

Ensure quality with industrial image processing

PROCESS OPTIMIZATION FOR THE BAKING INDUSTRY

Time-consuming, error-prone manual inspection

Industrial production of fresh baked goods is becoming increasingly common, in turn placing an emphasis on automated processes. The highest priority in the process is quality, but manual quality inspection of raw dough, its packaging and marking is highly time-consuming and prone to errors. This is especially true with large machines. For example, machines that combine gentle dough punching and turning with the many different molds involved in intelligent punch and cutting technology and can use specialized add-on equipment to produce virtually any baked product or variety for any operation.

Industrial image processing for high cycle rates

Such process steps can hardly be checked at high production speeds without adequate technology. Balluff offers such automatic and reliable systems. Our solutions for industrial image processing ensure maximum quality early in the production process.

SmartCameras ensure high quality and increase efficiency

With our SmartCameras you can count on product quality, correctness of the baking process and product packaging, as well as early and complete detection of non-conformal baking products. Slow manual, error-prone processes with high scrap rates and the costly processing of complaints can be a thing of the past. You also lighten the load on your production lines and increase efficiency.

In addition, with our solutions for industrial image processing you comply with the strict legal requirements as well as the demands of the market for traceability of the products in their respective processes.

Our SmartCameras detect production errors early in the process and take over quality inspection of objects. They detect machine codes, text or serial numbers and assists robots in position finding.

SmartCameras are simple and intuitive to use

Using common web browsers you can easily set up our SmartCameras, generate inspection programs and pass inspection results to the controller or file servers. And you can easily enter guideline, for example the shape and image of the "good" product with its packaging, the production batch number, the number of products per packaging unit and the individual product number (serial number).

Another benefit: our SmartCameras are intuitive in operation. Their software features individual tools based on industry-proven HALCON basic algorithms. Poorly formed dough products, lack of care in manual processing, incorrect packaging or poorly packaged products are eliminated with our SmartCameras.

Benefits at a glance

- Economical solution: various interfaces and fieldbus versions for easy integration into existing processes
- Reliable results even at the highest speeds
- Conforms with regulations and reduces scrap: reliable automatic checking of quality, completeness and correctness of goods and packaging
- Intuitive and simple to use, software features individual tools based on industry-proven HALCON basic algorithms
- Standard BVS Cockpit operator software; custom software solutions possible
- Eases the burden on production lines and increases efficiency

Product portfolio:

- BVS SmartCamera
- BAE SmartVision Controller
- BVS Cockpit User Interface
- BAE Monitor System
- BVS Vision Sensor
- Accessories



PORTFOLIO –
SMARTCAMERA BVS SC



	BVS0029	
Application	Barcode-, 2D-, OCR identification	
Image resolution	1280 x 1024 pixels	
Sensor type Vision	CMOS 1/1.8" monochrome global shutter	
Housing material	Aluminum, Painted	
Dimension	62 x 55 x 110 mm	
Switching output	2x IO configurable	
Interface	LAN (Gigabit Ethernet); Profinet / EtherNet/IP; IO-Link	
Operating voltage Ub	19.2...28.8 VDC	
Ambient temperature	0...55 °C	
Approval/Conformity	CE, cULus, WEEE, EAC	
Ingress protection	IP67 with protection tube	
Barcodes	GS1 Databar, GS1-128, UPC-A, UPC-E, EAN-8, EAN-13, 2/5 Industrial, 2/5 Interleaved, Codabar, Code 128, Code 39, Code 93, MSI, UPC-A, UPC-E	
2D codes	Aztec Code, Data Matrix ECC 200, GS1 Aztec Code, GS1 Data Matrix, GS1 QR Code, Micro QR Code, PDF 417, QR Code	

PORTFOLIO –
SMARTCAMERA LITE BVS SL



	BVS003W	
Application	Barcode-, 2D-, OCR identification	
Image resolution	1280 x 1024 pixels	
Sensor type Vision	CMOS 1/1.8" monochrome global shutter	
Housing material	Aluminum, Painted	
Dimension	65 x 40 x 99.5 mm	
Switching output	6x IO configurable	
Interface	LAN (Gigabit Ethernet); Ethernet TCP/UDP; RS232	
Operating voltage Ub	19.2...26 VDC	
Ambient temperature	0...55 °C	
Approval/Conformity	CE, EAC, WEEE	
Ingress protection	IP67 with protection tube	
Barcodes	GS1 Databar, GS1-128, UPC-A, UPC-E, EAN-8, EAN-13, 2/5 Industrial, 2/5 Interleaved, Codabar, Code 128, Code 39, Code 93, MSI, UPC-A, UPC-E	
2D codes	Aztec Code, Data Matrix ECC 200, GS1 Aztec Code, GS1 Data Matrix, GS1 QR Code, Micro QR Code, PDF 417, QR Code	



BVS002A	BVS002F
Object inspection, Object detection, Range, Barcode-, 2D-, OCR identification	Object inspection, Object detection, Range, Barcode-, 2D-, OCR identification
1280 × 1024 pixels	1280 x 1024 pixels
CMOS 1/1.8" monochrome global shutter	CMOS 1/1.8" monochrome global shutter
Aluminum, Painted	Aluminum, Painted
62 × 55 × 110 mm	62 × 55 × 110 mm
2x IO configurable	2x IO configurable
LAN (Gigabit Ethernet); Profinet / EtherNet/IP; IO-Link	LAN (Gigabit Ethernet); Profinet / EtherNet/IP; IO-Link
19.2...28.8 VDC	19.2...28.8 VDC
0...55 °C	0...55 °C
CE, cULus, WEEE, EAC	CE, cULus, WEEE, EAC
IP67 with protection tube	IP67 with protection tube



BVS003T	BVS003P
Object inspection, Object detection, Range, Barcode-, 2D-, OCR identification	Object inspection, Object detection, Range, Barcode-, 2D-, OCR identification
1280 x 1024 pixels	1280 x 1024 pixels
CMOS 1/1.8" monochrome global shutter	CMOS 1/1.8" monochrome global shutter
Aluminum, Painted	Aluminum, Painted
65 × 40 × 99.5 mm	65 x 40 x 99.5 mm
6x IO configurable	6x IO configurable
LAN (Gigabit Ethernet); Ethernet TCP/UDP; RS232	LAN (Gigabit Ethernet); Ethernet TCP/UDP; RS232
19.2...26 VDC	19.2...26 VDC
0...55 °C	0...55 °C
CE, EAC, WEEE	CE, EAC, WEEE
IP67 with protection tube	IP67 with protection tube

PORTFOLIO –
SMARTCAMERA BVS SC



	BVS002A – SmartCamera Fieldbus	BVS002F – SmartCamera Color
	BVS0029 – SmartCamera Ident	
	BVS0033 – SmartCamera HDevelop	
Sensor type Vision	CMOS 1/1.8", monochrome global shutter	CMOS 1/1.8", color, global shutter
Image resolution	1280 × 1024 pixels	
Interface	LAN (Gigabit Ethernet)	LAN (Gigabit Ethernet); Profinet / EtherNet/IP; IO-Link
Ingress protection	IP67 with protection tube	

PORTFOLIO –
SMARTCAMERA LITE BVS SL



	BVS003U – Monochrome Tracking	
		BVS002A – Color Tracking
	BVS0029 – Monochrome Ident	
	BVS0033 – Monochrome Standard	
		BVS002F – Color Standard
Sensor type Vision	CMOS 1/1.8" monochrome global shutter	CMOS 1/1.8" color global shutter
Image resolution	1280 × 1024 pixels	
Interface	LAN (Gigabit Ethernet); Ethernet TCP/UDP; RS232	LAN (Gigabit Ethernet); Profinet / EtherNet/IP; IO-Link
Ingress protection	IP67 with protection tube	