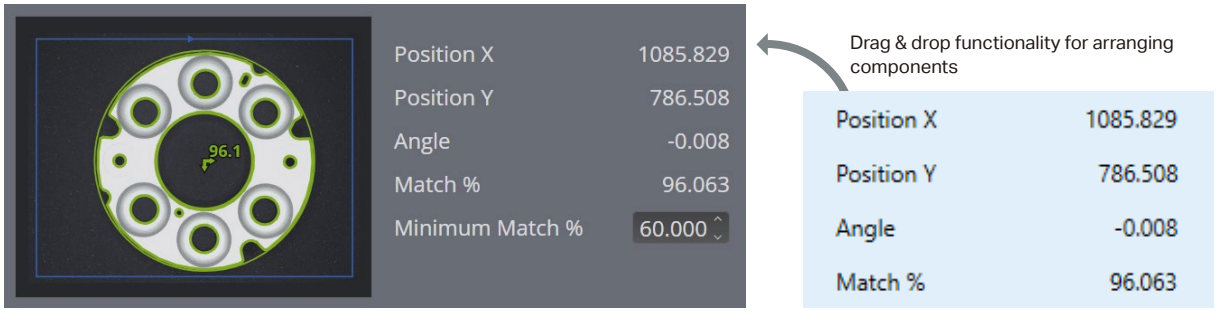
When it comes to factory automation, screens that are clear and easy to read are important. Custom Screen makes it easy to create highly visible components such as buttons, text, and graphs.



Page switching to suit onsite needs

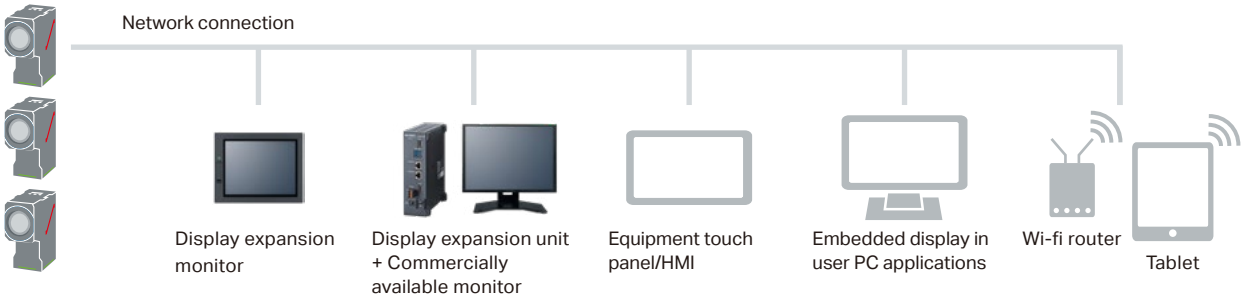
Intuitive screen editing

Values and input boxes can be easily arranged by dragging & dropping or by right-clicking and choosing the desired component. Intuitive PC operations make it easy to bring ideas to life on the screen.



Web-based HMI

Custom operation screens can be used on a wide variety of network-connected display devices. Multiple camera screens can also be displayed on the same device, allowing for a wider choice of usable displays to fit a wider variety of equipment.

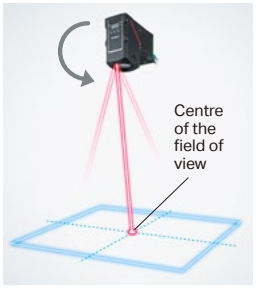


Quick and Easy Installation. Anywhere. Anytime.

Our commitment to easy installation

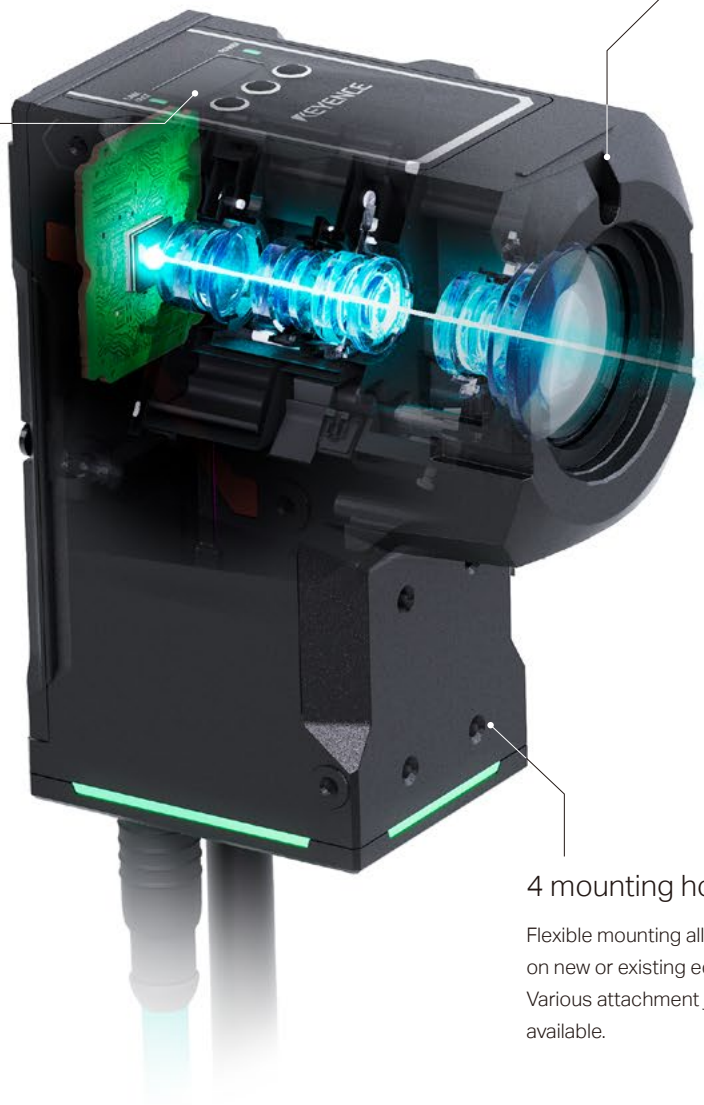
We considered every possible issue that you may encounter with camera installation.
No control panel is required, so it can be installed immediately, anytime, before or during projects.

Laser pointer for easy positioning



High-definition display

No software required to check the IP address and connection.



4 mounting holes

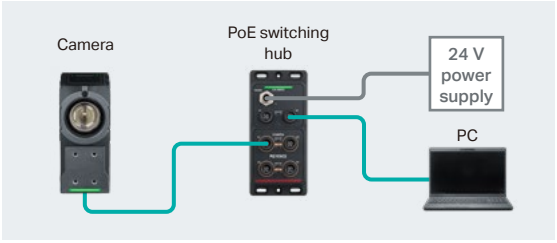
Flexible mounting allows for installation on new or existing equipment.
Various attachment jigs are also available.

IP67 water-resistant structure

Both the camera and light are waterproof. The device can be used in processes that expose it to splashes and splatters.

Simplified wiring with PoE

The VS Series supports Power over Ethernet, so power can be supplied to both the camera and light over a single Ethernet cable.



Lighting techniques and algorithms for reliable inspections

High-intensity smart ring illumination that features snap-on installation and the ability to cut ambient light.
It also comes standard with advanced algorithms that adapt to changes in the site environment.

Ultra-bright overdrive light

The new light is 20× brighter than our 10 W ring illumination.
It delivers high-intensity light emission using burst-release of the electrical charge.

Uniform emission with lighting lens

Each LED is equipped with an aspherical lens.
This creates clear, uniform images even over larger fields of view.

Conventional ring illumination

High-intensity KEYENCE smart ring illumination

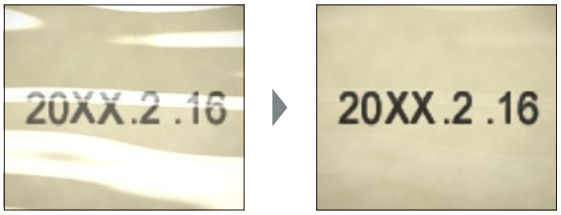
Fine HDR

Uniform images can be captured by correcting the contrast with one image capture. Multiple image captures are not required, so the VS Series can be used on high-speed lines.

LumiTrax texture image capture

LumiTrax mode combines smart ring lighting techniques with proprietary algorithms to minimise glare.

Printed character inspection on a film surface

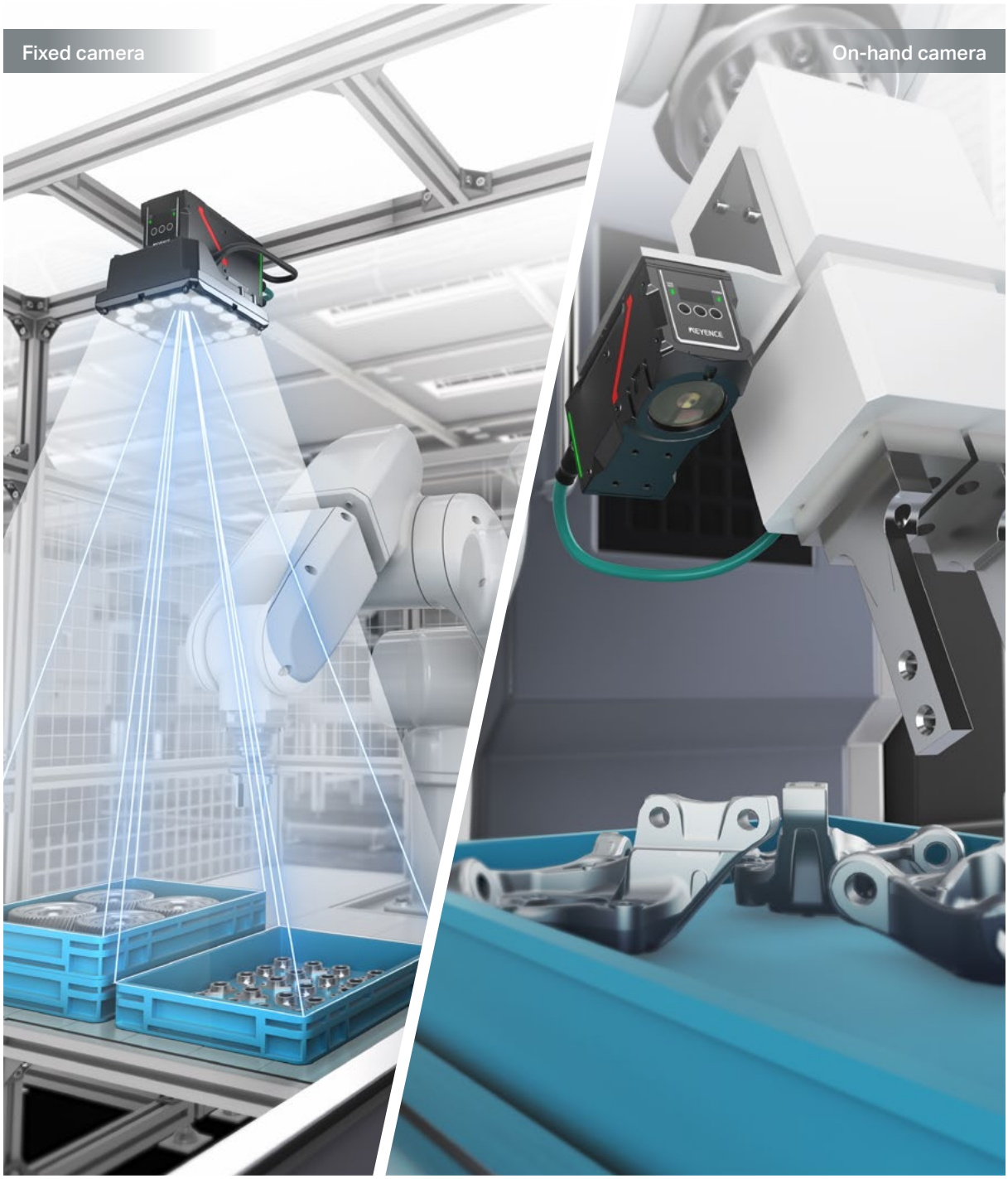


Optimal image creation with vision-guided robotics

Fixed and on-hand camera support

Improved stability of vision-guided robotics

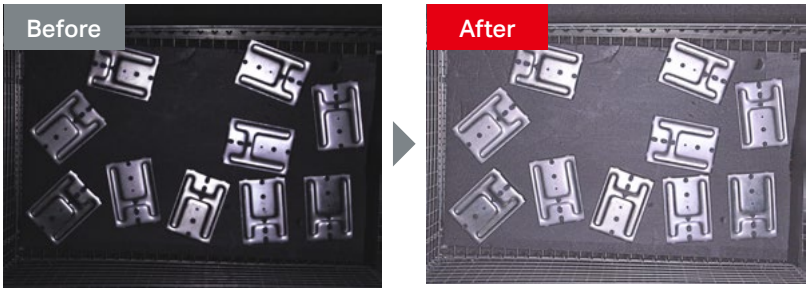
The VS series improves vision-guided robotics applications by utilising ZoomTrax, smart cameras, and high intensity smart ring illumination functions for greater imaging and environmental stability.



CONTACT YOUR NEAREST OFFICE FOR RELEASE STATUS

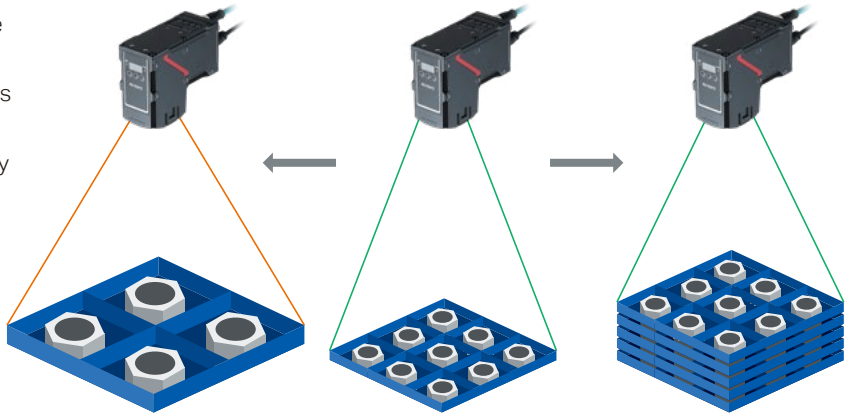
Bright, uniform illumination even over a wide field of view Fine HDR

With a wider field of view, brightness can be uneven with a noticeable difference in intensity between the centre and the edges of the screen. Advanced imaging technologies such as overdrive lighting with high-intensity smart rings and HDR capturing help to minimise such differences even with a wide field of view.



Support for multiple pallets and tooling changeover ZoomTrax

ZoomTrax automatically changes the field of view to suit the size of the target, and automatic focusing makes it possible to handle pallets with different heights, allowing for usability in a wide variety of production environments without changing lenses.

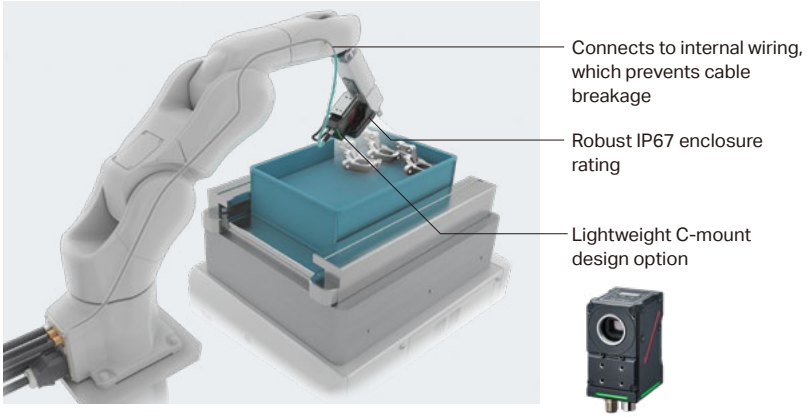


Targets of different sizes

Pallets with different heights

Optimal hardware for on-hand picking Internal wiring

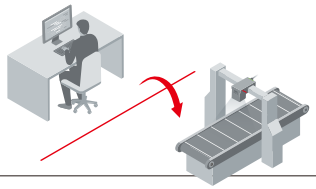
A wider range of on-hand applications is possible thanks to on-robot PoE connectivity, IP67 environmental resistance, and a lightweight C-mount design.



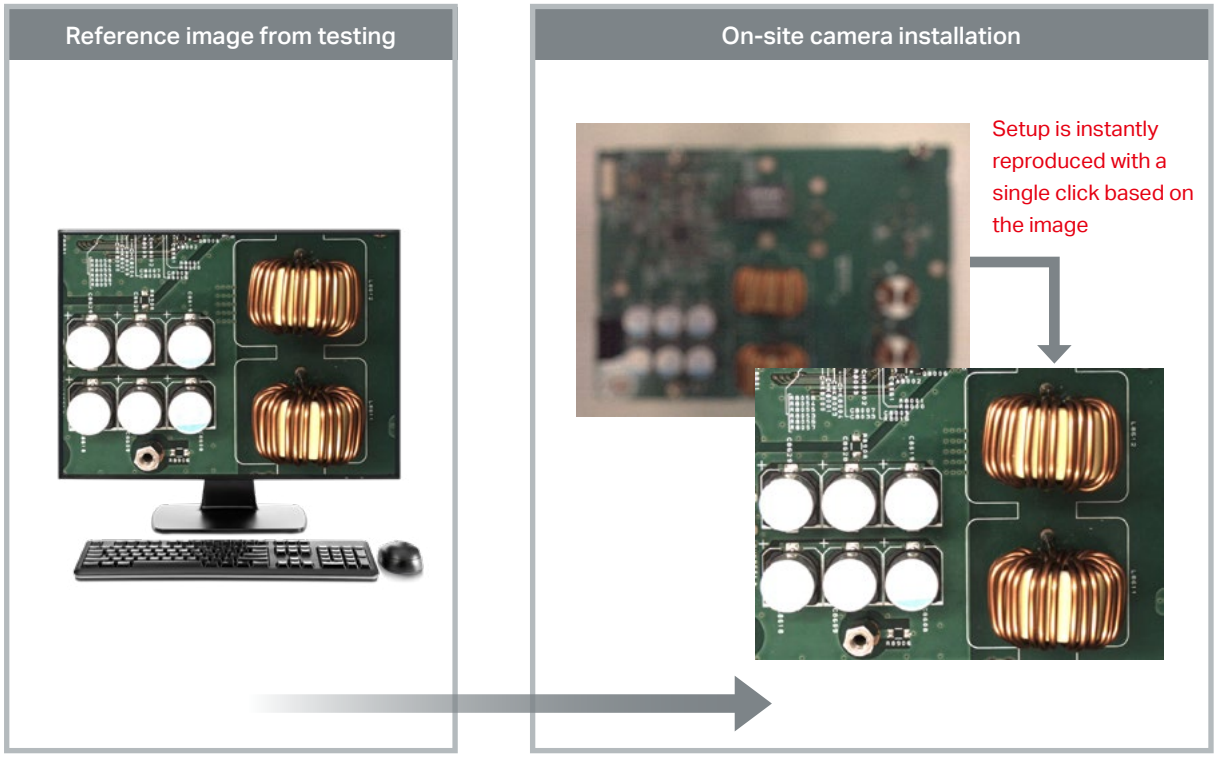
CONTACT YOUR NEAREST OFFICE FOR RELEASE STATUS

Utilities to facilitate troubleshooting and repeat deployments

Quick startup, scaling, and troubleshooting
Capture Replication function



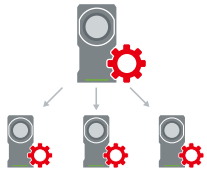
Suppose you want to reproduce lab conditions or need to fix a deployed camera that has been bumped or moved... ZoomTrax's Capture Replication function can instantly replicate the lens setup from a previous test or deployment based on a registered image. This can further reduce the time required to complete installation on-site.



AI reproduces the imaging used in testing by automatically adjusting the field of view, focus, and exposure time.

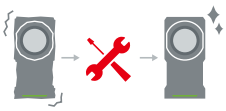
When setup reproduction is necessary

Reproducing a setup for repeated expansion of lines



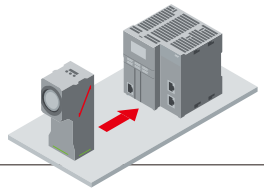
Correcting device position when it shifts due to collision

Replicating setup for repair or replacement



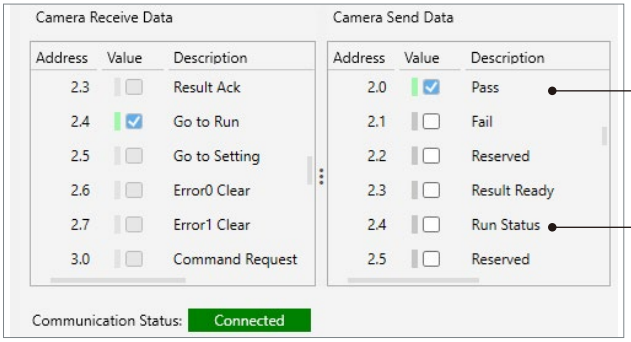
See the video for more information

Visualising communication
Communication debugging function



Connecting and coordinating communication is a tedious task when setting up a system.
The VS Series offers two visualisation utilities that solve common communication issues.

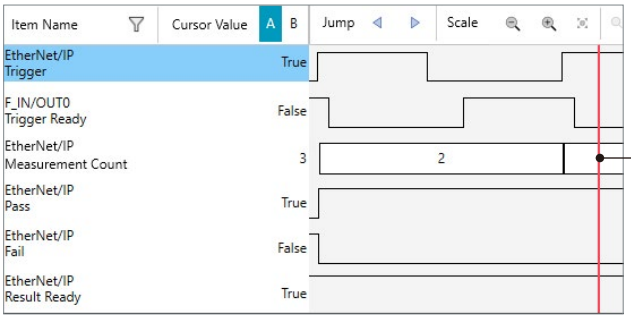
Communication monitor



Signal address and status are listed

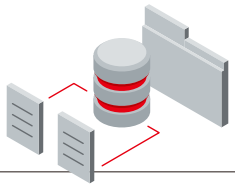
Easy to establish EtherNet/IP™ and PROFINET communications thanks to easy-to-use bit allocation.

Timing chart monitor

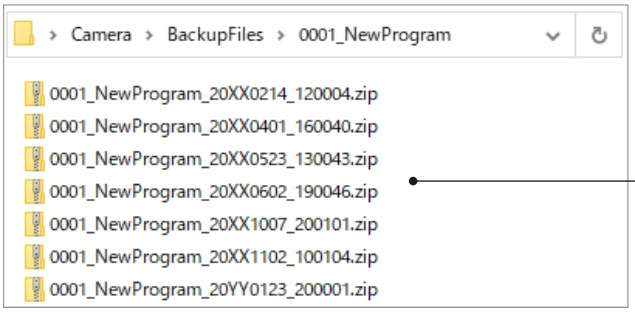


Changes in signals over time can be visualised
Timing errors and missing signals can be analysed

Restore data after accidental overwrite
Automatic backup of setup



The most recent editing history is automatically backed up on the computer. Settings can be restored immediately if a problem arises.
This helps prevent the added work of recreating the settings.



The last 20 automatic backups are stored on the computer.
Settings can be quickly restored from the history.

Three types of smart cameras to support any application

Semi-automated machines

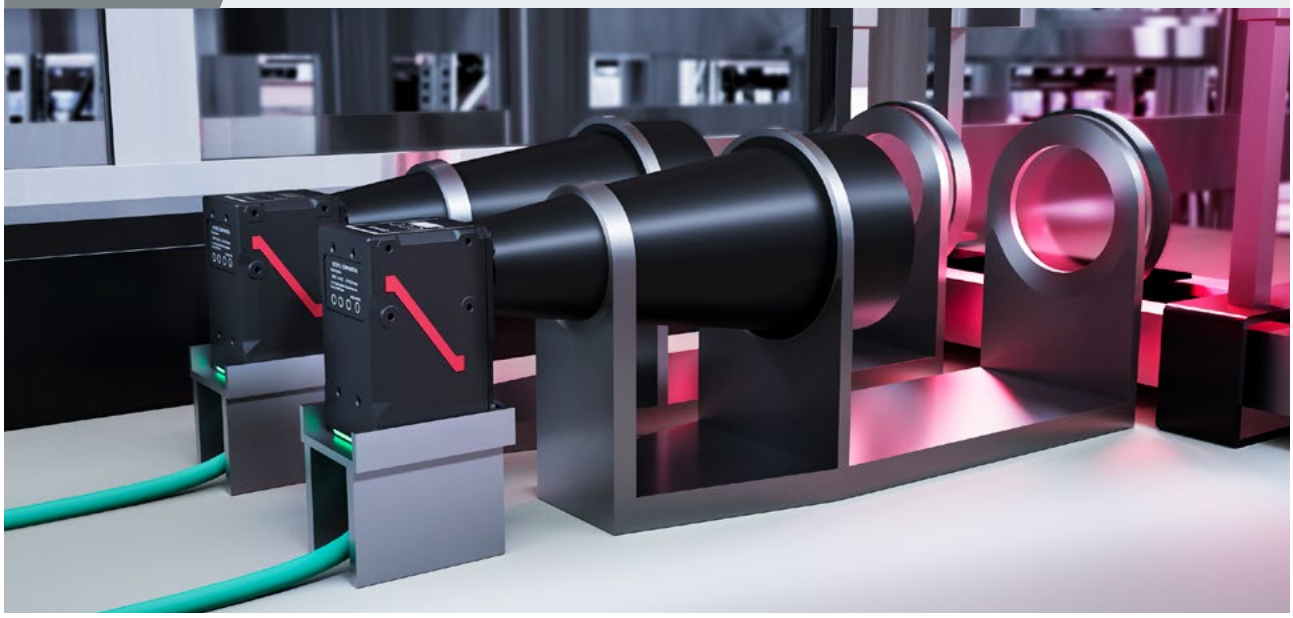
Versatile standard zoom type for varying fields of view and mounting positions

Fully automated machines

Short-range zoom type for short-range or space-saving installation needs

Customisation for specialised purposes

C-mount type when specialty lenses are necessary



[Configure your VS Series Unit]

Easy four-step process for selecting your optimal hardware

STEP.1 Select the camera type

Zoom smart camera

This unit supports a wide range of applications and field-of-view sizes.
The zoom function saves you from having to make difficult optical adjustments.

Standard zoom type
VS-L

Short-range zoom type
VS-S

C-mount smart camera

Use a C-mount smart camera if you want to select from a variety of lenses for different field-of-view sizes and installation distances.

C-mount type
VS-C

Various lenses

STEP.2 Select the camera resolution

Selecting a zoom camera

Select the resolution according to your application.

1.6 MP	3.2 MP	5 MP	15 MP
Simple applications such as presence check	Assembly inspection, character recognition, etc.	For inspections that require high accuracy, such as measurement and appearance inspections	Ultra-high-precision inspections or for large targets

Supported target sizes and resolutions are listed on the field of view chart on page 24.

Access the Item Selector

STEP.3 Select the lighting

High-intensity smart ring illumination

The lineup of camera-integrated lighting covers a wide range of applications.

High-intensity smart ring illumination
CA-DEW10X (white)

High-intensity smart ring illumination
CA-DER10X (red)

High-intensity smart ring illumination
CA-DEB10X (blue)

High-intensity smart ring illumination
CA-DEIR10X
(near-infrared)

Additional Lighting Options

The lineup includes lighting of various shapes and sizes, which can be matched to your application and detection requirements.

Multi-spectrum lighting
CA-DRMxX

Multi-angle lights (ring/square)
CA-DRxM
CA-DQxM

Bar lights
CA-DB
CA-DBxW

Back lights
CA-DS

Coaxial lights (on-axis)
CA-DX

Dome lights
CA-DD

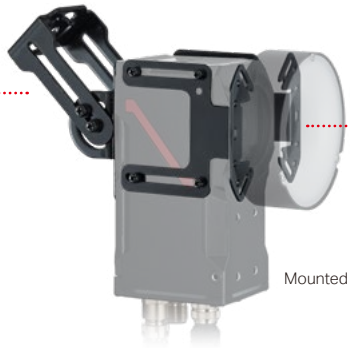
Spot lights
CA-DP

STEP.4 Select optional mounting

Different mounting jigs to meet your specific installation needs

* Other mounting jigs are listed on page 25.

Angle adjustment mounting jig for high-performance cameras
OP-88814

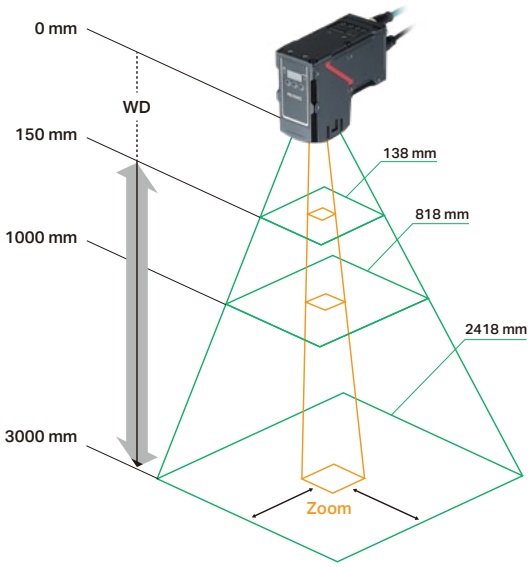


Mounted view

Light mounting adapter for high-performance zoom cameras
OP-88816

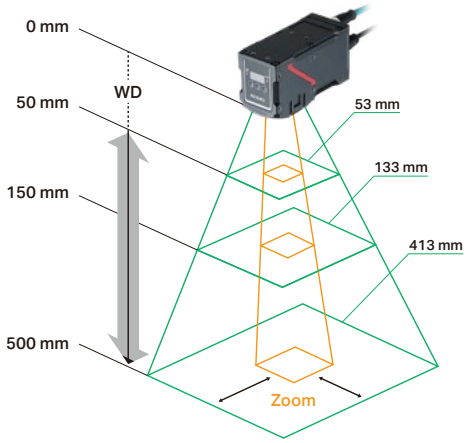
Field of view information

Field of view information for standard zoom smart cameras



	Working distance	Field of view	Pixel resolution
VS-L160	150 mm	18 to 138 mm	12 to 95 µm
	1000 mm	94 to 818 mm	65 to 568 µm
	3000 mm	274 to 2418 mm	190 to 1679 µm
VS-L320	150 mm	25 to 138 mm	12 to 67 µm
	1000 mm	134 to 818 mm	65 to 399 µm
	3000 mm	390 to 2418 mm	190 to 1180 µm
VS-L500	150 mm	31 to 138 mm	12 to 56 µm
	1000 mm	162 to 818 mm	65 to 331 µm
	3000 mm	470 to 2418 mm	190 to 981 µm
VS-L1500	150 mm	55 to 138 mm	13 to 31 µm
	1000 mm	289 to 818 mm	65 to 185 µm
	3000 mm	839 to 2418 mm	190 to 549 µm

Field of view information for short-range zoom smart cameras



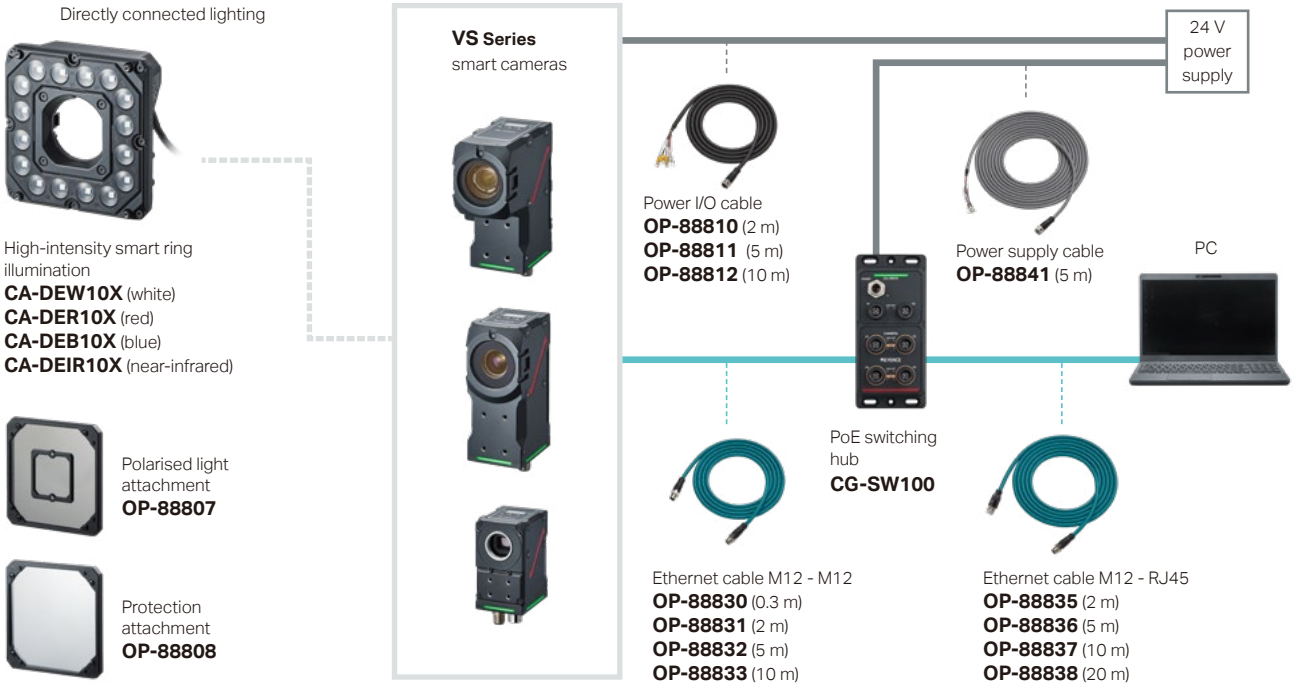
	Working distance	Field of view	Pixel resolution
VS-S160	50 mm	14 to 53 mm	10 to 36 µm
	150 mm	37 to 133 mm	25 to 92 µm
	500 mm	116 to 413 mm	80 to 286 µm
VS-S320	50 mm	21 to 53 mm	10 to 25 µm
	150 mm	53 to 133 mm	25 to 64 µm
	500 mm	165 to 413 mm	80 to 201 µm
VS-S500	50 mm	25 to 53 mm	10 to 21 µm
	150 mm	64 to 133 mm	25 to 53 µm
	500 mm	198 to 413 mm	80 to 167 µm
VS-S1500	50 mm	45 to 53 mm	10 to 12 µm
	150 mm	114 to 133 mm	20 to 30 µm
	500 mm	354 to 413 mm	80 to 93 µm

Supported communication protocol(s)

Communication networks (standard equipment)

EtherNet/IP PROFINET TCP/IP

Product Configurations / Optional Accessories



Lighting accessories

Environment-resistant illumination controller
CG-LC100

Lighting conversion unit (directly connected to camera)
CG-LC10

High-performance light mounting adapter
OP-88818

Light mounting adapter for high-performance zoom cameras
OP-88816

Light mounting adapter for high-performance C-mount cameras
OP-88817

Refer to the Vision System Peripheral Equipment Lighting Lineup catalogue for more information on the lighting lineup.

Camera mounting accessories

Mounting bracket for high-performance cameras
OP-88813

Angle adjustment mounting jig for high-performance cameras
OP-88814

Adjustable bracket for high-performance cameras
OP-88815

Lens accessories

Environment-resistant lens cover
OP-88806

Refer to the Vision System Peripheral Equipment Lineup catalogue for more information on the lens lineup.

Display accessories

12" Display expansion monitor
CG-MP120T

Display expansion unit
CG-MU100

Other accessories

microSD card
CA-MSD32G
(32 GB)
CA-MSD64G
(64 GB)

DIN rail mount (for PoE switching hub and environment-resistant illumination controller)
OP-88828

Specifications

Standard zoom smart camera/Short-range zoom smart camera

Model		VS-LxxxMX				VS-LxxxCX				VS-SxxxMX				VS-SxxxCX			
		160	320	500	1500	160	320	500	1500	160	320	500	1500	160	320	500	1500
Storage	Internal storage	3 GB	7 GB	7 GB	7 GB	3 GB	7 GB	7 GB	7 GB	3 GB	7 GB	7 GB	7 GB	3 GB	7 GB	7 GB	7 GB
	microSD card (external)*1	Max. 64 GB															
Image sensor	Frame rate	78 fps	75 fps	68 fps	44 fps	78 fps	75 fps	68 fps	44 fps	78 fps	75 fps	68 fps	44 fps	78 fps	75 fps	68 fps	44 fps
Lens	Mount	Lens-integrated type															
	Max. optical magnification	× 8.75	× 6.0	× 5.0	× 2.75	× 8.75	× 6.0	× 5.0	× 2.75	× 3.5	× 2.4	× 2.0	× 1.1	× 3.5	× 2.4	× 2.0	× 1.1
	Installation distance*2	150 mm to 5000 mm								50 mm to 500 mm							
I/O connection	Number of inputs	1 (insulated)															
	Number of outputs	3 (insulated)															
	Number of inputs/outputs	2 (insulated) (input and output switched via settings)															
I/F	Ethernet	PoE IEEE 802.3at, M12 X cable × 1															
	I/O	1 In/3 Out/2 In, Out M12 A cable × 1															
	Lighting interface	Dedicated lighting connection interface × 1															
	External media	microSD card slot × 1 (UHS-1)															
Functions	Imaging mode	1.6 M	1.6 M 3.2 M	1.6 M 3.2 M 5 M	1.6 M 3.2 M 5 M 15 M	1.6 M	1.6 M 3.2 M	1.6 M 3.2 M 5 M	1.6 M 3.2 M 5 M 15 M	1.6 M	1.6 M 3.2 M	1.6 M 3.2 M 5 M	1.6 M 3.2 M 5 M 15 M	1.6 M	1.6 M 3.2 M	1.6 M 3.2 M 5 M	1.6 M 3.2 M 5 M 15 M
	Output image pixels	(1.6 M mode) 1440×1072 1072×1440 1248×1248 1664×928 928×1664 2160×720 720×2160	(3.2 M mode) 2048×1536 1536×2048 1776×1776 2368×1328 1328×2368 3072×1024 1024×3072	(5 M mode) 2544×1904 1904×2544 2224×2224 2976×1664 1664×2976 3824×1280 1280×3824	(15 M mode) 4400×3296	(1.6 M mode) 1440×1072 1072×1440 1248×1248 1664×928 928×1664 2160×720 720×2160	(3.2 M mode) 2048×1536 1536×2048 1776×1776 2368×1328 1328×2368 3072×1024 1024×3072	(5 M mode) 2544×1904 1904×2544 2224×2224 2976×1664 1664×2976 3824×1280 1280×3824	(15 M mode) 4400×3296	(1.6 M mode) 1440×1072 1072×1440 1248×1248 1664×928 928×1664 2160×720 720×2160	(3.2 M mode) 2048×1536 1536×2048 1776×1776 2368×1328 1328×2368 3072×1024 1024×3072	(5 M mode) 2544×1904 1904×2544 2224×2224 2976×1664 1664×2976 3824×1280 1280×3824	(15 M mode) 4400×3296	(1.6 M mode) 1440×1072 1072×1440 1248×1248 1664×928 928×1664 2160×720 720×2160	(3.2 M mode) 2048×1536 1536×2048 1776×1776 2368×1328 1328×2368 3072×1024 1024×3072	(5 M mode) 2544×1904 1904×2544 2224×2224 2976×1664 1664×2976 3824×1280 1280×3824	(15 M mode) 4400×3296
	Exposure time	0.021 msec to 1000 msec	0.028 msec to 1000 msec	0.033 msec to 1000 msec	0.037 msec to 1000 msec	0.021 msec to 1000 msec	0.028 msec to 1000 msec	0.033 msec to 1000 msec	0.037 msec to 1000 msec	0.021 msec to 1000 msec	0.028 msec to 1000 msec	0.033 msec to 1000 msec	0.037 msec to 1000 msec	0.021 msec to 1000 msec	0.028 msec to 1000 msec	0.033 msec to 1000 msec	0.037 msec to 1000 msec
	Image correction functions	Gain, Offset, Gamma correction, White balance, Fine HDR															
	Indicators	OLED display, Status LED, Ethernet LED (LINK/ACT), SD card access indicator															
	Buttons	Operation buttons × 3															
	Installation support functions	Pointer (Class 1 laser product*3), Angle monitor															
Power supply	Voltage	24 V +25%/−20% or PoE (IEEE802.3at Power Class 4)															
	Current consumption (camera only)	0.97 A, 18.7 W (for 19.2 V)/0.78 A, 18.7 W (for 24 V)															
	Current consumption (including lighting)	4.7 A, 89.7 W (for 19.2 V)/3.8 A, 89.7 W (for 24 V)															
	Current consumption (With CA-DEx10X connected)*4	11.3 A, 216.7 W (for 19.2 V)/9.1 A, 216.7 W (for 24 V)															
Other	Weight	Approx. 700 g								Approx. 570 g							
	Size (H×W×D)	122.3 mm × 52.6 mm × 99.1 mm								122.3 mm × 52.6 mm × 69.2 mm							
	Enclosure rating	IP67 (IEC60529)															
	Materials*5	Case: Aluminium die-casting, Front cover: Glass															
	Case temperature*6	0°C to 65°C															
	Operating ambient humidity	85% RH or below (no condensation)															
	Standard certifications	CE, FCC, NRTL, KC, UKCA															
	Vibration resistance	10 to 500 Hz; Power spectral density: 0.05 G2/Hz; X, Y, and Z directions, 0.5 hours (IEC60068-2-64)															
	Shock resistance	50 G, 3 times in each of the 6 directions (IEC60068-2-27)															

*1 Using the configuration software, format the media before use. *2 VS-LxxxMX/CX's field-of-view measuring range is 150 mm to 3000 mm. VS-SxxxMX/CX's field-of-view measuring range is 50 mm to 500 mm. *3 FDA (CDRH) Part 1040.10 (The laser classification is implemented based on IEC 60825-1 in accordance with the requirements of Laser Notice No. 56), IEC60825-1. *4 Maximum instantaneous current. Average current is below current consumption (including lighting).
*5 ESD-Safe, IEC61340-5-1 compliant. *6 Reference - Case temperature 65°C with 200 mm × 200 mm × 10 mm aluminium board and at ambient temperature of 40°C.

C-mount smart camera

Model		VS-C160M / CX	VS-C320M / CX	VS-C500M / CX	VS-C1500M / CX	VS-C2500M / CX
Storage	Internal storage	3 GB	7 GB	7 GB	7 GB	7 GB
	microSD card (external)*1	Max. 64 GB				
Image sensor	Image size	1/2.9"	1/1.8"	2/3"	1.1"	1.1"
	Pixel size	3.45 µm	3.45 µm	3.45 µm	2.5 µm	2.5 µm
	Frame rate	81 fps	75 fps	63 fps	47 fps	35 fps
Lens	Mount	C-mount				
I/O connection	Number of inputs	1 (insulated)				
	Number of outputs	3 (insulated)				
	Number of inputs/outputs	2 (insulated) (input and output switched via settings)				
I/F	Ethernet	PoE IEEE 802.3at, M12 X cable × 1				
	I/O	1 In/3 Out/2 In, Out M12 A cable × 1				
	Lighting interface	Dedicated lighting connection interface × 1				
	External media	microSD card slot × 1				
Functions	Output image pixels	1440 × 1072	2048 × 1536	2448 × 2048	4400 × 3296	5120 × 5120
	Exposure time	0.015 msec to 1000 msec	0.015 msec to 1000 msec	0.015 msec to 1000 msec	0.008 msec to 1000 msec	0.008 msec to 1000 msec
	Image correction functions	Gain, Offset, Gamma correction, White balance, Fine HDR				
	Indicators	OLED display, Status LED, Ethernet LED (LINK/ACT), SD card access indicator				
	Buttons	Operation buttons × 3				
	Installation support functions	Angle monitor				
Power supply	Voltage	24 V +25%/−20% or PoE (IEEE802.3at Power Class 4)				
	Current consumption (camera only)	0.97 A, 18.7 W (for 19.2 V)/0.78 A, 18.7 W (for 24 V)				
	Current consumption (including lighting)	4.7 A, 89.7 W (for 19.2 V)/3.8 A, 89.7 W (for 24 V)				
	Current consumption (With CA-DEx10X connected)*2	11.3 A, 216.7 W (for 19.2 V)/9.1 A, 216.7 W (for 24 V)				
Other	Weight	Approx. 420 g				
	Size (H×W×D)	93.2 mm × 52.6 mm × 66 mm				
	Enclosure rating	IP67 (IEC60529)				
	Materials*3	Case: Aluminium die-casting, Front cover: Glass				
	Case temperature*4	0°C to 65°C				
	Operating ambient humidity	85% RH or below (no condensation)				
	Standard certifications	CE, FCC, NRTL, KC, UKCA				
	Vibration resistance	10 to 500 Hz; Power spectral density: 0.05 G2/Hz; X, Y, and Z directions, 0.5 hours (IEC60068-2-64)				
	Shock resistance	50 G, 3 times in each of the 6 directions (IEC60068-2-27)				

*1 Using the configuration software, format the media before use. *2 Maximum instantaneous current. Average current is below current consumption (including lighting). *3 ESD-Safe, IEC61340-5-1 compliant.
*4 Reference - Case temperature 65°C with 200 mm × 200 mm × 10 mm aluminium board and at ambient temperature of 40°C.

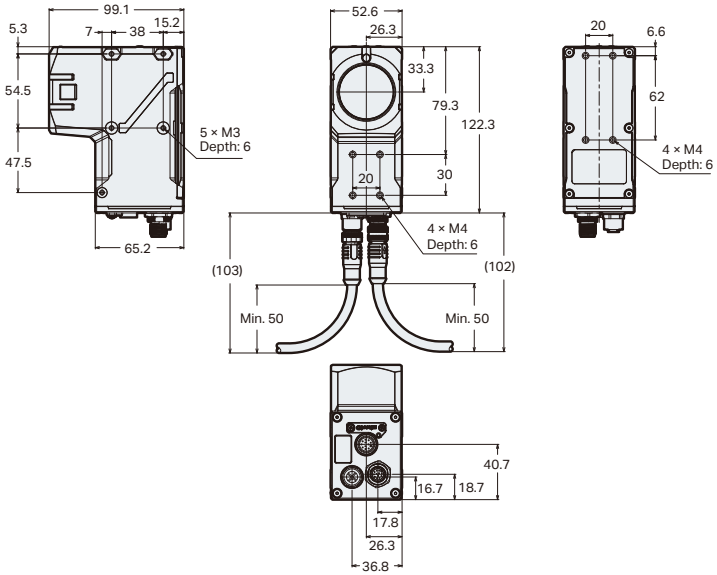
Dimensions

Unit: mm

Standard zoom smart camera

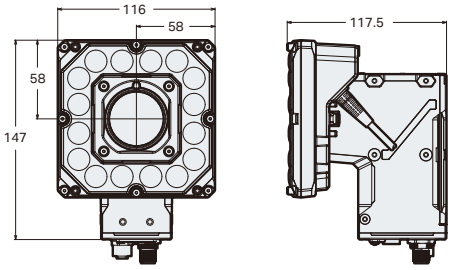
Camera

VS-L1500MX / L1500CX / L500MX / L500CX / L320MX / L320CX / L160MX / L160CX



High-intensity smart ring illumination

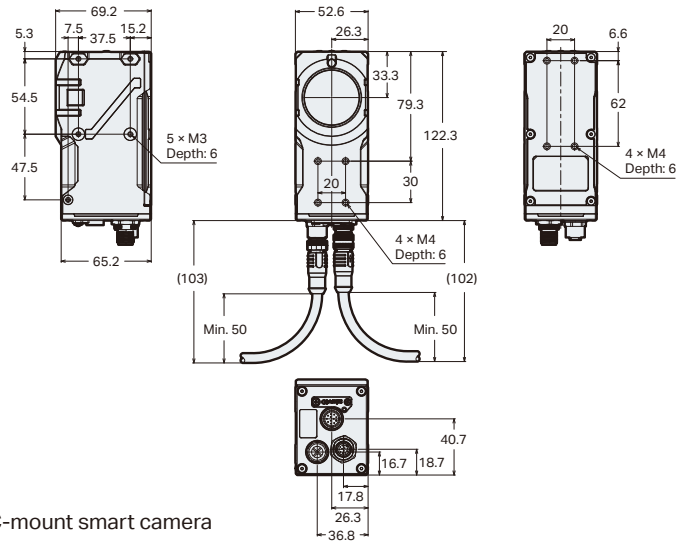
When used with **CA-DEW10X/DER10X/DEB10X/DEIR10X**



Short-range zoom smart camera

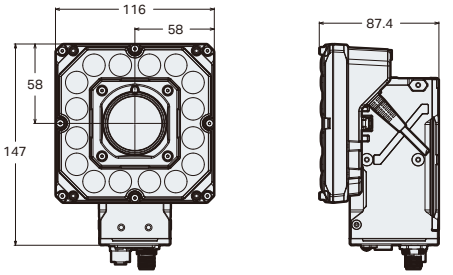
Camera

VS-S1500MX / S1500CX / S500MX / S500CX /S320MX / S320CX / S160MX / S160CX



High-intensity smart ring illumination

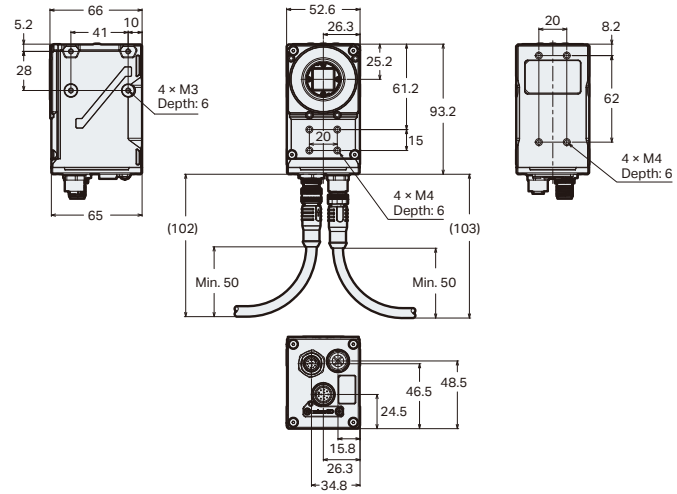
When used with **CA-DEW10X/DER10X/DEB10X/DEIR10X**



C-mount smart camera

Camera

VS-C2500MX / C2500CX / C1500MX / C1500CX / C500MX / C500CX / C320MX / C320CX / C160MX / C160CX



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