

BALLUFF
sensors worldwide

SHARPSHOOTER® Series
Vision based error proofing



SHARPSHOOTER®



Balluff Sharpshooter® Series

The best combination of vision sensing simplicity and functionality

SHARPSHOOTER®

In most production situations, vision systems can be overkill – too expensive, too much functionality, and just too complex. Instead, Balluff Sharpshooter® sensors are easy to set up, simple to use, and quicker to return your initial investment.

The Sharpshooter is a powerful error proofing tool that can be used in almost any area of your manufacturing process. It provides reliable part or feature presence/absence and position detection, plus dimension verification with crisp and reliable resolution. The Sharpshooter has far more functionality than any discrete sensor, sensor array, or vision product in its class.



Actual Size

Increases Product Quality

- Eliminates unreliable manual inspection
- Allows 100% quality checking instead of audit checking
- Provides the resolution needed for reliable quality inspection

Reduces Costs

- Single-unit operation replaces expensive, cumbersome multi-sensor solutions
- Three models with two performance levels to choose from provide multiple price points based on functionality
- Easy to use software minimizes setup time and cuts startup costs
- Provides vision performance at smart sensor pricing

Increases Productivity

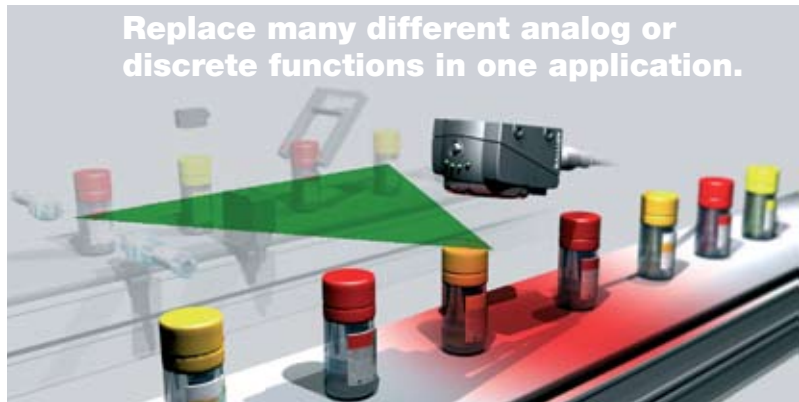
- Improves line speed and error proofing by eliminating the need for manual inspection
- Catches errors sooner to reduce unplanned downtime and scrap
- Reduces planned downtime with greater functionality and flexibility

The Sharpshooter simplifies complex sensing applications.

Replace up to 24 sensors in one application.



Replace many different analog or discrete functions in one application.





Provides "best in class" functionality at a low cost



PC and Network Configuration

Standard

- Seven flexible software tools to choose from including: edge finding, brightness, contrast, contour, and basic two-axis pattern matching tools
- Up to 24 tools can be used in a single job with three pass/fail outputs
- External trigger, job switching, and illumination control I/O
- DHCP Ethernet capability

Advanced

- 360° geometric pattern matching software tool
- All software tools follow part rotation for greatest flexibility and reliability
- Configurable and flexible output logic links any tool or combination of tools to any of three discrete outputs
- DHCP Ethernet capability

Stand-Alone Configuration Tool

Stand-Alone

- No PC required for setup
- Panel mount Configurator unit uses simple 3.5" LCD color graphic interface and setup process
- Choose one inspection tool from a library of seven
- Multiple Sharpshooter sensors can be individually set up and monitored by a single Configurator to minimize hardware costs



Sharpshooter® Series

Sharpshooter can replace up to 24 sensors in a given inspection or error proofing process and can take the place of many different discrete or analog sensor functions



Packaging – Standard Version

Conformance/Presence Check

Inspect a bottle cap to determine the presence and the integrity of the cap liner.

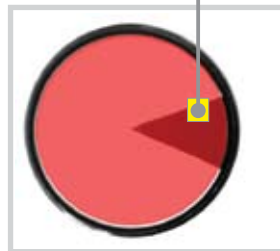
Pass

Bottle cap liner is present and intact



Fail

Liner damaged



Packaging – Stand-Alone Version

Optical Character Verification

Confirm that product codes are printed on labels by using BVS-C with Configurator.

Pass

Correct characters are printed on label



Fail

Incorrect characters are printed on label



Electronics – Standard Version

Assembly Verification

Inspect a circuit board to ensure that all connectors are present and verify the correct orientation of all the capacitors.

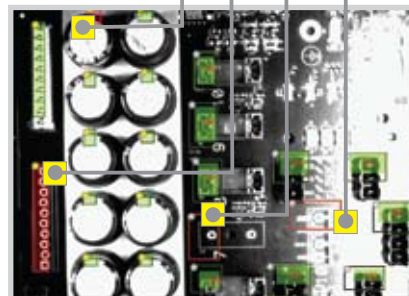
Pass

All connectors are present and capacitors are in correct orientation



Fail

Missing connector
Bad orientation



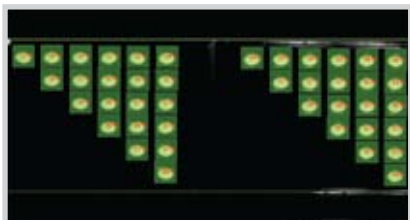
Pharmaceutical – Standard Version

Package Presence Verification

Verify the presence of all the pills packaged in a blister pack.

Pass

All pills are present in package



Fail

Missing pill



See additional applications at www.balluff.com/sharpshooter.

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Application examples



Packaging – Advanced Version

Package Flap Detection

Detect if major and minor flaps are in proper position on package.

Pass

Proper flap seal



Fail

Flap position failures



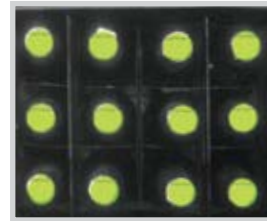
Packaging – Advanced Version

In-line Quality Conformance

Verify presence of caps on bottles.

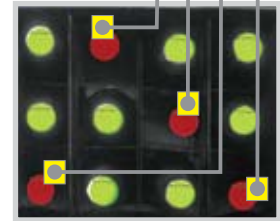
Pass

Bottle caps are present



Fail

Missing cap



Automotive – Standard Version

Dimensional Gauging/Component Inspection

Inspect fuel injector for verification/presence of electrical cap, injector nozzle, o-ring, and gauging for the proper injector width.

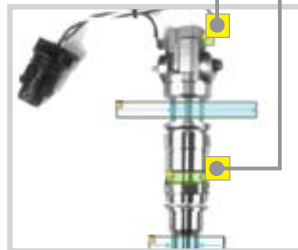
Pass

Verify presence of components and proper injector width



Fail

Missing o-ring
Missing cap



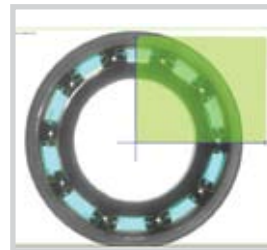
Automotive – Advanced Version

Geometric Pattern Matching – Searches X, Y, and 360° Rotation for Geometric Features

Verify presence of bearings and size of gaps.

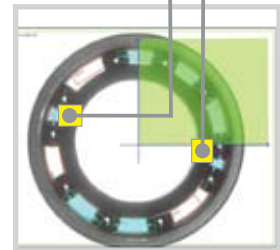
Pass

Bearings present;
gaps correct



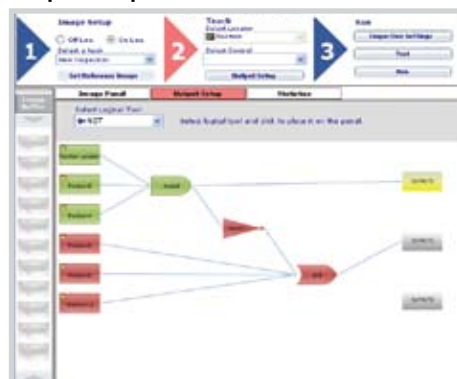
Fail

Incorrect gap



Advanced Sensor Output Logic

Output setup



- Advanced output capability
- Use logical operation on one or more tools to create a single output
- Combine multiple tools and configurations
- Easily manage complex output functionality

Boolean logic gates

NOT	
AND	
NAND	
OR	
NOR	
XOR (EXCLUSIVE OR)	
XNOR (EXCLUSIVE NOR)	
MAJORITY	

For further information using logic gates, visit www.balluff.com/sharpshooter.

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Flexible choices and powerful tools

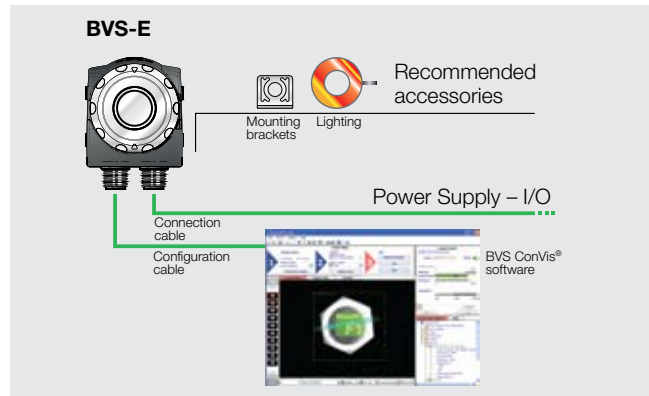
Sharpshooter at a Glance

	BVS-E Standard/Advanced	BVS-C Standard
Tools	7 (standard) or 8 (advanced)	7
Tools used per job	up to 24	1
BVS stored jobs	20	8
Connection	Single or networked by PC	One sensor at a time per Configurator
Bus interface	Ethernet	None

PC/Network Use

Benefits of the BVS-E

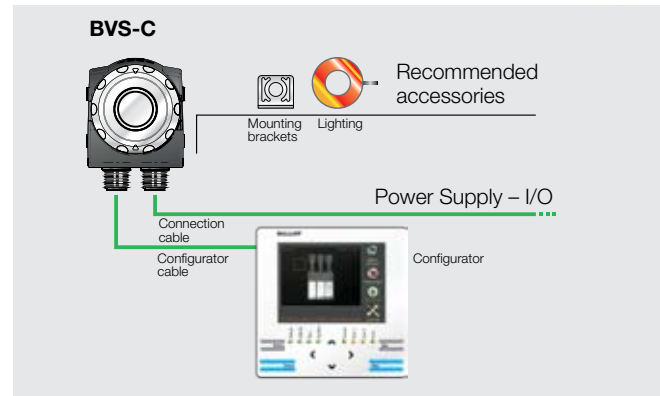
- Simple Windows™ interface for quick and easy setup
- Network multiple BVS sensors for easy access and use
- Inspect many features in one job, multiple jobs are stored internally



Stand-Alone Use

Benefits of the BVS-C

- Perfect for simple inspections without using a PC
- Graphic based Configurator for easy setup
- Good for stand-alone machine needs
- Allows continuous status monitoring via the Configurator



Sharpshooter Tool Set

Available Tools	Tool Description	Applications	BVS-E STD	BVS-E ADV	BVS-C STD
Brightness	Calculates average intensity of pixels in Region Of Interest (ROI).	<ul style="list-style-type: none"> • Verify part presence • Check part illumination • Determine part completeness 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contrast	Calculates differences between lightest to darkest pixels in ROI.	<ul style="list-style-type: none"> • Verify part presence • Verify part assembly • Check for part damage 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contour	Searches for taught outline or contour in ROI.	<ul style="list-style-type: none"> • Differentiate parts shapes • Check part features • Check for burrs or flashing 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Edge Position	Locates position of edge transition in pixels in ROI.	<ul style="list-style-type: none"> • Verify part position • Check for fill level • Verify label or cap position 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Edge Count	Counts number of edge transitions in ROI.	<ul style="list-style-type: none"> • Verify pins on a IC • Check for threads • Count contents in a package 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Edge Width	Measure distance between two edge transitions in pixels like calipers.	<ul style="list-style-type: none"> • Verify hole width • Check for part tolerance • Differentiate package size 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pattern Match	Searches in X and Y directions for taught pattern within search area.	<ul style="list-style-type: none"> • Verify part presence • Locate parts • Check for quantity of parts 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Geometric Pattern Match	Searches in X, Y and Rotational directions for geometric features of taught pattern within search area.	<ul style="list-style-type: none"> • Locate rotated parts • Verify part rotational angle • Locate complex part shapes 		<input checked="" type="checkbox"/>	
Optical Character Verification (OCV)	Compares taught character models to those in ROI.	<ul style="list-style-type: none"> • Check for correct lot/date print • Check for logos • Check for special characters 			<input checked="" type="checkbox"/>

Sharpshooter® Series

Sharpshooter interface

BVS-E Sharpshooter PC Interface

Frame buffer	Function tabs	ROI – Region of Interest	Setup steps	Tool Panel	Built-in help and overview function
Multiple image reviewing	Easy access to image viewing, statistics data, and output setup	Image area used for tool comparison/measurement	Configuration in three easy steps	All the properties at a glance	Quick dynamic help reference

Step 1
Connect

Easily connect the PC to the sensor via Ethernet, configure image and trigger, set reference image.

Step 2
Configure

Set up position compensation and inspection tools.

Step 3
Run

Configure the outputs and evaluate the results.

For a step-by-step setup demonstration visit:
www.balluff.com/sharps shooter

BVS-C Sharpshooter Configurator Interface

Step 1
Connect

Easily connect the sensor to the Configurator.

Step 2
Configure

Select the appropriate tool and define image settings.

Step 3
Run

Set the tool parameters, outputs, and test your inspection.

For a step-by-step setup demonstration visit:
www.balluff.com/sharps shooter

Sharpshooter® Series

BVS-E ConVis® PC software versions

There are three Sharpshooter BVS-E lens choices (see the image area size and working distance chart below). The BVS-E has two software versions; both use the same easy 3-step setup ConVis® configuration software. The standard tool set provides seven flexible inspection and measurement tools for simple X and Y based inspections.

The advanced BVS provides the same seven tools, but also includes 360° part location compensation with an advanced Geometric Pattern Matching tool and flexible output logic.



Series	
Version	
Lens, focal length	
PNP	Ordering code
	Part number
NPN*	Ordering code
	Part number
Supply voltage U_s	
Switching inputs	
Switching outputs	
Output current	
Configuration interface	
Parameter setting	
Image sensor	
Assured working distance (see chart below)	
Field of view (horizontal x vertical)	
Lighting (integrated)	
Alignment aid	
Dimensions	
Connection	
Degree of protection per IEC 60529	
Ambient temperature range T_a	

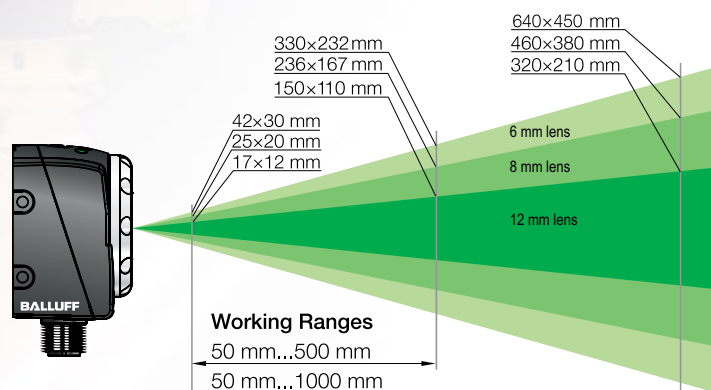
* Trigger and select inputs are PNP based

** Ordering code not available, use part number

Choose the lens option that's right for you
(6 mm, 8 mm, or 12 mm)

Working distance and field of view

- Wide angle lens, 6 mm
- Standard lens, 8 mm
- Telephoto lens, 12 mm



Use the above diagram to help determine whether the 6 mm, 8 mm, or 12 mm lens option is right for your application.



6 mm
lens

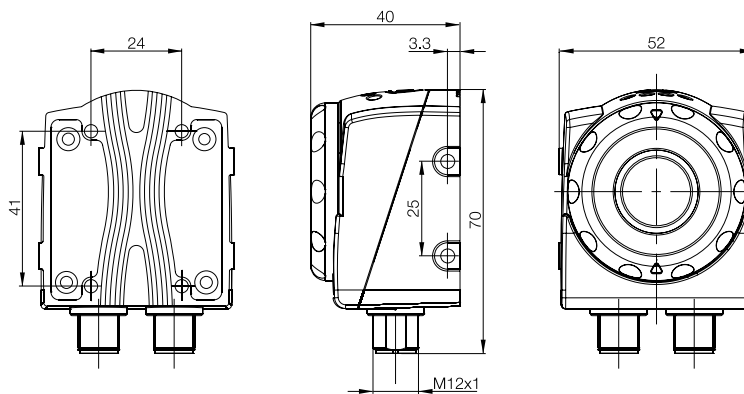


8 mm
lens



12 mm
lens

BVS-E		BVS-E		BVS-E	
Standard	Advanced	Standard	Advanced	Standard	Advanced
Wide angle lens	Wide angle lens	Standard lens	Standard lens	Telephoto lens	Telephoto lens
BVS000E	BVS000L	BVS0003	BVS000J	BVS0005	BVS000K
BVS OI-3-005-E	BVS OI-3-055-E	BVS OI-3-001-E	BVS OI-3-051-E	BVS OI-3-003-E	BVS OI-3-053-E
BVS000C	BVS000R	BVS0004	BVS000P	BVS0006	BVS000N
BVS OI-3-006-E	BVS OI-3-056-E	BVS OI-3-002-E	BVS OI-3-052-E	BVS OI-3-004-E	BVS OI-3-054-E
24 V DC $\pm 10\%$		24 V DC $\pm 10\%$		24 V DC $\pm 10\%$	
1× Trigger, 1× Select		1× Trigger, 1× Select		1× Trigger, 1× Select	
1× lighting synchronization, 3× configurable		1× lighting synchronization, 3× configurable		1× lighting synchronization, 3× configurable	
100 mA		100 mA		100 mA	
Ethernet 10/100 Base T		Ethernet 10/100 Base T		Ethernet 10/100 Base T	
ConVis® for Windows XP		ConVis® for Windows XP		ConVis® for Windows XP	
CMOS-SW-VGA 640×480		CMOS-SW-VGA 640×480		CMOS-SW-VGA 640×480	
50...500 mm		50...1000 mm		50...1000 mm	
42×30 mm to 330×232 mm		25×20 mm to 460×380 mm		17×12 mm to 320×210 mm	
LED, incident light (red), deselectable		LED, incident light (red), deselectable		LED, incident light (red), deselectable	
4 LED green, deselectable		4 LED green, deselectable		4 LED green, deselectable	
58×52×40 mm		58×52×40 mm		58×52×40 mm	
2 connectors M12 (8- and 4-pin)		2 connectors M12 (8- and 4-pin)		2 connectors M12 (8- and 4-pin)	
IP 54		IP 54		IP 54	
-10...+55 °C		-10...+55 °C		-10...+55 °C	



Sharpshooter® Series

BVS-C Stand-Alone version

The Sharpshooter BVS-C has two lens types to choose from (see the image area size and working distance chart below). The BVS-C versions use a simple to use Configurator and a single tool operation to provide a solution for stand-alone applications at a cost effective price.

The Configurator has a built-in 3.5" color LCD monitor and simple push-button interface. A single Configurator can be used to set up multiple BVS-C sensors and can individually monitor each sensor. In addition, the BVS-C offers password protection and an Optical Character Verification (OCV) tool instead of a Contour tool.



Series	
Version	
Lens, focal length	
PNP	Ordering Code
	Part number
NPN*	Ordering Code
	Part number
Supply voltage U_s	
Switching inputs	
Switching outputs	
Output current	
Parameter setting	
Image sensor	
Assured working distance (see chart below)	
Field of view (horizontal×vertical)	
Lighting (integrated)	
Dimensions	
Connection	
Degree of protection per IEC 60529	
Ambient temperature range T_a	
Display	

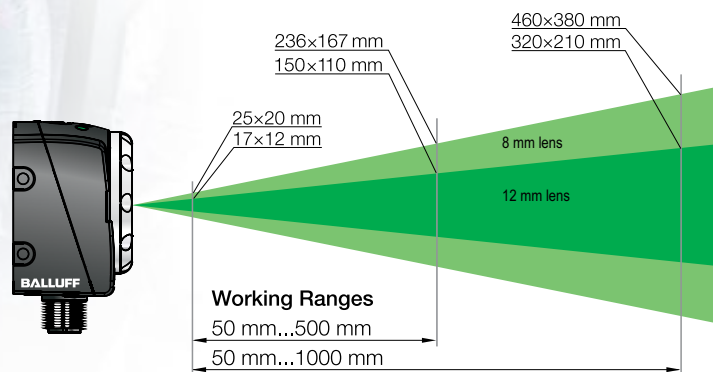
* Trigger and select inputs are PNP based

** Ordering code not available, use part number

Choose the lens option that's right for you
(8 mm or 12 mm)

Working distance and field of view

- Standard lens, 8 mm
- Telephoto lens, 12 mm



Use the above diagram to help determine whether the 8 mm or 12 mm lens option is right for your application.





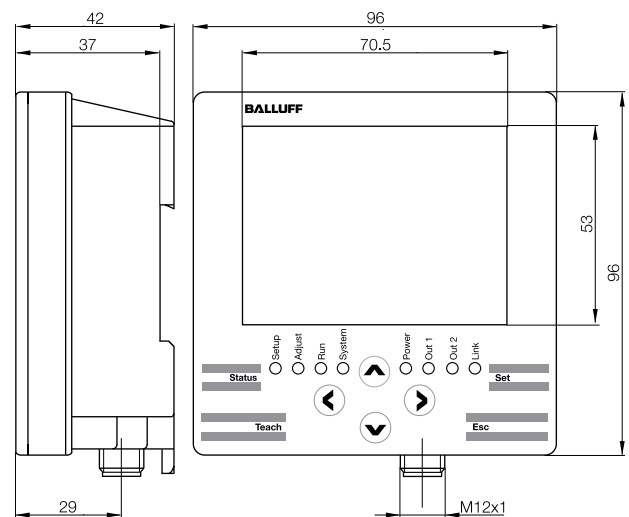
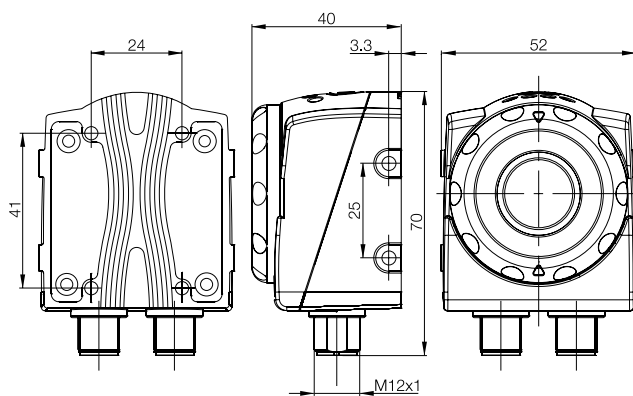
8 mm
lens



12 mm
lens



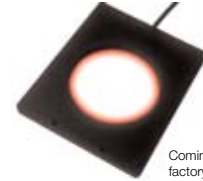
BVS-C	BVS-C	Configurator with display
Standard	Standard	
Standard lens	Telephoto lens	
BVS0008	BVS0007	BVS002R
BVS OI-3-011-C	BVS OI-3-013-C	BAE PD-VS-001-C
**	**	BVS002R
BVS OI-3-012-C	BVS OI-3-014-C	BAE PD-VS-001-C
24 V DC $\pm 10\%$	24 V DC $\pm 10\%$	24 V DC $\pm 10\%$
1× Trigger, 1× Select	1× Trigger, 1× Select	
1× lighting synchronization, 3× configurable	1× lighting synchronization, 3× configurable	
100 mA	100 mA	
Configurator	Configurator	
CMOS-SW-VGA 640×480	CMOS-SW-VGA 640×480	
50...1000 mm	50...1000 mm	
25×20 mm to 460×380 mm	17×12 mm to 320×210 mm	
LED, incident light (red), deselectable	LED, incident light (red), deselectable	
58×52×40 mm	58×52×40 mm	96×96×42.4 mm
2 connectors M12 (8-pin)	2 connectors M12 (8-pin)	1 connector M12 (8-pin)
IP 54	IP 54	IP 40
-10...+55 °C	-10...+55 °C	-10...+55 mm
		3.5" color LCD



Sharpshooter® Series

Illumination options

No vision-based application can reliably succeed without the proper lighting. Balluff provides cost effective, high-quality LED based illumination options to maximize the reliability of any Sharpshooter application.



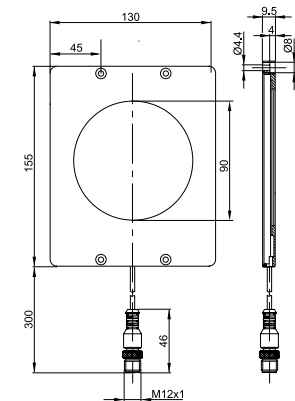
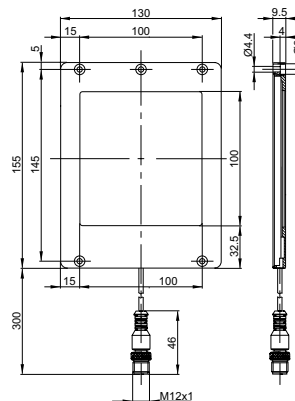
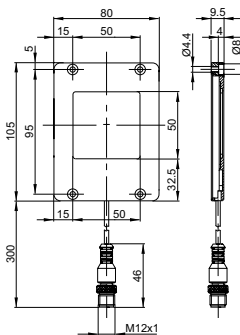
Coming soon. Consult factory for availability.

Series	BAE LX-VS	BAE LX-VS	BAE LX-VS	
Version	Backlight	Backlight	Dark field light	
Ordering code	BAE000F	BAE000H	BAE000AM	
Part number	BAE-LX-VS-HR050	BAE-LX-VS-HR100	BAE LX-VS-DR090	
Supply voltage U _s	24 V DC	24 V DC	24 V DC	
Operating current	< 250 mA	< 400 mA	< 225 mA	
Trigger	none	none	none	
Light field size	50×50 mm	100×100 mm	Ø 90 mm	
Emitter, light type	LED, red light	LED, red light	LED, red light	
Wavelength	617 nm	617 nm	617 nm	
Dimension	105×80×9.5 mm	155×130×9.5 mm	155×130×9.5 mm	
Mounting	M4 screws	M4 screws	M4 screws	
Connection	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	
Housing material	Anodized aluminum	Anodized aluminum	Anodized aluminum	
Optical surface	PMMA	PMMA	PMMA	
Weight	155 g	340 g	250 g	
Enclosure rating	IP 54	IP 54	IP 40	
polarity reversal protected	yes	yes	yes	
Short circuit protected	yes	yes	yes	
Ambient temperature range T _a	-10...+55°C	-10...+55°C	-10...+55°C	
Storage temperature	-25...+75 °C	-25...+75 °C	-25...+75°C	

Diffuser (BAM OF-VS-001-D-RX100)

Ensure even light without disturbing reflections in applications with reflective surfaces. The diffuser is made of high-quality glass and can be installed directly on the Ring light.

Ordering code:
BAM01A7



Reflective Card (BOS R-35)

Balluff's BOS R-35 is a low cost, thin profile, adhesive backing reflector that can be used as an alternative to a backlight where applicable.

Ordering code:
BAM00W9



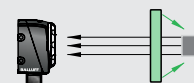
Backlight

- Diffuse area lighting
- Good for silhouette and contour illumination
- Available in red



Dark Field Light

- Highlight edges or sharp features
- Light must be located close to the object
- Available in red



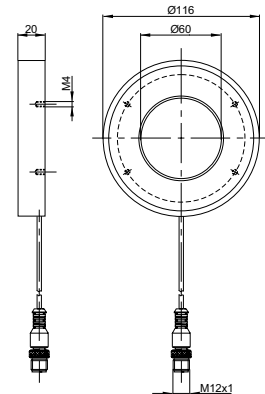
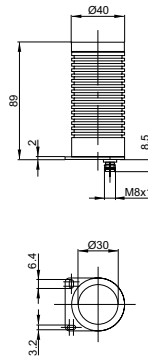
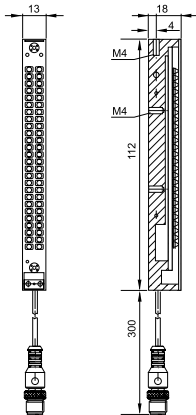


Coming soon. Consult factory for availability.

Coming soon. Consult factory for availability.

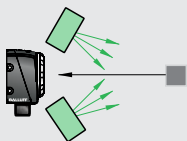
BAE LX-VS Bar Light	BAE LX-VS Bar Light	BAE LX-VS Spot	BAE LX-VS Spot	BAE LX-VS Ring light	BAE LX-VS Ring light
BAE00AP	BAE00AR	BAE002R	BAE002T	BAE000J	BAE000K
BAE LX-VS-LR085	BAE LX-VS-LW085	BAE LX-VS-SR030-S75	BAE LX-VS-SW030-S75	BAE LX-VS-RR100	BAE LX-VS-RI100
24 V DC < 400 mA < 800 mA (in max. operation)	24 V DC < 400 mA < 800 mA (in max. operation)	24 V DC < 100 mA	24 V DC < 100 mA	24 V DC < 800 mA < 1300 mA (in max. operation)	24 V DC < 800 mA < 1300 mA (in max. operation)
none	none	5...24 V DC	5...24 V DC	5...24 V DC	5...24 V DC
10x85 mm*	10x85 mm*	Ø 30 mm	Ø 30 mm	Ø 100/60 mm	Ø 100/60 mm
LED, red light*	LED, white light*	LED, red light	LED, white light	LED, red light	LED, infrared
617 nm	617 nm	630 nm		617 nm	875 nm
112x13x18 mm	112x13x18 mm	Ø40x89 mm	Ø40x89 mm	Ø116x20.5 mm	Ø116x20.5 mm
M4 screws	M4 screws	M3 screws	M3 screws	M4 screws	M4 screws
M12 connector, 4-pin	M12 connector, 4-pin	M8 connector, 4-pin	M8 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin
Anodized aluminum	Anodized aluminum	Anodized aluminum	Anodized aluminum	Anodized aluminum	Anodized aluminum
Glass	Glass	PMMA	PMMA	Glass	Glass
180 g	180 g	160 g	160 g	360 g	360 g
IP 54	IP 54	IP 65	IP 65	IP 54	IP 54
yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes
-10...+55°C	-10...+55°C	-10...+40°C	-10...+40°C	-10...+55°C	-10...+55°C
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+75 °C	-25...+75 °C

*170 mm light field size and infrared LED types available



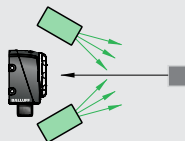
Bar Lights

- Can provide good illumination from multiple angles by combining several together
- Available in red or invisible infrared



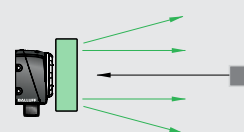
Spot Light

- Specific features can be highlighted and illuminated for better feature detection
- Available in red or white



Ring Light

- Good for low shadow, on-axis, even illumination
- Available in red or white



Sharpshooter® Series

BVS cable and mounting hardware options

Balluff provides a full line of cables for both BVS Sharpshooter and lighting products. We also provide a line of BMS mounting hardware to give you the right mounting solution and stainless steel housings[†] to protect the BVS in IP67 or higher applications.

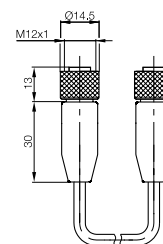
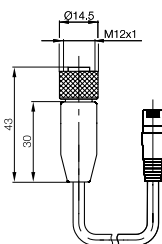
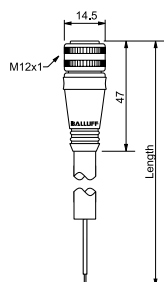


Connector	C04 ANT	BKS AD-05RJ45	BCC M418
Version	Straight female	Straight female/RJ45	Straight female/straight female
Use	Power-I/O cable BVS-E and BVS-C	Configuration cable for BVS-E	Connection cable for BVS-C Configurator
Ordering code	BCC01F5	BCC02H1	BCC04MK
Part number	C04 ANT-00-PB-050MS*	BKS AD-05RJ45/GS180-05	BCC M418-M418-5A-322-PS0825-020
Supply voltage U _s	36 V DC	10...30 V DC	10...30 V DC
Cable	Shielded black PUR	5 m molded-on PUR	5 m molded-on PUR
No. of wires × cross-section	8x24 AWG	4x24 AWG	8x22 AWG
Degree of protection per IEC 60529	IP 68	IP 65	IP 68 per BWN Pr. 20
Ambient temperature range T _a	-20...+105 °C	-25...+70 °C	-25...+85 °C
View of female side			

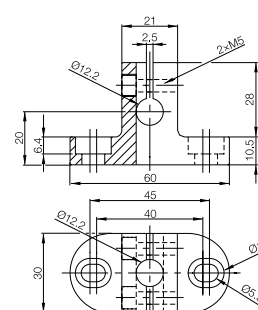
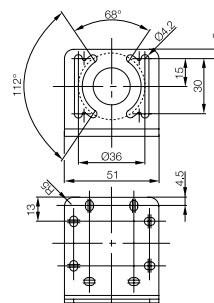
† Contact Balluff for additional information.

*Knurled ring used for shielding!



Additional cable lengths on request:
1.5 m, 3 m, 10 m, 15 m, 20 m



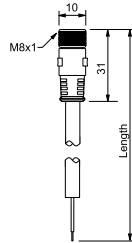
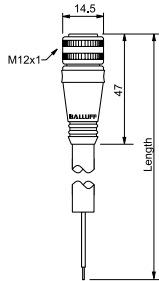
Description	Mounting bracket	Base holder
Version	For Vision Sensors and clamping cylinders	for 1 rod Ø 12 mm (vertical or horizontal)
Use	Holding Vision Sensors for mounting on base plates or using BMS Mounting System	for mounting on base plates or extrusions
Ordering code	BAM00WN	BAM002W
Part number	BVS Z-MB-01	BMS CU-M-D12-A040-00
Material	GD-Zn	Anodized aluminum



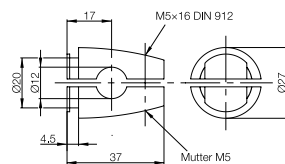
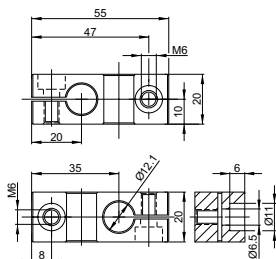


C04 AEL	C75 ANL
Straight female	Straight female
Connection cable for background and ring light	Connection cable for spot light
BCC01E0	BCC025L
C04 AEL-00-VY-050M	C75 ANL-00-VY-050M
250 VAC/V DC	60 VAC/75 V DC
5 m molded PVC	5 m molded PVC
4x22 AWG	4x24 AWG
IP 68	IP 68
-20...+205 °C	-20...+105 °C
	

Additional cable lengths on request: 10 m, 15 m, 20 m

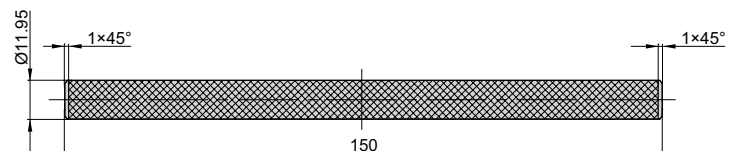


Cross-connector for 2 rods Ø 12 mm	Clamping cylinder
Connecting element for 2 rods Ø 12 mm	Accommodates all holders, sensors and reflectors
BAM002Z	BAM0031
BMS CC-M-D12-B-00	BMS CS-M-D12-IZ
Anodized aluminum	GD-Zn



Mounting rods Ø 12 mm, anodized aluminum

Ordering code	BAM002R	Size
Part number	BMS RS-M-D12-0150-00	150 mm
Ordering code	BAM002T	
Part number	BMS RS-M-D12-0250-00	250 mm
Ordering code	BAM002V	
Part number	BMS RS-M-D12-1000-00	1000 mm (for user assembly)



The mounting rods are knurled full-length.
This prevents any position change.

Sharpshooter® Series

Connectivity and Accessories



Photoelectric Sensors

- Various sensing ranges
- Diffuse, retro-reflective, thru-beam and background suppression modes
- Detects targets regardless of material composition

www.balluff.com/photoelectric



Proximity Sensors

- Up to 50 mm of range
- Suitable for metallic targets
- Immune to hostile environments

www.balluff.com/inductive



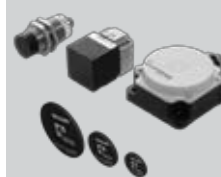
Network Connectivity

- EtherNet/IP, DeviceNet, PROFIBUS, PROFINET, CC-Link
- Input and Output Capable Modules
- Full line of network cables, accessories and auxiliary power cordsets

Standard Connectivity

- Standard M8 and M12 cordsets, 3-wire & 4-wire, PVC, PUR & TPE
- Standard DIN connectors
- Multiple interface blocks

www.balluff.com/connectivity



RFID Tags and Readers

- Allows users to store data at inspection points
- Variety of tag sizes to choose from
- Reliable technology with up to 50 mm read/write distance

www.balluff.com/rfid

Self-contained Error Proofing System

Balluff also provides a read-only version of our Industrial RFID BIS L series that can read a pre-programmed tag with a corresponding BVS Sharpshooter® job number and automatically switch the BVS to that job number providing a reliable and self-contained error proofing station.



- Provide flexible and reliable dynamic job changing without an external controller
- Maximize error proofing in flexible palletized product manufacturing



Contact Balluff today for more information.

www.balluff.com/sharpshooter



Visit the Sharpshooter website to:

- download software
- find data sheets
- see product applications
- watch videos



Mixed Sources

Product group from well-managed forests, controlled sources and recycled wood or fiber.
www.fsc.org Cert no. BV-COC-080917
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