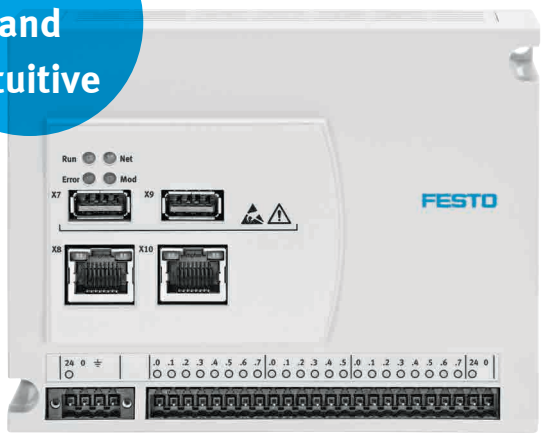
Smart camera SBRD

FESTO

Easy and intuitive



Fast and reliable inspection!

Highlights

- A cost-effective 5 megapixel camera system
- All-rounder for standard applications
- Fast parameterisation
- Particularly process-stable image processing
- Control with dual-core processor and PROFINET communication

The smart camera SBRD is ideal for both beginners and professionals. Its high-resolution USB cameras, the specially designed machine vision controller and the powerful image processing software open up new options in automation and robotics. All with tried-and-tested performance from Festo.

Designed for multi-camera tasks
The space-optimised, fanless remote head controller features a powerful dual-core processor and PROFINET interface, and is specially designed for multi-camera tasks. The two camera interfaces allow inspections to be carried out from several perspectives or with large fields of view. The lightweight and ultra-compact USB cameras SBPB provide monochrome or colour images. Resolution of up to 5 megapixels is the optimal solution for many standard applications – and is extremely cost-effective at the same time.

Fast and process reliable
The image processing software Camera Configuration Studio (CCS) is easy and intuitive to operate. The unique image analysis by using image lists enables images to be processed in a very stable way.
The additional tool CCS xRun allows you to parameterise inspection tools for pick & place applications extremely quickly. This saves time during program development and maintenance.

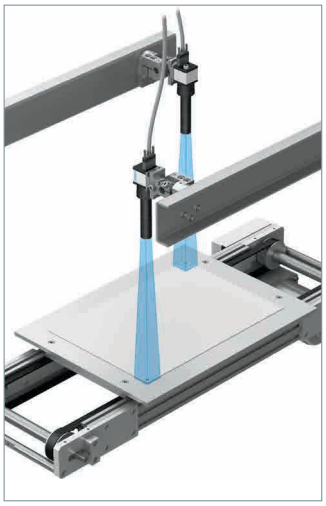
Smart camera SBRD

The components

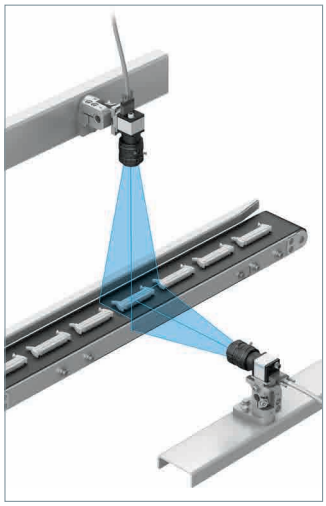
Controller SBRD-Q
- Two camera interfaces
- LAN interface for parameterisation
- SD card
- PROFINET communication

USB cameras SBPB
- Monochrome and colour
- 1.3 to 5 megapixels
- CMOS sensors
- Incl. cables suitable for energy chains (up to 30 m)

Application examples for multi-camera tasks



Edge guide control



Checking plugs from two perspectives

Software Camera Configuration Studio (CCS) – this is how images come to life:

The image processing software Camera Configuration Studio delivers fast and reliable results for your tasks using the smart camera SBRD. It allows you to configure inspection programs and define, log and adjust all processes, from image recording to the input and output parameters, and simulate them in advance on the PC.

Specially developed for pick & place solutions
The CCS xRun additional tool allows you to parameterise test tools quickly and avoids having to take many single steps. With this tool, you only need to carry out settings once so that they can subsequently be automatically applied to all found objects. This makes program development and maintenance easier and keeps the program structure very neat and tidy.

Access to all important information
Once you have finished defining your tool settings, tool combinations or special task settings, they can easily be saved in the tool set memory. This means that tried-and-tested settings for your application solution are available directly in the program without having to set the same parameters time and time again.

Evaluation using image lists
Configure and evaluate inspection characteristics – with any number of recordings. To achieve this, simply take different sample parts and record them. You can define what exactly needs to be analysed and how this should be done. The test results are generated on the basis of a wide range of data and thus enables particularly stable image processing.

Commissioning step-by-step
The Job Navigator allows you to conveniently jump back and forth between the components' individual commissioning steps. All steps are displayed in the required and correct order. Numerous settings can be made via the editing function, such as evaluation modes, image parameters or filters. If everything is OK, simply save your job on one of the 255 storage spaces on the smart camera.

Smart camera SBRD

Great functionality at a small price – available tools

The many inspection programs and functions it can run are what make the smart camera SBRD so flexible. Just take a closer look: the vision system is equipped with numerous tools with which you can check almost anything. It offers the best value for money on the market.

ROI

Calculates characteristics such as key coordinates, dimensions, circumference and surface area

Pattern matching

Searches for up to four pre-learned patterns per tool

Brightness inspection

Determines the brightness or contrast of the pixels in a freely definable area within the image

Data matrix code reader

Reads 2D codes (QR, PDF417, ECC200, Aztec Code, etc.) and also determines the quality in accordance with ISO/IEC 15415 guidelines

Circle and edge finder

Determines least-square circles and least-square lines of object edges and the associated quality characteristics

Single/multiple measurement

Searches along a search line or search circle for transitions between the background and the part, or for relevant changes in brightness

Colour check

Determines the colour of the pixels corresponding to the RGB, HSV and YUV colour spectra in a freely definable area within the image

Bar code reader

Reads 1D codes (barcodes) of a variety of types

Blasting tool

Searches along parallel or star-shaped search lines for transitions between the background and the part, or for relevant changes in brightness

Blob finder

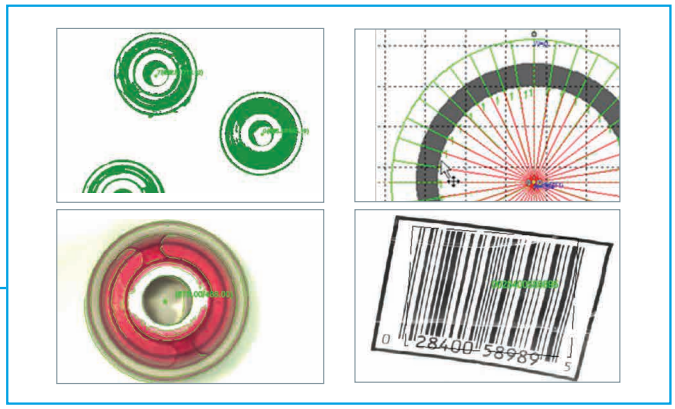
Searches for adjacent pixels within the previously selected brightness or colour range in order to generate individual objects from pixel clouds

Coordinate transformation

Transforms camera coordinates into global coordinates in a nonlinear way

Text recognition (OCR)

Reads plain text in different fonts and forms



Smart camera SBRD

Accessories

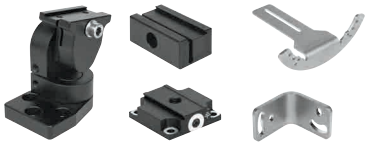
The matching accessory range rounds off the universal machine vision hardware, from C mount lenses, mounting accessories, connecting cables and plug connectors to lighting.

Surface light SBAL

Ring light SBAL

Lens SASF

Connecting cables NEBS and NEBC



Mounting components SBAM

Technical data

SBRD-Q	
Dimensions W x H x L [mm]	130 x 106 x 60
Type of mounting	Via through-hole for M4 screw
	Via H-rail
Product weight [g]	315
Nominal operating voltage DC [V]	24 (+/–10%)
Power consumption 24 V [W]	20
Input/output interface	10x digital input, PNP (positive-switching) 2x digital input with pull-up resistor 8x digital output, PNP (positive-switching), max. 450 mA Separate voltage supply
Camera interface	2x USB 3.0 type A Exclusively for Festo cameras type SBPB
Ethernet interface	TCP/IP for diagnostics and programming PROFINET, protocol CC-A, CC-B
Memory card	microSD, max. 32 GB (not included in the scope of delivery)
Degree of protection	IP20
Ambient temperature [°C]	–5 ... +50
Relative air humidity [%]	95, non-condensing
Order number	**8067301**