



Inspector Vision Sensors

The intelligent vision solution in an easy-to-use sensor package

Product overview



Inspector I-series	Inspector P-/PI-series	Inspector PIM-series
Inspect	Position – Inspect	Position – Inspect – Measure
I10 Standard 	P30, PI50 	PIM60 
I20, I40 	PI50-IR 	PIM60-IR 
I20-IR, I40-IR 	PI50 EtherCAT 	PIM60-LUT 

Inspector

A decision for quality



Meeting the challenge of quality control

The Inspector is an intelligent vision solution in an easy-to-use sensor package. No matter if the task is to verify completeness and quality, find a part's position or measure its dimensions, the Inspector is up to the challenge.

Industry proven

The sensors' rugged design and IP 67 metal housing makes them ideal for tough environments and intelligent processing technology makes the Inspector perfect for high-speed applications.

Flexible for your application

The flexible housing is designed to easily optimize the optical needs of your application. This ensures excellent inspection even with tough targets, such as highly reflective metal parts and multicolored labels.

Easy integration in production systems

The Inspector family provides broad support for control, monitoring and data collection through a variety of interfaces. This vision sensor provides everything to meet your integration needs and facilitate daily work.

Inspector I-series High-performance part inspection made easy



The Inspector I-series is built to meet inspection challenges! These sensors feature a precise and powerful part inspection toolset that verifies quality and completeness. The I-series reliably detects objects despite ambient light and distance variations.

The flexible, interchangeable lens provides an easy way to improve image quality. By exchanging the front windows, the I-series offers a single component solution to match your application needs.

The I-series is the absolute choice for inspection!

At a glance

- High-speed part inspection
- Powerful “object locator” tool, independent of position, rotation and scale
- Locate and multi-feature inspection
- Multiple, simultaneous inspections of patterns and details
- Multi-reference object teaching
- User defined outputs
- Input and output extensions via I/O box
- Image storage to FTP and PLC communication

Inspector I-series Applications



Label inspection and logo verification



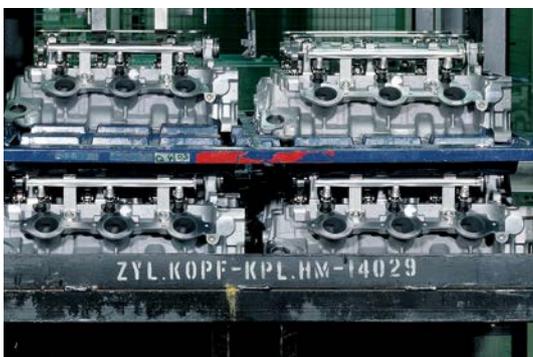
Verification of hole presence as well as nuts, safety springs and washers



Solar wafer edge damage detection



Bottle inspection: molded details and alignment verification



Verification of part assembly before next station



Verification of code and text presence on packages

Inspector PI-series Position - Inspect - Connect



The Inspector PI-series is built to give you more control over your production process! These sensors offer unique connectivity features, including a new web API. This allows you to customize the HMI implementation for viewing live data, parameter modification and maintenance tasks.

With its powerful positioning and inspection toolbox along with a wide variety of interfaces, the PI-series is the optimal choice for machine integration. It can communicate results over a field-bus as well as process commands to change its configuration.

In addition, the calibration feature ensures reliable images even in tight and tilted setups where the image would otherwise be distorted. This makes the inspections more consistent as well as producing an easy-to-use mm output.

The PI-series is the optimal choice for flexibility in machine integration!

At a glance

- High-speed positioning and inspection
- Expanded toolbox for locating taught-in and free-form objects
- Multiple, simultaneous inspection of blobs, patterns, edges and pixel counting
- Easy device cloning via the web interface
- Image calibration, including mm output
- Configurable communication through EtherNet/IP, TCP/IP and EtherCAT
- HMI integration via web API
- Simple, out-of-the-box web server

Inspector PI-series Applications



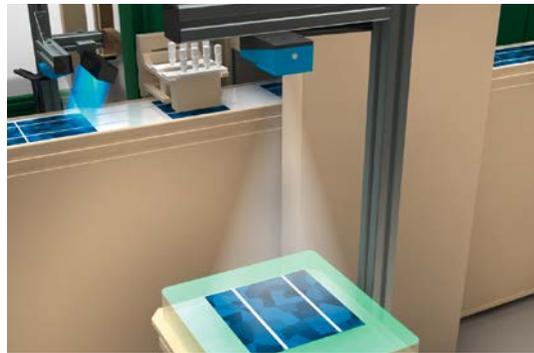
Integrated quality control in
packaging machines



Positioning control in
commercial goods production



Fiducial alignment in semiconductor, electronics,
solar, and flat panel display industries



Solar wafer alignment and edge
damage detection



Belt picking with inspection in part production



Calibrated robot guidance in automotive
manufacturing

Inspector PIM-series Easy positioning, inspection and measurement



The Inspector PIM-series provides high-speed positioning, inspection and measurement. Its multi-functional vision toolbox solves a wide range of quality control applications and improves production efficiency. The PIM-series combines smart camera functionality with the ease of use of a vision sensor.

Its powerful toolbox solves inspection, robot guidance and measurement tasks. Thanks to the vision sensor's excellent calibration support, it provides easy-to-use mm data, simplifying guidance and measurement.

The Inspector PIM-series offers broad connectivity for communicating simple to advanced results via multiple platforms. In addition, the built-in web server enables an easy and cost efficient way to monitor the production process. It can be used right out-of-the-box or customized for easier data visualization and interpretation.

Use PIM60 to maximize quality control and efficiency in your production!

At a glance

- High-speed positioning, inspection and measurement
- Expanded toolbox for diameter, angle and flexible distance measurement
- Multiple, simultaneous inspection of blobs, patterns, edges and pixel counting
- Image calibration, including mm output
- Configurable communication through EtherNet/IP and TCP/IP
- Simple, out-of-the-box web server
- Import of customized web pages

Inspector PIM-series Applications



Belt picking with inspection and dimensioning in automotive manufacturing



Quality inspection with dimension and position control of commercial goods



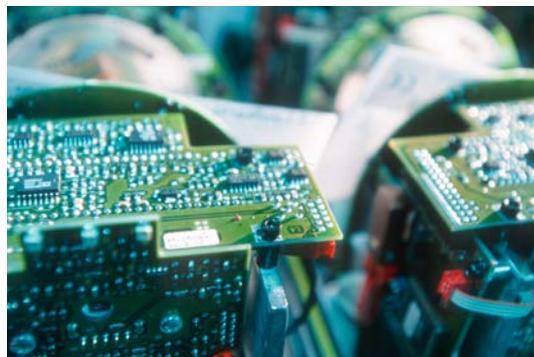
Part inspection and dimension verification in electronic component assembly



Integrated quality control in packaging machines



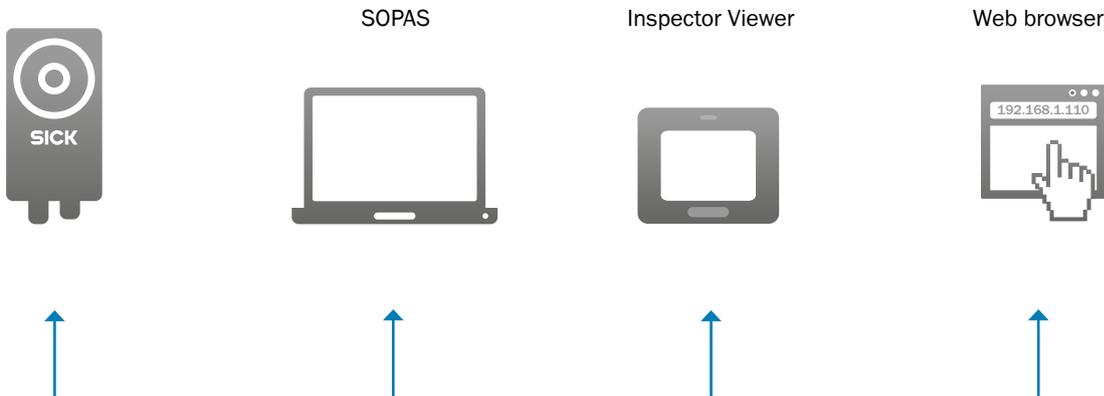
AGV painted line guidance



Calibrated alignment in electronic part assembly

Inspector connectivity

Take greater control of your production plant with the Inspector



The Inspector family offers a broad variety of connectivity features to simplify daily work in a production plant. Tasks like monitoring, trending, making product changeovers and introducing new product variants are easily handled.

Easy-to-use operator interfaces

The Inspector family offers various types of interfaces that will make it easier for you as an operator to oversee daily work more efficiently.

SOPAS is a sophisticated software tool for monitoring, trending and offline handling.

- View images, results and statistics for runtime supervision
- Configuration handling for product changeover
- Device and configuration handling for cloning and field exchange tasks
- Emulator environment for offline configuration and trending

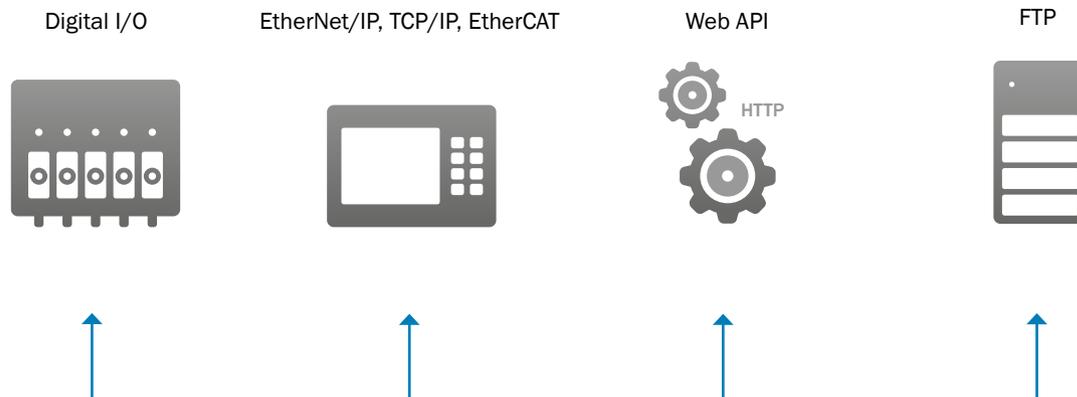
Inspector Viewer provides advanced monitoring and trending functions. It is an accessory panel with an easy-to-use touch screen display.

- Viewing of images, result and statistics for runtime supervision
- Image storage and trending of results for post analysis
- Configuration handling for product changeover
- Device and configuration handling for cloning and field exchange tasks

Web server provides simple monitoring and supervision via a standard browser interface.

- Viewing of images for runtime supervision
- Configuration handling for product changeover

Interface support is dependent on device variant.



Flexible machine and HMI design interfaces

The Inspector family offers high flexibility for machine integration and customized HMI design for the advanced user.

Digital I/Os provide simple device control and result access, built-in or via an external accessory box.

- Inputs for reference object selection, triggering, teach and encoder control
- Outputs for user defined pass/fail results

EtherNet/IP, TCP/IP and EtherCAT support extended results and control handling.

- Value-based results for machine control and customized trend design
- Image triggering, external teach and reference object selection for centralized device control
- Parameter modification for customized configuration handling

Web API provides a flexible way to make a customized HMI design.

- Viewing of images for runtime supervision
- Configuration handling for product changeover
- Parameter modification for customized configuration handling
- Device and configuration handling for cloning and field exchange tasks

FTP provides continuous support of external image storage.

Inspector results

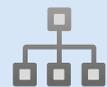
Digital

- Overall result: pass/fail/not located
- Pass/fail of individual or logical combination of inspections
- Directional guidance



Ethernet

- Match score, scale or size values
- Number of features
- Coordinates and angle

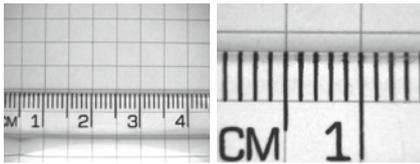


Inspector Flex

Unique, interchangeable housing design provides the easiest way to improve image quality



The key to solving vision problems is to work on a good quality image – the Flex concept makes this easy. Apart from easy lens exchange, this unique concept is designed to reuse the illumination in combination with different front windows, resulting in red, green, blue or diffused white illumination – without any extra wiring. Illumination has never been easier!



Lenses

To optimize the field of view, the lenses are easily exchangeable.

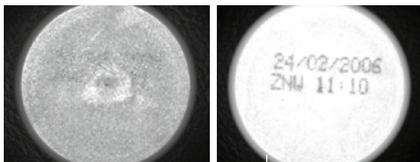
- Ensure accuracy at longer distances with a narrow lens
- A wide lens inspects large parts at shorter distances



Dome

The dome accessory, which distributes light evenly, eliminates unwanted glare on glossy or reflective materials.

- Create even illumination on glossy surfaces with the dome



Color and IR filters

Emphasize any detail on multi-colored backgrounds by using color filters; ensure immunity to visible light by using the IR filter.

- Increase contrast on multi-colored objects using color filters



Replacement windows

Easily exchange the front window if the device is scratched or damaged.

- Keep a clear view in harsh environments

Inspector illumination Light the way to better performance



Light is a crucial component in vision. With the correct lighting, object details are emphasized – providing a high-quality image for analysis. The Inspector family provides full flexibility with integrated light, “Flex” window options or external solutions to match your illumination needs.

Inspectors with integrated white illumination

White light is used because it creates contrast between targets of all colors. When combined with the “flex” front windows, you can improve quality on highly reflective or multi-colored materials.

- Photo with color camera versus grey image from Inspector with white illumination



Inspector PIM60-LUT

This variant makes invisible luminescent agents visible. Compared to traditional luminescent registration sensors, which operate on a fixed spot, the PIM60-LUT scans an entire area.

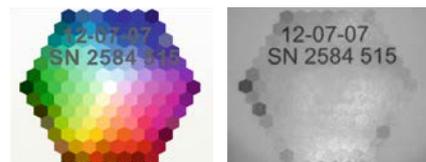
- Inspector PIM60-LUT versus Inspector with white illumination on paper currency



Inspector IR light variants

The invisible IR light reduces color dependency and provides safe inspection in unwanted visible light production and adding the IR filter ensures immunity to visible light.

- Quality inspection of black contours on multi-colored objects



External lights

SICK offers a wide range of lights to support vision applications. The lights are available in different colors and sizes, with both front and back light variants. These lights are easily controlled and powered via a standard M12 connector on the Inspector.



Inspector Viewer

Monitor multiple Inspectors for improved quality and throughput



The Inspector Viewer provides advanced monitoring and trending capabilities for the Inspector family. Its functional design is optimized to make it easier for the operator to oversee daily work more efficiently. The Inspector Viewer has an easy-to-use touch screen display for performing the functions as described below.

Monitoring images

Verify your application and setup by monitoring live or logged images in full resolution. The result of your inspection is displayed live on the Inspector Viewer's screen.

View results

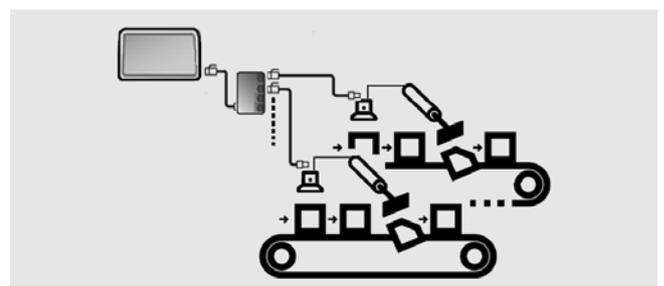
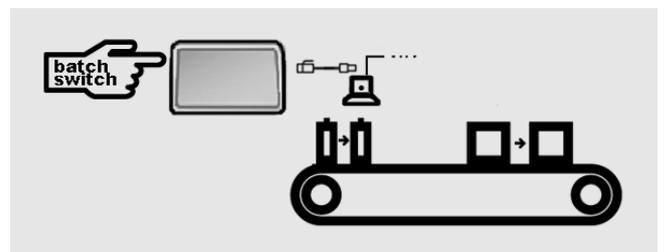
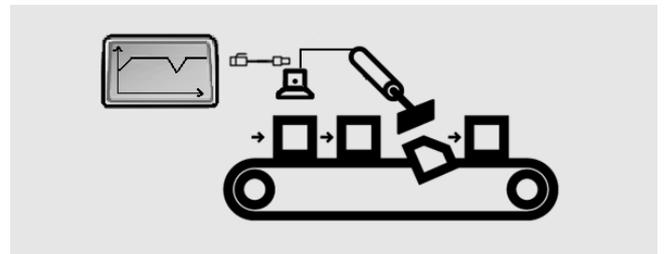
Using the Inspector Viewer, you can see detailed results and trending information for presence detection and damage and shape verification. This information enables you to adjust production parameters in order to increase throughput and reduce costs.

Simplify product changeover

Easily change reference objects to make line changes faster and more efficient, such as in packaging applications. The Inspector Viewer provides the ability to save and export configurations, allowing virtually an infinite number of reference objects.

Manage Multiple Inspectors

Multiple Inspectors can be monitored from one Viewer, making it economical to use in plants with more than one Inspector. In addition, the Viewer enables users to easily duplicate the parameters of one Inspector to multiple Inspectors.



Inspector

Summary of key features



Integrated quality control in packaging machines



Guidance for positioning stacker cranes



Edge damage detection in electronics



Part inspection and dimensioning in automotive assembly

An intelligent vision solution in an easy-to-use sensor package



Product description

The Inspector is an intelligent vision solution in an easy-to-use sensor package. No matter if the task is to verify completeness and quality, find a part's position or measure its dimensions, the Inspector is up to the challenge. The sensors' rugged design and IP 67 metal housing makes them ideal for tough environments and intelligent processing technology makes the Inspector perfect for high-speed applications. The flexible

housing is designed to easily optimize the optical needs of your application. This ensures excellent inspection even with tough targets, such as highly reflective metal parts and multicolored labels. The Inspector family provides broad support for control, monitoring and data collection through a variety of interfaces. This vision sensor provides everything to meet your integration needs and facilitate daily work.

At a glance

- High-speed positioning, inspection and measurement
- Powerful "object locator" tool, independent of position, rotation and scale
- Unique, interchangeable housing design supporting dome and various optical accessories
- Simple step-by-step configuration in PC including emulator
- Easy-to-use operator interfaces
- Flexible machine and HMI design interfaces

Your benefits

- The multi-functional vision toolbox offers smart camera-level performance but with sensor ease-of-use
- Unique, interchangeable housing design provides the easiest way to improve image quality
- The simple configuration in SOPAS, including emulator for offline configuration and testing, will reduce downtimes in production to a minimum
- The easy-to-use operator interfaces are optimized to make it easier for the operator to oversee daily work more efficiently
- Ethernet communication and web API gives excellent connectivity and freedom to customize user's HMI



Additional information

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→ www.mysick.com/en/Inspector

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Detailed technical data

Features

	Inspector P-series	Inspector I-series	Inspector PI-series	Inspector PIM-series
Task	Positioning	Inspection	Inspection, positioning	Inspection, positioning, measuring
Technology	2D, snapshot, image analysis			
Toolset	384 px x 384 px 640 px x 480 px	Blob locator, Object locator Object locator, Contour, Pixel count, Edge pixel count Object locator, Contour, Pixel count, Edge pixel count, Pattern	– Object locator, Pixel count, Edge pixel count, Pattern, Blob locator, Polygon	Object locator, Pixel count, Edge pixel count, Pattern, Blob locator, Polygon, Edge, Circle, Distance, Angle
Sensor	CMOS matrix sensor, gray scale values			
Focus	Manually adjustable focus			
Calibration	–			Perspective and lens distortion correction, mm results
Working distance	≥ 50 mm			
Working distance internal illumination (min. ... max.)	50 mm ... 200 mm			
Field of view internal illumination	384 px x 384 px 640 px x 480 px	20 mm x 20 mm ... 72 mm x 72 mm –	– 22 mm x 15 mm ... 79 mm x 58 mm	Free of choice by lens selection / 22 mm x 15 mm ... 79 mm x 58 mm (depending on type)
LED class	White Infrared UV	Risk group 1 (low risk, IEC62471 : 2006) –	– Risk group 0 (exempt risk, IEC62471 : 2006)	– Risk group 1 (low risk, IEC62471 : 2006)
Spectral range	White Infrared UV	Approx. 400 nm ... 750 nm –	– Approx. 370 nm ... 900 nm	– Approx. 400 nm ... 750 nm
Offline support	Emulator			

Performance

	Inspector P-series	Inspector I-series	Inspector PI-series	Inspector PIM-series
Maximum performance	75 fps	250 fps	200 fps	
Typical performance	40 fps			
Number of inspections	–	32		64
Reference images	384 px x 384 px 640 px x 480 px	16 objects –	– 32 objects	

Interfaces

	Inspector P-series	Inspector I-series	Inspector PI-series	Inspector PIM-series
Operator interfaces	Inspector Viewer		Inspector Viewer, web server	Web server
Configuration software	SOPAS			
Data store and retrieve	384 px x 384 px 640 px x 480 px	30 images device log, record images on PC	-	
		-	30 images device log, record images on PC, store images to FTP	
Communication interface	100 MBit/s Ethernet			
Ethernet communication	384 px x 384 px 640 px x 480 px	TCP/IP -	- EtherNet/IP	EtherNet/IP, TCP/IP, Web API EtherCAT, dual port, DC, EoE, FoE, CoE, Web API (depending on type) ¹⁾ EtherNet/IP, TCP/IP, Web API
Digital inputs	3 inputs (24 V)	4 inputs (24 V)		
Configurable inputs	External trigger, encoder input, external teach, reference object selection			
Maximum encoder frequency	40 kHz			
Digital outputs	4 outputs, 24 V (B-type)	3 outputs, 24 V (B-type)		
Default outputs	Directional guidance	No object detected, all pass, any fail		
Configurable outputs	384 px x 384 px 640 px x 480 px	- -	Output by logical expressions ²⁾ Output by logical expressions, store images to FTP overflow	- -
Output current	≤ 100 mA			
Control of external illumination	5 V TTL			
I/O Box extension ³⁾	384 px x 384 px 640 px x 480 px	- -	4x inputs for object selection, 16 outputs 5 x inputs for object selection, 16 outputs	- -

¹⁾ The Inspector PI50 EtherCAT variant supports EtherCAT and WebAPI while the other Inspector PI50 variants support EtherNet/IP, TCP/IP and Web API.

²⁾ The Inspector I10 variant does not support "output by logical expressions".

³⁾ The Inspector I10 and Inspector PI50 EtherCAT variants do not support "I/O Box extension".

Mechanics/electronics

	Inspector P-series	Inspector I-series	Inspector PI-series	Inspector PIM-series
Connectors	M12, 12-pin male, M12, 4-pin female			
Supply voltage	24 V DC, ± 20 %			
Ripple	< 5 V _{pp}			
Current consumption	< 450 mA, without output load			
Enclosure rating	IP 67 (with front window mounted)			
Housing material	Aluminum			
Weight	350 g		350 g / 445 g (depending on type)	350 g
Dimensions (L x W x H)	100 mm x 53 mm x 38 mm		100 mm x 53 mm x 38 mm / 126 mm x 45 mm x 38 mm (depending on type)	100 mm x 53 mm x 38 mm

Ambient data

Shock load	EN 60068-2-27
Vibration load	IEC 60068-2-6
Ambient operating temperature	0 °C ... +45 °C ¹⁾
Ambient storage temperature	-20 °C ... +70 °C ¹⁾

¹⁾ Rel. humidity: 35 % ... 85 %, 95 % at operation.

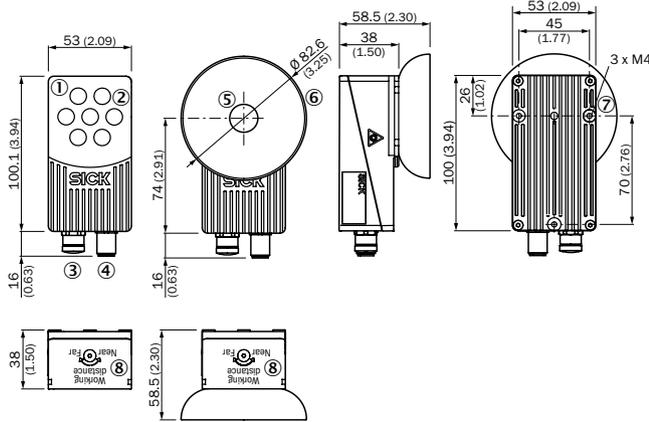
Ordering information

Sub product family	Resolution	Lens	Window material	Light source	Product name	Model name	Part no.	
Inspector P-series	384 px x 384 px	6 mm, exchangeable (M12-mount)	PMMA	White	Inspector P30	VSPP-3F1122	1051982	
Inspector I-series	384 px x 384 px	6 mm, fixed	PMMA	White	Inspector I10 Standard	VSPI-1R111	1042779	
		6 mm, exchangeable (M12-mount)	PMMA	White	Inspector I20	VSPI-2F111	1046732	
	640 px x 480 px	10 mm, exchangeable (M12-mount)		PMMA	Infrared	Inspector I20-IR	VSPI-2F141	1054704
			White		Inspector I40	VSPI-4F2111	1047913	
Inspector PI-series	640 px x 480 px	10 mm, exchangeable (M12-mount)	PMMA	Infrared	Inspector I40-IR	VSPI-4F2411	1054705	
				White	Inspector PI50	VSPP-5F2113	1056082	
					Inspector PI50-IR	VSPP-5F2413	1057303	
Inspector PIM-series	640 px x 480 px	Not included, exchangeable (M12-mount)	No front window included	White	Inspector PI50 EtherCAT	VSPP-5F2134	1056394	
				Infrared	Inspector PIM60 Base	VSPM-6B2113	1064565	
		10 mm, exchangeable (M12-mount)	PMMA	White	Inspector PIM60-IR Base	VSPM-6B2413	1064566	
					Inspector PIM60	VSPM-6F2113	1062407	
			PMMA	Glass	UV	Inspector PIM60-LUT	VSPM-6F2313	1062409
				PMMA	Infrared	Inspector PIM60-IR	VSPM-6F2413	1062408

Dimensional drawing

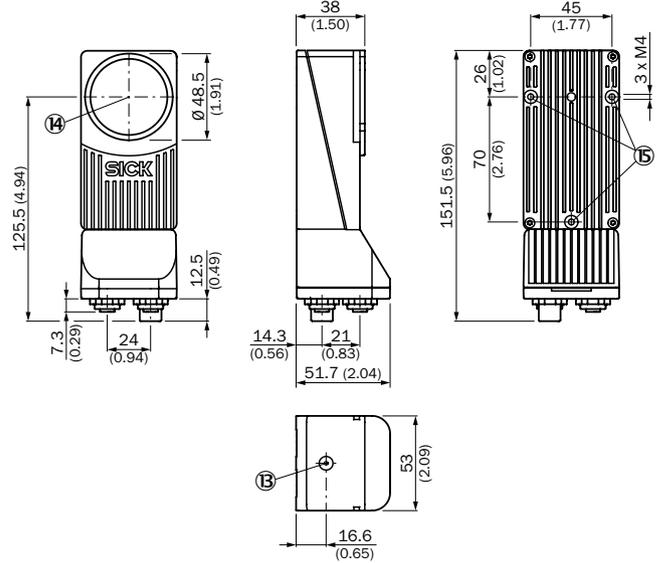
Dimensions in mm (inch)

Standard



- ① Front screen; standard, flex
- ② Ring light
- ③ Ethernet connection M12, 4-pin, female
- ④ Power connection M12, 12-pin, male
- ⑤ Front screen; dome
- ⑥ Dome light
- ⑦ Mounting hole M4
- ⑧ Focus adjustment

EtherCAT

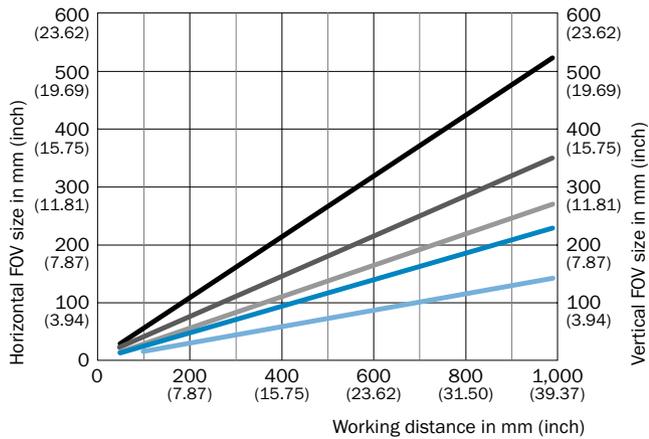


- ⑬ Focus adjustment
- ⑭ Front screen
- ⑮ Mounting hole M4

Field of view

384 px x 384 px

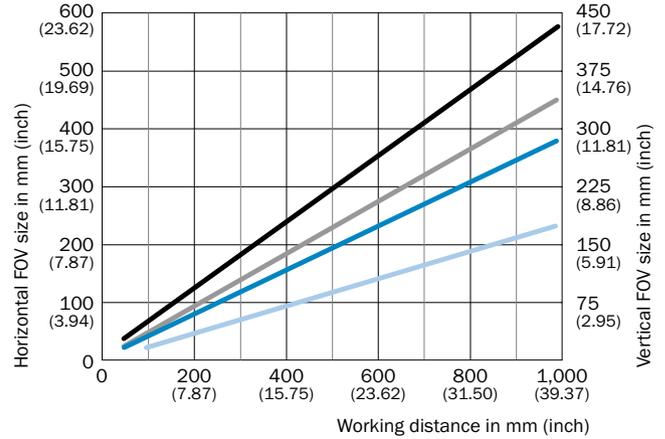
Theoretical FOV size (384 x 384 pixels)



- f = 4.3 mm
- f = 6.0 mm
- f = 8.0 mm
- f = 10.0 mm
- f = 16.0 mm

640 px x 480 px

Theoretical FOV size (640 x 480 pixels)



- f = 6.0 mm
- f = 8.0 mm
- f = 10.0 mm
- f = 16.0 mm

Accessories

Illuminations

LED

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Ring lighting, bright field spot, white lighting color, lighting distance 100 mm ... 350 mm	ICL110-F142	1027286	●	●	●
	Ring lighting, bright field, red lighting color, lighting distance 0.2 m ... 1 m	ICL170-F222	1048371	●	●	●
	Ring illumination, bright field, red lighting color, lighting distance 200 mm ... 1.5 m	ICL260-F222	1052495	●	●	●
	Ring lighting, bright field, red lighting color, lighting distance 200 mm ... 1.1 m	ICL280-F222	1052472	●	●	●
	Ring lighting, bright field spot, infrared lighting color, lighting distance 0.2 m ... 2 m, temperature 0 °C ... +40 °C	ICL300-F202S01	1047957	-	●	-
	Ring lighting, bright field spot, red lighting color, lighting distance 0.2 m ... 2 m, temperature 0 °C ... +40 °C	ICL300-F222	1046820	●	●	●
	VLR Trigger Unit to connect and control VLR lights via camera	VLR Trigger unit	6037290	●	●	●
	Bar light, light source white, outer dimension 109 mm x 28 mm	VLR-10BR1111	6035959	●	●	●
	Spot lighting set, white lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	VLR-10PL1011P01	6037795	●	●	●
	Dark field light, light source white, outer dimension 138 mm x 102 mm	VLR-10RD1311	6037800	●	●	●
	Square ring light, light source white, outer dimension 70 mm x 70 mm	VLR-10RK0211	6035958	●	●	●
	Bar light, light source blue, 470 nm, outer dimension 109 mm x 28 mm	VLR-47BR1111	6035960	●	●	●
	Spot lighting set, blue lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	VLR-47PL1011P01	6037797	●	●	●
	Ring light, light source blue, 470 nm, outer diameter 90 mm	VLR-47RL0411	6037792	●	●	●
	Bar light, light source green, 525 nm, outer dimension 109 mm x 28 mm	VLR-52BR1111	6035961	●	●	●
	Spot lighting set, green lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	VLR-52PL1011P01	6037796	●	●	●
	Back light, light source red, 660 nm, outer dimension 60 mm x 58 mm	VLR-66BL0511	6041961	●	●	●
	Back light, light source red, 660 nm, outer dimension 120 mm x 118 mm	VLR-66BL1611	6041962	●	●	●
	Bar light, light source red, 660 nm, outer dimension 109 mm x 28 mm	VLR-66BR1111	6035962	●	●	●
	Coaxial light, light source red, 660 nm, outer dimension 73 mm x 70 mm	VLR-66CA0311	6035964	●	●	●
	Flat dome light, light source red, 660 nm, outer dimension 143 mm x 143 mm	VLR-66FD1511	6035965	●	●	●

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Spot lighting set, red lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	VLR-66PL1011P01	6037794	●	●	●
	Low angle light, light source red, 660 nm, outer diameter 134 mm	VLR-66RA1211	6035963	●	●	●
	Low angle light, light source red, 660 nm, outer diameter 208 mm	VLR-66RA2011	6037798	●	●	●
	Dark field light, light source red, 660 nm, outer dimension 138 mm x 102 mm	VLR-66RD1311	6037799	●	●	●
	Ring light, light source red, 660 nm, outer diameter 50 mm	VLR-66RL0111	6035957	●	●	●
	Ring light, light source red, 660 nm, outer diameter 90 mm	VLR-66RL0411	6037793	●	●	●

Lens and accessories

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Transparent front screen for variants with exchangeable lens and front window, glass	Front window, Inspector Flex (glass)	2052266	●	●	●
	Transparent front screen for variants with exchangeable lens and front window, PMMA	Front window, Inspector Flex (plastic)	2050690	●	●	●
	Replaces the front window and creates even and homogeneous illumination. For shiny surfaces.	Inspector Flex Dome	2050678	●	●	-
	Interchangeable lens, focal length 4.3 mm, including distance ring ¹⁾	OBJ-B04320BA	2049491	●	●	●
	Interchangeable lens, focal length 6 mm, including distance ring	OBJ-B06025BA	2049668	●	●	●
	Interchangeable lens, focal length 8 mm, including distance ring	OBJ-B08020BA	2056692	●	●	●
	Interchangeable lens, focal length 10 mm, including distance ring	OBJ-B10028BA	2049415	●	●	●
	Interchangeable lens, focal length 16 mm, including distance ring	OBJ-B16018BA	2049418	●	●	●
	Tool for changing front screen and lens on for variants with exchangeable lens and front window	Tool for front window, Inspector Flex	2050703	●	●	●

¹⁾ The 4.3 mm lens is not recommended for variants with 640 px x 480 px resolution.

Modules

Connection modules

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	I/O box extension with 2 ethernet ports enabling switch functionality, number of input = 4, output = 8 ¹⁾	I/O box extension, 4 in/8 out	6037654	●	●	●
	I/O module to add logical output to the I/O extension box, number of logical output = 8, only usage with accessory 6037654	I/O extension module, 8 out	6037750	●	●	●
	I/O module to extend the number of digital inputs in combination with I/O extension box. Number of digital inputs = 2, only usage with accessory 6037654 ²⁾	I/O module, 2 extra digital inputs	6039038	●	●	●

¹⁾ The “I/O Box extension” is not supported by the Inspector P30, Inspector I10 and Inspector PI50 EtherCAT variants.

²⁾ The “I/O module, 2 extra digital inputs” is not applicable for the Inspector I20 variant.

Mounting brackets/plates

Mounting brackets

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Mounting bracket Inspector, angled	BEF-WK-EPA	2045167	●	●	●

Mounting plates

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Standard bracket inspector for mounting the ICL illuminations or an external standard filter	BEF-AP-EPA	2045397	●	●	●
	Flat Inspector adapter plate with mounting holes matching both the Inspector vision sensor and the VLR-66BL1611 backlight. Additional holes for 2 x M6 and 2 x M8 screws.	BEF-AP-Inspector	2063780	●	●	●

Optical filters

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Color filter/blue filter (468 nm ± 62 nm) for variants with exchangeable lens and front window, PMMA	Inspector Flex blue color filter	2050676	●	-	-
	Color filter/green filter (544 nm ± 53 nm) for variants with exchangeable lens and front window, PMMA	Inspector Flex green color filter	2050677	●	-	-
	Color filter/red filter (> 548 nm) for variants with exchangeable lens and front window, PMMA	Inspector Flex red color filter	2050675	●	●	-
	Visible block filter (> 730 nm) for variants with exchangeable lens and front window, PMMA	Inspector Flex visible block filter	2061248	-	●	-

Plug connectors and cables

Connecting cable (female connector-open)

- Connection type head B: cable

	Connection type head A	Cable length	Part no.	Inspector white	Inspector infrared	Inspector UV
 Illustration may differ	Female connector, M12, 12-pin, straight	2 m	6036555	●	●	●
		5 m	6036556	●	●	●
		10 m	6037356	●	●	●
	Female connector, M12, 12-pin, angled	5 m	6044448	●	●	●

Connection cable (male connector-male connector)

- Signal type: Ethernet

	Connection type head A	Connection type head B	Special feature	Authorizations	Cable length	Part no.	Inspector white	Inspector infrared	Inspector UV
	Connector, M12, 4-pin, straight, D-coded	Connector, RJ45, 8-pin, straight	-	-	2 m	6034414	●	●	●
					3 m	6044400	●	●	●
					5 m	6034415	●	●	●
	Connector, M12, 4-pin, straight, D-coded	Connector, RJ45, 8-pin, straight	Drag chain use	-	3 m	6029630	●	●	●
					5 m	6035389	●	●	●
					10 m	6030928	●	●	●
					20 m	6036158	●	●	●
 <small>Illustration may differ</small>	Connector, M12, 4-pin, straight, D-coded	Connector, RJ45, 8-pin, straight	Drag chain use	Ecolab	2 m	6050198	●	●	●
					3 m	6050199	●	●	●
					5 m	6050200	●	●	●
					10 m	6050201	●	●	●
	Connector, M12, 4-pin, angled, D-coded	Connector, RJ45, 8-pin, straight	-	-	5 m	6039488	●	●	●
	Connector, M12, 4-pin, D-coded	Connector, M12, 4-pin	-	-	2 m	6034420	●	●	●
					3 m	6034421	●	●	●
					5 m	6034422	●	●	●

Connection cable (male connector-female connector)

	Connection type head A	Connection type head B	Part no.	Inspector white	Inspector infrared	Inspector UV
	Female connector, M12, 12-pin, straight	Connector, M12, 12-pin, straight	6041763	●	●	●
	Female connector, M8, 4-pin, straight	Connector, M12, 8-pin, straight	6042080	●	●	●

Other connectors and cables

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Converting 12-pin to 8-pin	T-splitter for Inspector	6034950	●	●	●

Terminal and alignment brackets

Terminal brackets

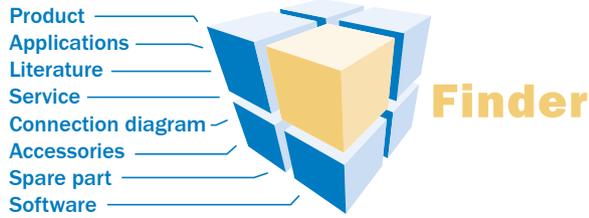
	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Bar bracket with clamp pieces, bar, and adapter plate Inspector, rotatable on two axes	Universal adapter for inspector	1048400	●	●	●

Test and monitoring tools

	Description	Model name	Part no.	Inspector white	Inspector infrared	Inspector UV
	Inspector Viewer for Inspector I-/P-/PI-series	VSPV-22222	2057556	●	●	●

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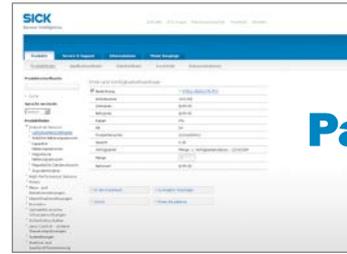


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