

# Quality Inspection

## InspectorP6xx, InspectorP62x

### Customer Presentation



# Agenda

1. Short product description
2. Benefits for your application
3. Application based description
4. Product range
5. Features & Benefits
6. Accessory concept
7. Combinations of accessories and products
8. Available product-related services
9. Summary

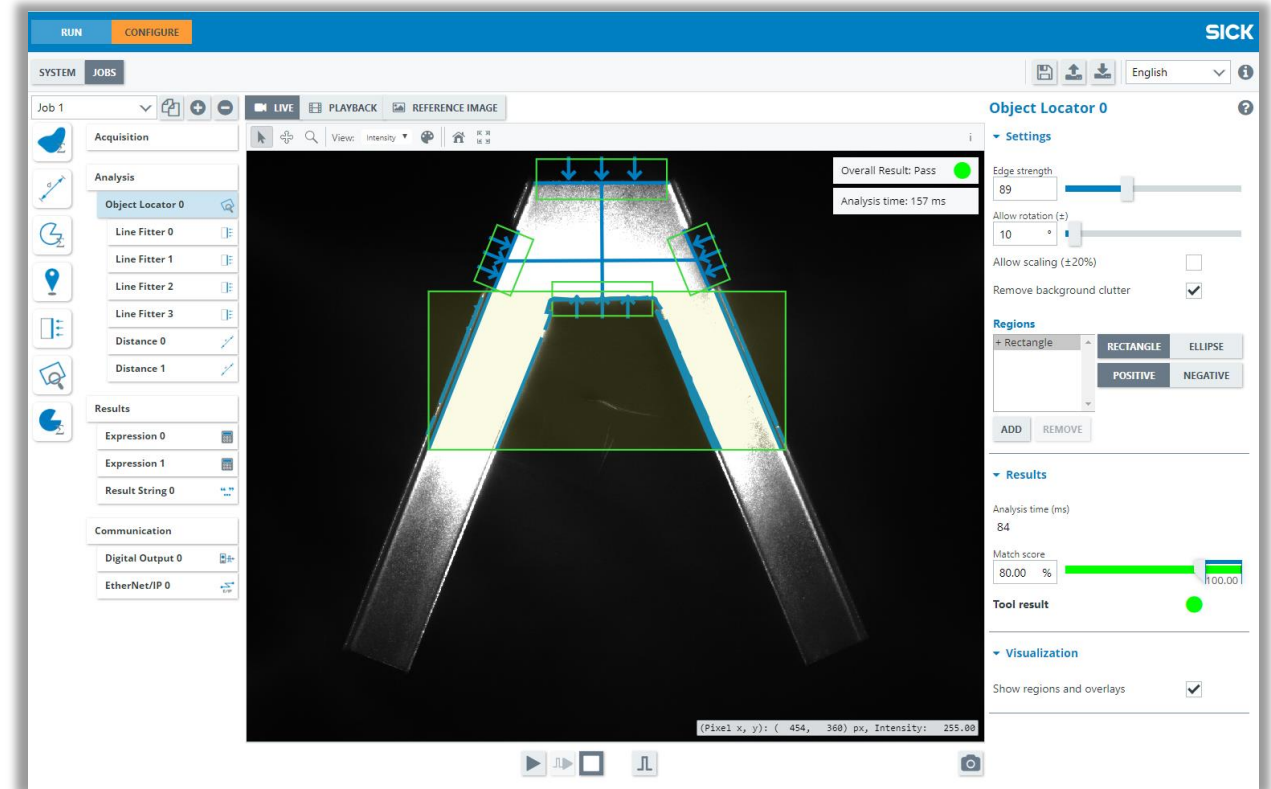
# Quality Inspection - Your quality assurance needs quickly solved

## Short product description

The SensorApp *Quality Inspection*, based on the SensorApp framework SICK Nova, ensures that produced items have the exact qualities required regarding presence and measurements of details. The SensorApp comes pre-installed on InspectorP6xx 2D cameras.

Quality assurance applications are solved by configuring a selection of tools for image analysis using a graphical user interface in a web browser.

The user can easily add standard and custom SICK Nova tools. Special inspection needs are quickly solved with a custom tool, rapidly created by anyone with a SICK AppSpace license.



# InspectorP62x - Easy. Compact. Versatile.

Short product description

The InspectorP62x is an industrial all-in-one vision sensor that is easy to use, compact and versatile. The integrated system of teach auto focus optics and flexible illumination provides high-quality images right out of the box.

The pre-installed Quality Inspection SensorApp welcomes both expert and non-expert users to configure the sensor in no time using an accessible and intuitive web user interface.

As it is based on SICK AppSpace, the InspectorP62x allows for further extension or replacement of functionality through a growing collection of SICK Nova Tools or SensorApps from SICK AppPool, or through custom development if needed.



# InspectorP6xx 2D cameras

## Short product description

The InspectorP6xx is a highly flexible all-in-one vision system. The included Quality Inspection SensorApp allows for a quick and flexible configuration of most quality inspection tasks.

The built-in functionality can be further extended by adding compatible plug-ins, or replaced with compatible SensorApps.

SICK AppStudio (1610199) optionally allows developing custom plug-ins or independent SensorApps with an unparalleled flexibility.

InspectorP6xx is available in three form factors:

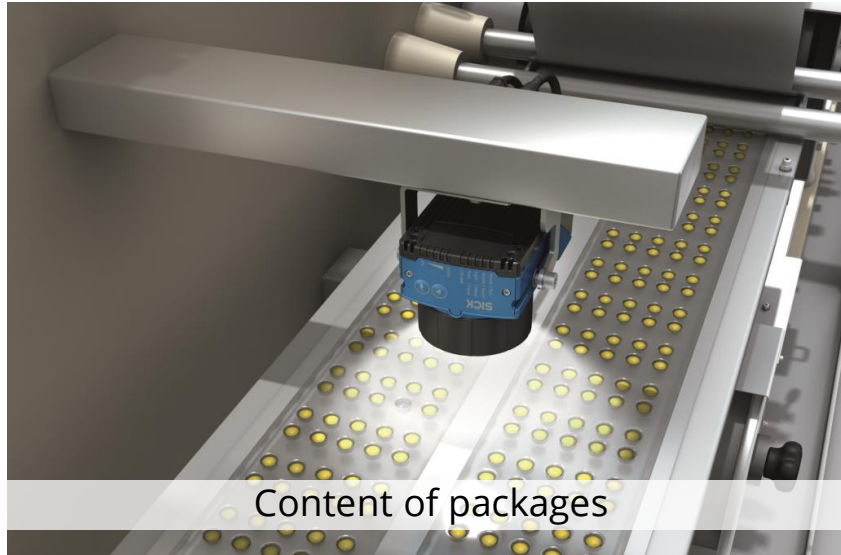
- › InspectorP62x: Compact, versatile, all-in-one for most inspection tasks
- › InspectorP63x: Extra flexible illumination, compact, useful when high resolution or large field of view is needed
- › InspectorP64x & P65x: Extra high resolution, and extra large field of view



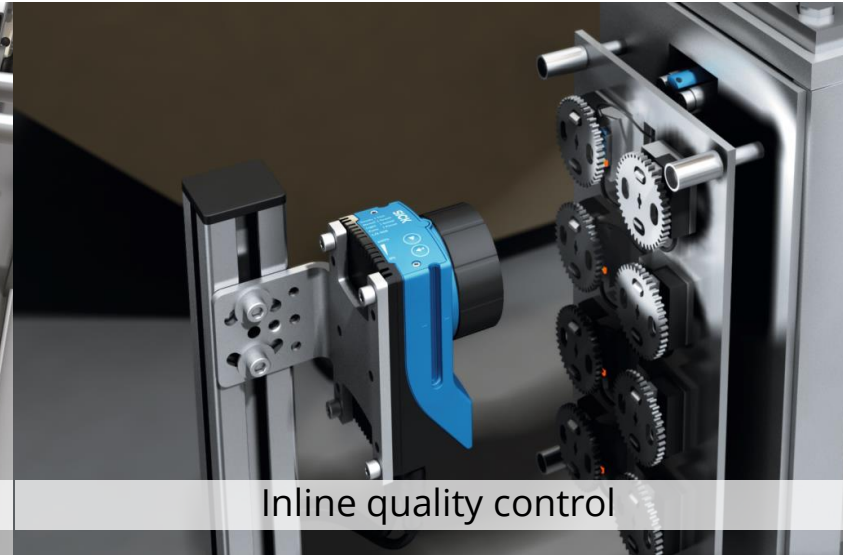


# Quality Inspection & InspectorP6xx

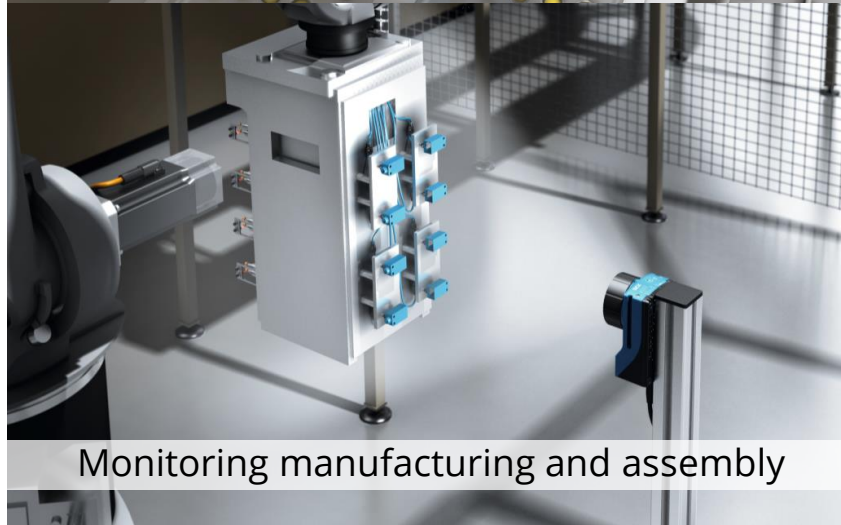
Benefits for your application



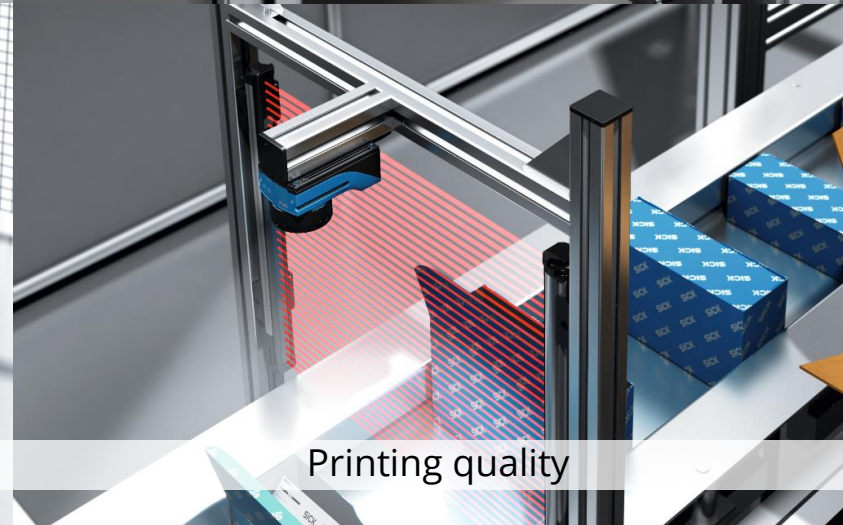
Content of packages



Inline quality control



Monitoring manufacturing and assembly



Printing quality

# InspectorP6xx 2D cameras

## Application based description



### InspectorP62x

- › Inline quality control, in electronics, food and beverage, and automotive
  - Especially where space is limited, or flexible mounting is needed
- › Manufacturing, assembly and packaging verification
- › Part localization and picking
  - Medium scale
- › Guidance applications
  - Medium scale



### InspectorP63x

- › Inline quality control, food and beverage, and automotive
  - Especially where specialized illumination is required, or a larger field of view
- › Manufacturing, assembly and packaging verification
- › Part localization and picking
  - Especially for large field of view such as in Automotive
- › Guidance applications
  - Especially large scale

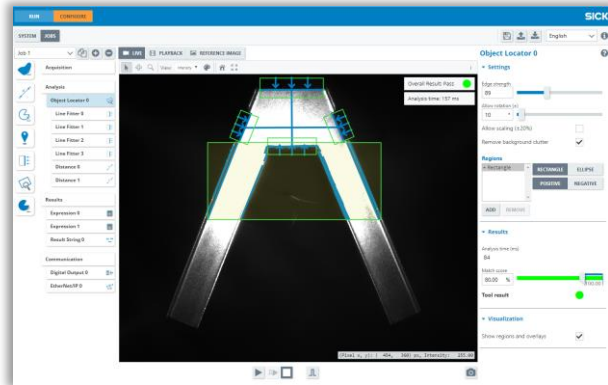


### InspectorP64x / P65x

- › Inline quality and print control, food and beverage, and automotive
  - Especially where very extra high resolution is needed, or a very large field of view
- › Part localization and picking
  - Especially for extra large field of view such as in Automotive
- › Guidance applications
  - Especially very large scale

# Quality Inspection – the next SICK Nova SensorApp

Product range



**New!**

## Quality Inspection v1.x

- Measuring tools added
- PROFINET added
- Command channel added
- ...and more
- Tool plug-in for custom solutions
- Sample tools with open source code



## Quality Inspection v1.0

- **Calibration added**
- **Measuring tools added**
- Tool plug-in for custom solutions
- Sample tools with open source code



## Presence Inspection v2.2

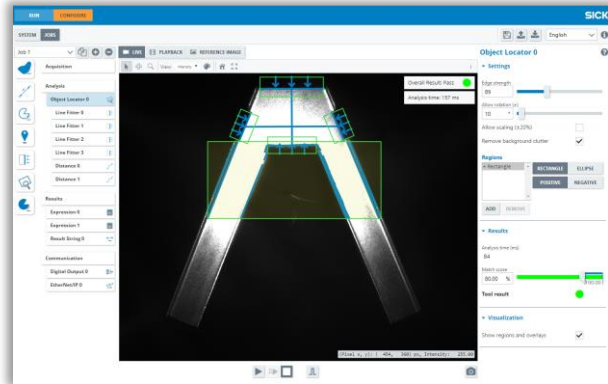
- Vision tools for inspecting presence
- Result and Communication tools
- Tool plug-in for custom solutions
- Sample tools with open source code





# Quality Inspection – the next SICK Nova SensorApp

Product range



Q2-Q4  
2020  
Selective  
launch



For partners and selected  
customers only, ready to  
**discuss deep learning**

## Intelligent Inspection v1.x

- Deep Learning AI included
- Classification tool added
- ...followed by Anomaly, Segmentation and Detection
- Tool plug-in for custom solutions
- Sample tools with open source code

Q3-Q4  
2020



## Quality Inspection v1.x

- Measuring tools added
- PROFINET added
- Command channel added
- ...and more
- Tool plug-in for custom solutions
- Sample tools with open source code

**New!**



## Quality Inspection v1.0

- **Calibration added**
- **Measuring tools added**
- Tool plug-in for custom solutions
- Sample tools with open source code



## Presence Inspection v2.2

- Vision tools for inspecting presence
- Result and Communication tools
- Tool plug-in for custom solutions
- Sample tools with open source code

# Positioning within the existing portfolio

Product range

**New!**



## InspectorP62x

- 1.3 MP monochrome
- Pre-mounted optics and illumination
- Automatic teach focus



## InspectorP63x

- 1.3 and 1.9 MP monochrome
- Flexible optics and lighting
- S- and C-mount



## InspectorP64x

- 1.7 monochrome
- Flexible optics and lighting
- C-mount



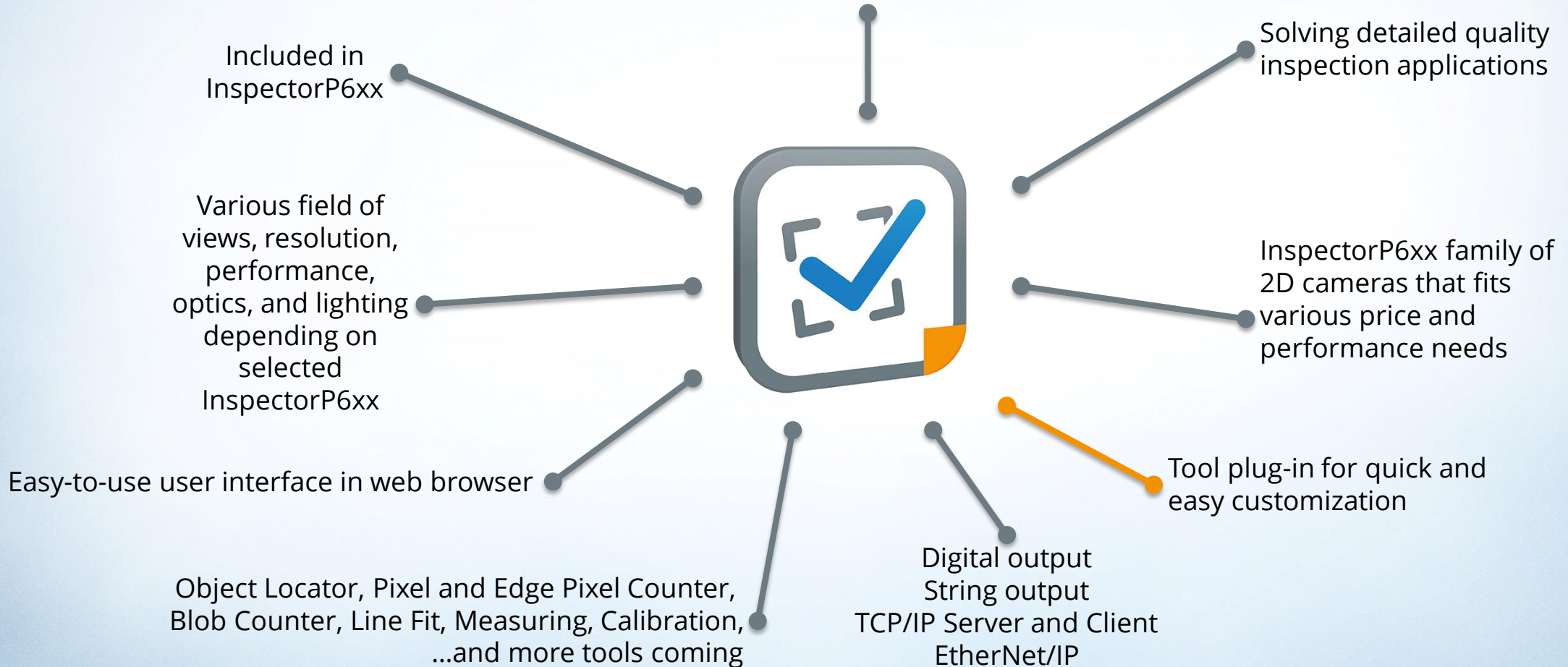
## InspectorP65x

- 2.1 and 4.2 monochrome
- Flexible optics and lighting, or Dynamic Focus
- C-mount

# Quality Inspection

## Main features

2D vision quality inspection





# Quality Inspection

Features in detail

The screenshot shows the SICK Quality Inspection software interface. At the top, there are tabs for 'RUN' and 'CONFIGURE'. The main window displays a live video feed of a mechanical part with various analysis tools overlaid. On the left, there is a 'Tool tree' and 'Work flow' section. On the right, there is a 'Tool pane' for 'Object Locator 0' with settings like 'Edge strength', 'Allow rotation', and 'Match score'. The interface is designed for a 'Web browser user interface' and supports '1.3-4 Mpix image resolution'. Other features include 'InspectorP6xx cameras', 'Image acquisition controls', and 'Free downloadable SensorApp'.

Run & Configure modes

Live, Playback & Reference images

Save and Load Configuration

Job handling

Work flow

Tool tree

Tool boxes with drag-and-drop

Quick addition of standard and custom tools

Free downloadable SensorApp

InspectorP6xx cameras

Image acquisition controls

1.3-4 Mpix image resolution

Online manual per tool

Tool pane

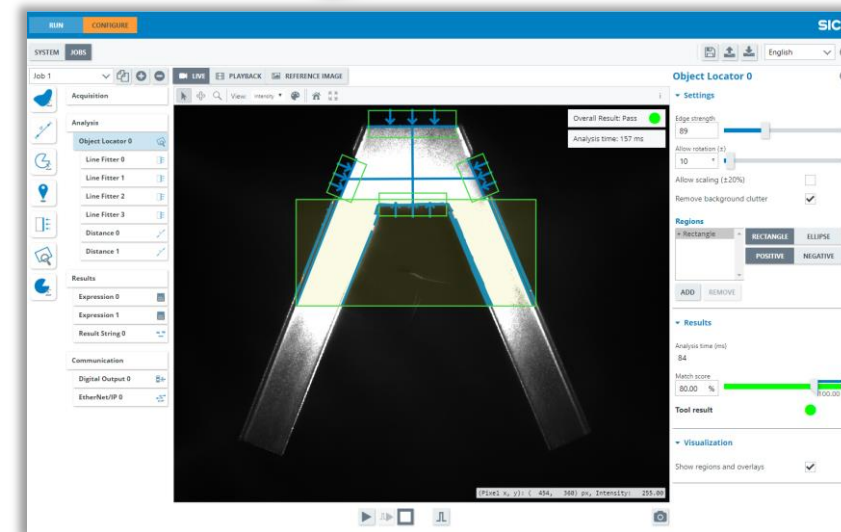
Web browser user interface



# Quality Inspection

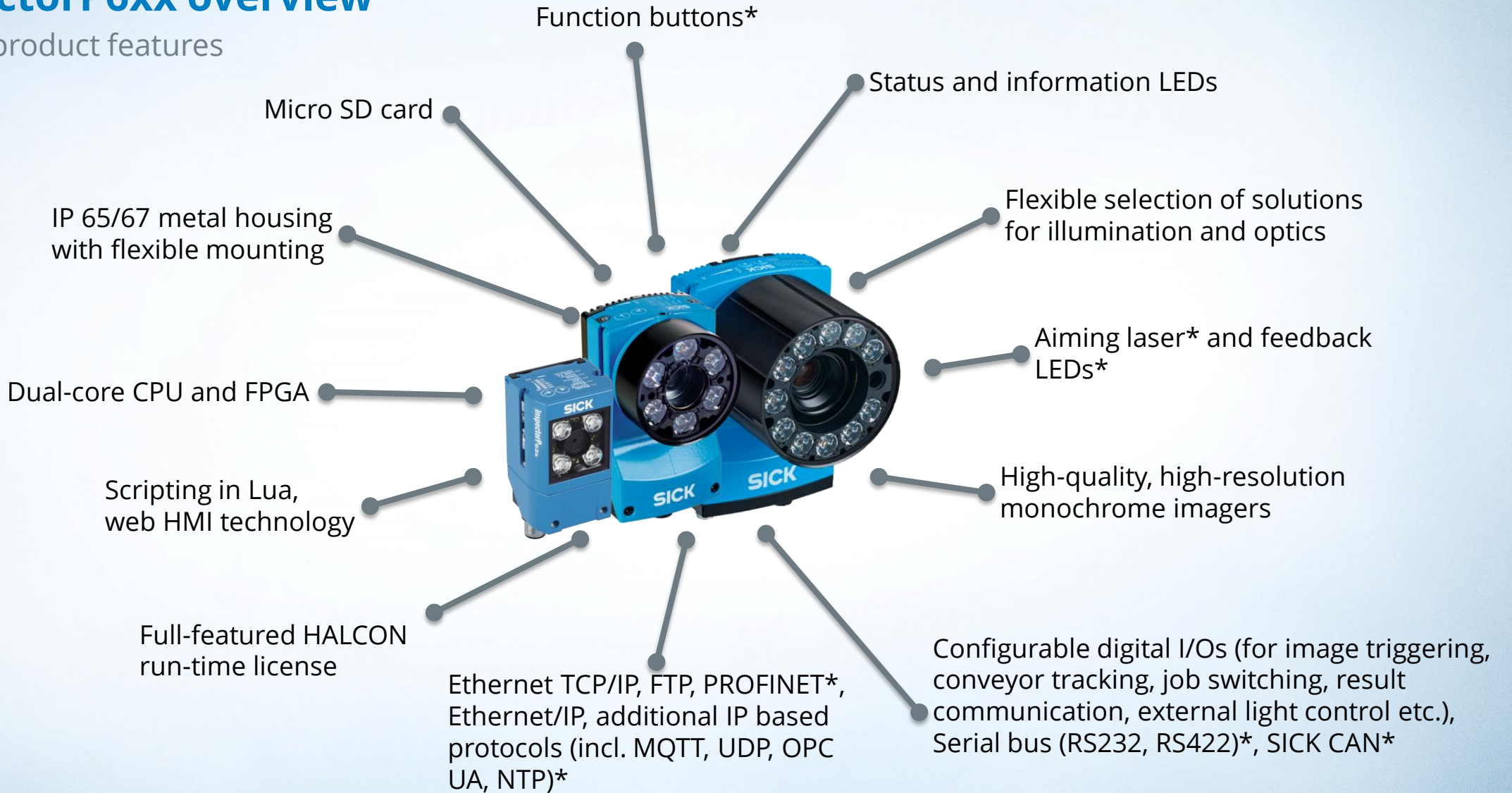
## Benefits

- › Automated quality analysis and verification of details to improve production yield and speed
- › Reliable inspection to reduce waste and avoid production downtime
- › Customer satisfaction by delivering high-quality products
- › Free up staff for more fulfilling assignments by eliminating dull, dangerous or dirty work tasks
- › Your special inspection needs quickly solved with a custom tool
- › Ability to create your own customized solutions
- › The InspectorP6xx selection of 2D cameras fits various price and performance needs
- › Embedded training makes learning quick and convenient



# InspectorP6xx overview

Shared product features



\* Not yet supported by Quality Inspection

# InspectorP62x

Special product features



## Product features shared with all InspectorP6xx

- › Industrial quality housing
- › High quality imager
- › Dual-core CPU and FPGA
- › Ethernet TCP/IP, PROFINET\*, Ethernet/IP, additional IP based protocols
- › Function buttons\*
- › Status and Information LEDs
- › Aiming laser\* and feedback LEDs\*
- › Flexible Configurable I/Os, Serial bus\*, SICK CAN\*
- › Micro SD card
- › Scripting in LUA, web HMI technology
- › Full-featured HALCON run-time license

\* Not yet supported by Quality Inspection



# InspectorP63x

Special product features

Highly flexible lens system with **exchangeable S- or compact C-mount lens** with space for optional color filter

Compact and flexible with extensive **illumination and optics options**

For flexible field of view at short, medium or long range

High-resolution 1.3-1.9 MP monochrome imagers

**IP 67** metal housing with flexible mounting

Gigabit Ethernet connector for maximum performance

Optional filters for NIR pass, NIR block or polarization

Flexible, compact and high-power integratable lighting in multiple color variants (red, blue, white, infrared) and FoV variants

Accessory system for optional external illumination, attached with bracket or stand-alone for maximum flexibility (multiple colors, backlight, ring light, spotlights, etc.)

Dedicated **external illumination connector** for easy use of optional external illumination

## Product features shared with all InspectorP6xx

- › Industrial quality housing
- › High quality imager
- › Dual-core CPU and FPGA
- › Ethernet TCP/IP, PROFINET\*, Ethernet/IP, additional IP based protocols
- › Function buttons\*
- › Status and Information LEDs
- › Aiming laser\* and feedback LEDs\*
- › Flexible Configurable I/Os, Serial bus\*, SICK CAN\*
- › Micro SD card
- › Scripting in LUA, web HMI technology
- › Full-featured HALCON run-time license

\* Not yet supported by Quality Inspection



# InspectorP65x & P64x

Special product features



## Product features shared with all InspectorP6xx

- › Industrial quality housing
- › High quality imager
- › Dual-core CPU and FPGA
- › Ethernet TCP/IP, PROFINET\*, Ethernet/IP, additional IP based protocols
- › Function buttons\*
- › Status and Information LEDs
- › Aiming laser\* and feedback LEDs\*
- › Flexible Configurable I/Os, Serial bus\*, SICK CAN\*
- › Micro SD card
- › Scripting in LUA, web HMI technology
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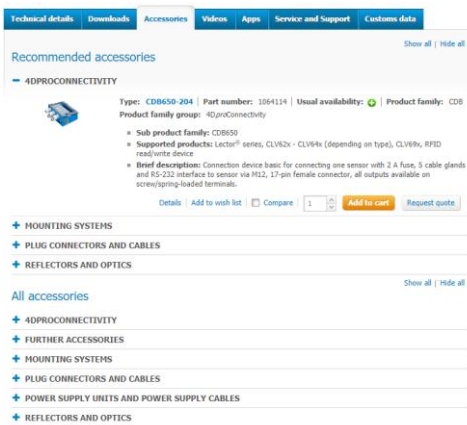
\* Not yet supported by Quality Inspection

# Accessory Information

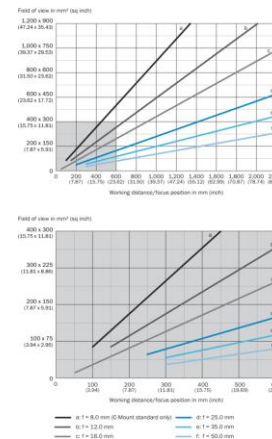
## Accessory concept

All accessories and related information are found on the SICK webpage

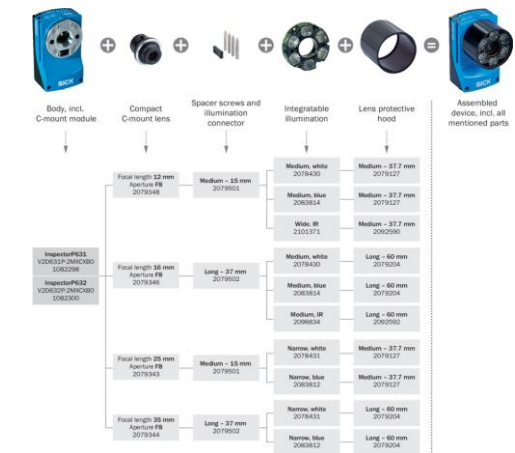
- InspectorP62x: <https://sick.com/inspectorp62x/>
- InspectorP63x: <https://sick.com/inspectorp63x/>
- InspectorP64x: <https://sick.com/inspectorp64x/>
- InspectorP65x: <https://sick.com/inspectorp65x/>



Accessory list for each variant



Field of view diagram for lens options



Selection guide for illumination and optics options

# Accessory Highlights

Combinations of accessories and products


## InspectorP62x



- › (Factory mounted illumination, lens already included)
- › Flexible external illumination options
- › (NIR filter included for NIR variant)
- › Front cover options for protection and polarization filter

## InspectorP63x



- › Very powerful integratable illumination in multiple colors & NIR
- › Large selection of compact C-mount and S-mount lenses depending on variant
- › Flexible external illumination options
- ›  Extra fast to commission with external illumination, thanks to a dedicated connector
- › Filter options for polarization, NIR

## InspectorP64x & InspectorP65x



- › Extremely powerful integratable illumination in multiple colors
- › Extremely flexible selection of C-mount, extra high resolution lenses
- › Flexible external illumination options
- › Filter option for polarization

## Additional accessories for all InspectorP6xx

- › Cables
- › Mounts
- › Connection boxes
- › Communication boxes
- › SD Cards
- › Device cleaning supplies
- › Power Supplies

# Available services for InspectorP6xx

Available product-related services

## Extended Warranty

- › extension to 3 years total warranty [1680670](#)
- › extension to 5 years total warranty [1680671](#)

## Maintenance / Commissioning

- › Maintenance [1612242](#) MLP 4 h x Local Rate
- › Commissioning [1612238](#) MLP 8 h x Local Rate
- › Description of Warranty and Maintenance:  
→ Please check the product pages (links above)





## Your quality assurance needs quickly solved

### 2D Vision Configurable Camera – out-of-the-box

- › Quality Inspection pre-installed on all InspectorP6xx
- › The InspectorP6xx selection of 2D cameras fits various performance needs

### Easy-to-use

- › Web user interface and embedded training makes learning quick and convenient



### Toolset for detailed quality inspection

- › Tools for presence and measuring inspection, calibration, and location

### Quick customization by using tool plug-in feature

- › Custom tools are easily added by user
- › Custom tools are rapidly created by anyone with a SICK AppSpace license

More information online:

- › [sick.com/Quality\\_Inspection](https://sick.com/Quality_Inspection)

# Summary InspectorP62x

## Easy. Compact. Versatile.

### Easy to use

- › Easy start for anyone with the pre-installed Quality Inspection SensorApp

### Powerful LEDs, high-quality lens, and teach auto focus

- › The integrated system of teach auto focus optics and flexible illumination provides high-quality images right out of the box

More information online:

- › [sick.com/InspectorP62x](https://www.sick.com/InspectorP62x)



### Compact

- › Fits in small spaces and tight angles

### Quick customization

- › Extend or replace functionality through a growing collection of SICK Nova Tools or SensorApps from SICK AppPool, or through custom development if needed

# For Developing Customers

## SICK AppSpace

- › SICK development framework which allows fully tailored solutions with all programmable SICK products (eg. InspectorP)
- › Custom development in SICK AppSpace requires a license

## SICK Nova

- › The core of the included Quality Inspection SensorApp
- › The easiest way to get started with custom development in SICK AppSpace for InspectorP
- › Allows for easy and efficient extension and reuse of existing and custom functionality for developers

## SICK Algorithm Library

- › Programming library in AppSpace, which access to specialized image processing functions for industrial image processing, tailored to our products
- › Fully included in AppSpace

## Halcon Image Library

- › An alternative to SICK Algorithm Library, for customers who prefer to develop using the third party Halcon library
- › Run time license is built into InspectorP, development license (HDevelop) needs to be acquired separately



For partners and selected customers only ready to invest in AppSpace competence



**Thank you**

