BALLUFF

sensors worldwide

SHARPSHOOTER™ Sensor

...vision based error proofing

SHARPSHOOTER™

A New Vision of Error Proofing

- Combines sensor simplicity with vision system performance
- Fast, simple, software-driven set up
- Provides flexible, powerful error proofing
- Small size makes for convenient operation
- One-unit operation replaces cumbersome multi-sensor arrays
- Provides faster ROI than vision systems

Sharpshooter™ is the first vision-based sensor designed to be an extension of your present sensor-based error proofing system. It provides reliable part or feature presence/absence, position detection, and dimensional verification. This product can be used like a sensor, but provides far more functionality than any discrete sensor. And it's also far easier to use than more complex vision systems.

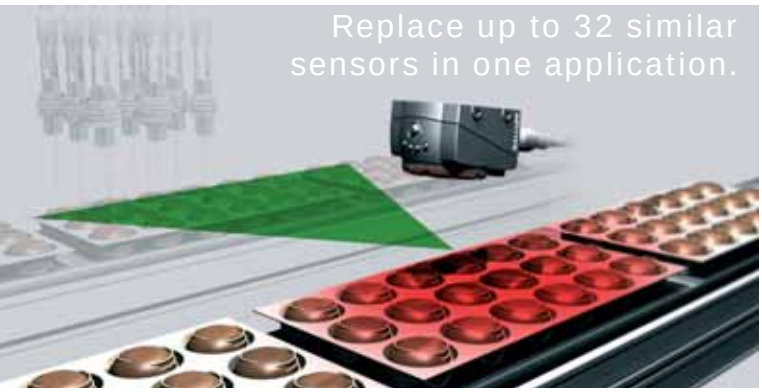
In most production situations, vision systems can be overkill – too expensive, too much functionality, and just too complex. Instead we designed a product that's easy to set up, simple to use, and quick to return your initial investment. It has just enough functionality to be the first vision-based sensor solution you'll adopt and maybe the last vision product you'll need.

Sharpshooter's status LEDs indicate proper operation, I/O status, and Ethernet connection. An external teach button is also provided to allow in-line reference image teaching without the use of a PC connection.

Actual size

Sharpshooter's compact size allows quick set up like a sensor for most error proofing and detection applications. It provides a built-in lockable focus lens ring, integral red LED ring light, and four projectable LED marks to define the target area for fast, easy, and reliable image setup.

Sharpshooter uses industrial M12 connectors. One provides I/O for power, detection results, remote job changeovers, external trigger, and lighting. The other provides a fast Ethernet connection to the easy ConVis® interface software on a network or direct to a PC.

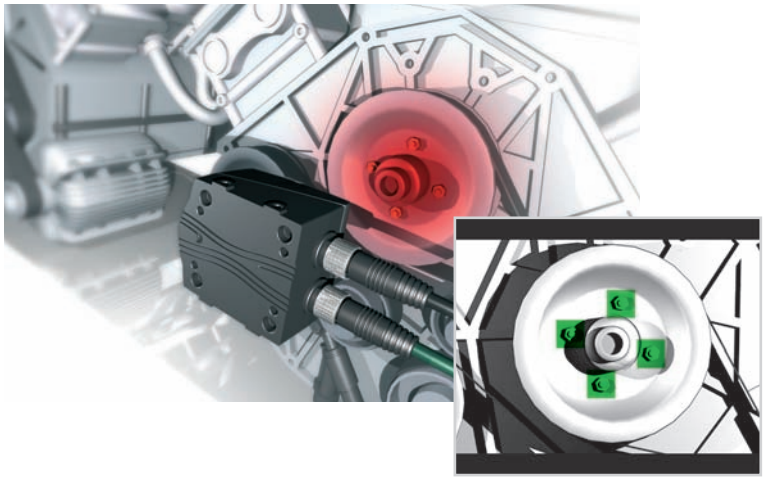


Sharpshooter™ is a powerful error proofing sensor.

Sharpshooter can replace up to 32 similar sensors in a given inspection or error proofing process discrete or analog sensor functions. This gives Sharpshooter powerful error proofing flexibility and

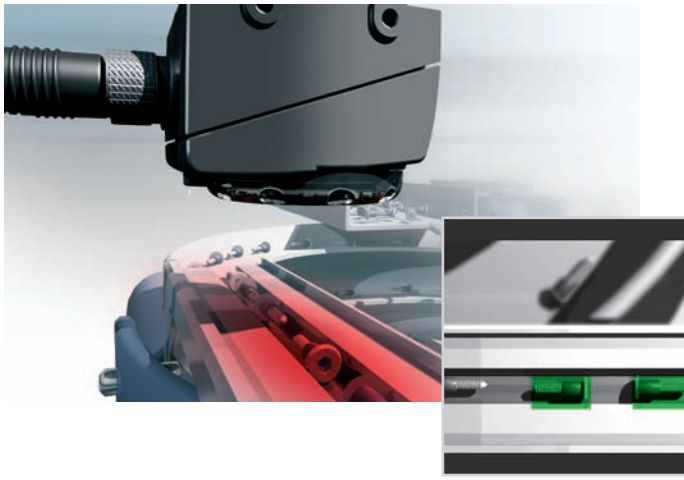
Presence check

These V-belt pulleys are attached with four nuts. Sharpshooter™ inspection can confirm the presence of all the nuts to guarantee product quality. Inspection is possible even if the nut position varies.



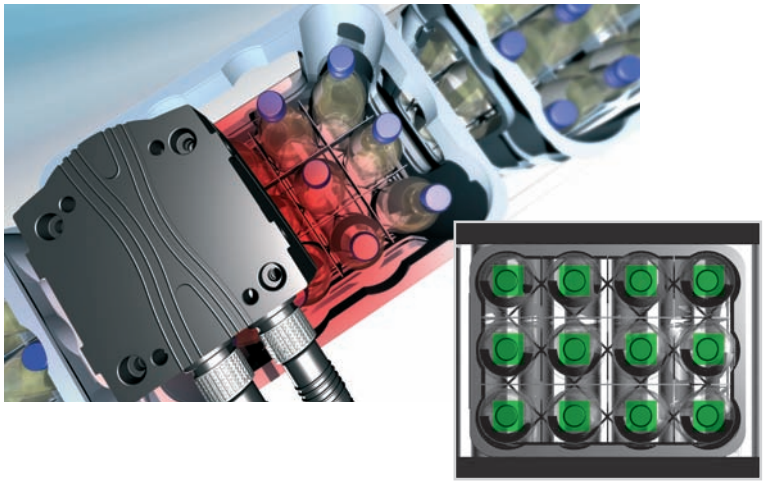
Position detection

A vibrating conveyor delivers screws for assembly. The system must be stopped if screws are incorrectly positioned or of a different type. Sharpshooter verifies screw type, positioning, and orientation.



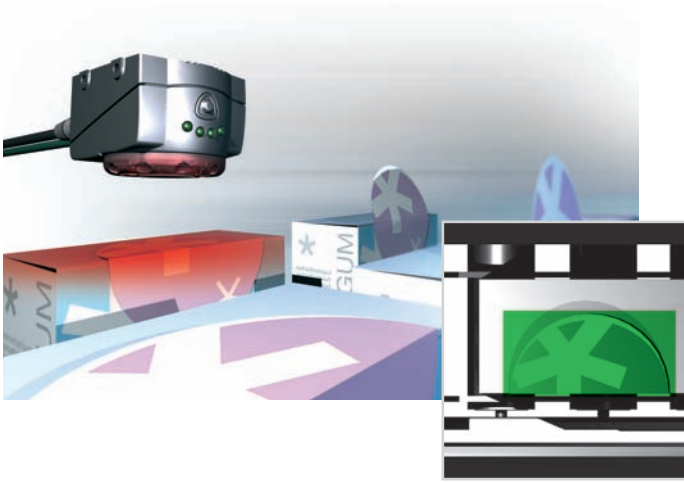
Packing completeness check

Product completeness is checked following manual or automatic packing. Three configurable outputs allow monitoring the completeness of each row, or virtually any other aspect.



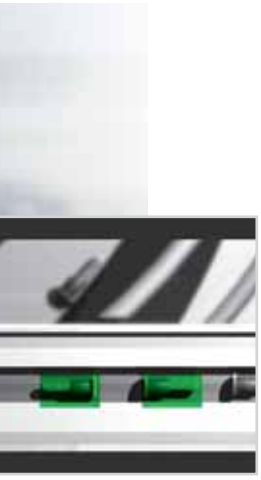
Package check

Every package needs a label – but sometimes it isn't where it belongs or is incompletely attached. Sharpshooter can verify each label's presence and its correct position.



ing process and can take the place of up to seven different
flexibility and performance.

ctly
ifies



Pattern matching

Cans are checked for proper imprinting in a quality assurance process. Sharpshooter provides seven different functions, which can be combined differently depending on the application.

t
d.
and

Assembly check

Injection molded or assembled parts are checked in final inspection. Sharpshooter has the ability to compensate for part misalignment, allowing for reliable inspection.

Easy software-driven set up is as simple as 1-2-3.

ConVis® Software from Balluff makes setting up Sharpshooter™ a simple, intuitive process.
Balluff's windows-based ConVis configuration GUI software uses a step-by-step configuration process to guide you through set up, including interactive help and a multiple image viewing buffer to identify an optimum reference image for setup, and to provide selectable images for operation testing. The ConVis software also operates as an emulator to allow you to set up and test projects off-line for greater flexibility, then download them to the sensor.

Use Ethernet connectivity to simply connect Sharpshooter to your production PC, or network several Sharpshooter's to a PC using our exclusive SensorFinder® feature. The built-in assistant guides you through the configuration process in three easy steps. The screen shows you where you are throughout the entire process so adjustments and corrections are quick and easy to make.

1 Step 1 Image Set Up

In the ConVis software, each step provides a format, making set up an intuitive task. In Image Setup, the setup process is defined as on-line or off-line. A new or existing setup is defined and an off-line reference image is chosen or on-line image is configured and captured for use.

2 Step 2 Teach

In the Teach step, an external trigger type is selected, a part position Locator tool is selected and configured, and up to 32 Controls are selected and configured for detection and measurement.

3 Step 3 Run

The Run step allows set up and definition of the three outputs, image saving modes, and external teach button status. A completed project can also be tested both on-line or off-line for adjustments and refinement. And finally, the Sharpshooter can be set to run and monitored on-line for operation results.

Setup Steps
Configure the sensor in three easy steps

Control Panel
All characteristics at a glance

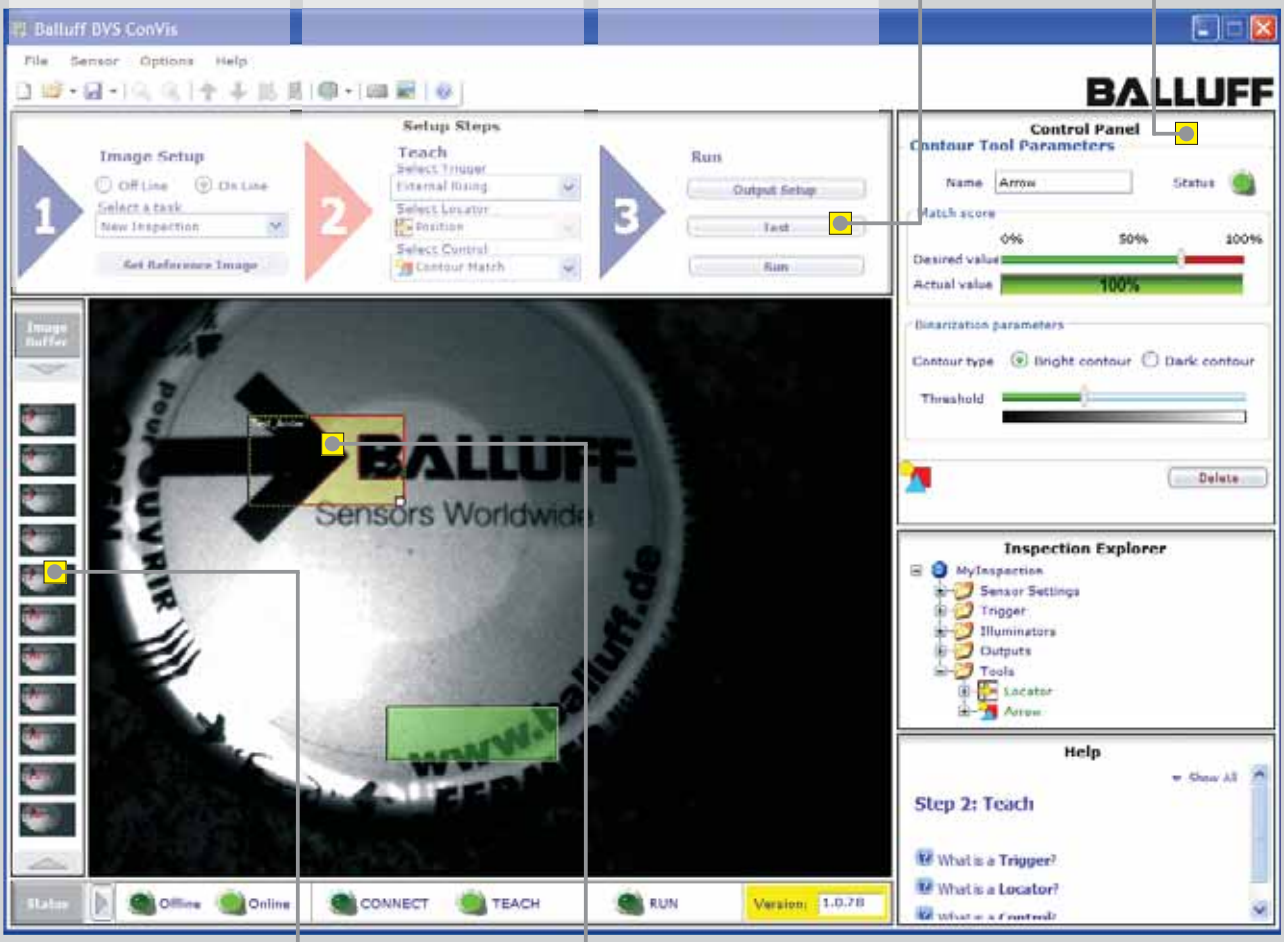
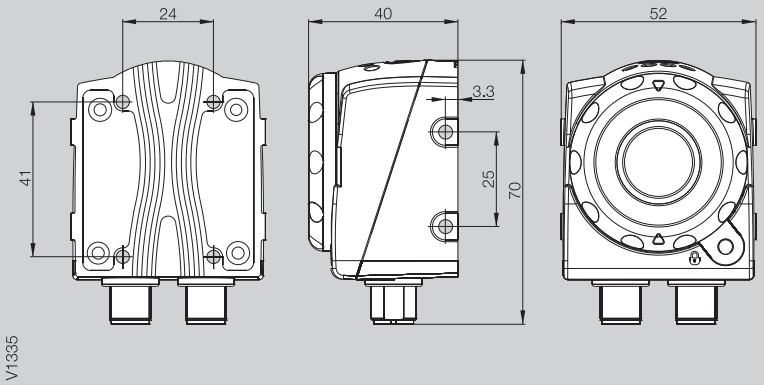


Image Buffer
for image previewing

Control Region
The region of interest used by the control for detection or inspection

Technical Data

Product Overview



	Balluff SHARPSHOOTER™			
	BVS OI-3-001-E-xx	BVS OI-3-002-E-xx	BVS OI-3-003-E-xx	BVS OI-3-004-E-xx
Electrical Data				
Operating voltage U_B	24 V DC ±10 %			
Switch inputs	1× trigger, 1× select (Serial)			
Switch outputs	1× lighting synchronization, 3× PNP/NPN configurable			
Output current	100 mA			
PNP	■		■	
NPN		■		■
Functions and Characteristics				
Parameterization software	ConVis® for Windows XP			
Typical detection rate	3...15 Hz (depending upon analytical function)			
Optical Data				
Image sensor	CMOS–SW–VGA 640×480			
Working range	50...1000 mm			
Field of view, normal, horizontal x vertical (in mm)	Working distance: min. 50 / max. 1000 — Field of view: 25×20 / 460×380			
Field of view, tele, horizontal x vertical (in mm)			Working distance: min. 50 / max. 1000 — Field of view: 17×12 / 320×210	
Lights	LED, front illumination (red), can be switched off			
Alignment assistance	4 LED green, can be switched off			
Mechanical Data				
Dimensions	58×52×40 mm			
Connector	2× M12 plug (8- and 4-pole)			
Protection type per IEC 60529	IP 65			
Ambient temperature T_a	–10...+55 °C			

Accessories

- Plug connectors
- Mounting bracket
- BMS mounting system
- Lights

USA
Balluff Inc.
8125 Holton Drive
Florence, KY 41042
Phone: (859) 727-2200
Toll-free: 1-800-543-8390
Fax: (859) 727-4823
E-Mail: balluff@balluff.com

Canada
Balluff Canada, Inc.
2840 Argentia Road, Unit #2
Mississauga, Ontario L5N 8G4
Phone: (905) 816-1494
Toll-free: 1-800-927-9654
Fax: (905) 816-1411
E-Mail: balluff.canada@balluff.ca

Mexico
Balluff de Mexico S.A. de C.V
Prol. Av. Luis M. Vega #109
Col. Ampliacion Cimatario
Queretaro, QRO 76030
Phone: (++52 442) 212-4882,
224-3583, 224-3171
Fax: (++52 442) 214-0536
E-Mail: balluff.mexico@balluff.com

No. 158512 · Edition 102007 · 0763 · Product specifications, availability, and pricing are subject to change without notice.

www.balluff.com/sharpshooter