Machine Vision

BVS UR-3-007-E
Order Code: BVS001P

BALLUFF

1) Teach-in reference image

2) Operating voltage

3) Output 1 active

4) Output 2 active

5) Connection with PC

6) Focus

IND. CONT. EQ
1TD4
for use in the secondary of
a class 2 source of supply

Basic features

Application	360° detection
	Barcode-, 2D-, OCR identification
Approval/Conformity	CE
	cULus
	EAC
	WEEE
Frame rate	3…40 Hz
Image resolution	640 x 480 pixels
Pixel size	6.0 x 6.0 µm
Sensor type Vision	CMOS image sensor black-white
Style	Square
	Connection 90°

Display/Operation

Adjuster	Adjusting ring
	button
Setting	Image sharpness
	Teach-in reference image

Electrical connection

Connection 1	M12x1-Male, 8-pin, A-coded
Connection 2	M12x1-Male, 4-pin, D-coded
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Short-circuit protection	yes

Electrical data

Input function	Trigger
Line-induced noise	3A
No-load current Io max. at Ue	200 mA
Operating voltage Ub	22...26 VDC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Ready delay tv max.	10 ms
Voltage drop Ud max. at Ie	1.8 V

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Environmental conditions

Ambient temperature	-10...55 °C
EN 60068-2-27, Shock	Half-sinus, 100 g_n, 2 ms, 3x8000
	Half-sinus, 30 g_n, 11 ms, 3x6
EN 60068-2-6, Vibration	10…2000 Hz, amplitude 1 mm, 30 g_n, 3x5 h
	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP54

Functional Characteristics

2D codes	Data Matrix ECC 200
	QR code
	Mini QR
Barcodes	Interleaved 2-of-5,Code 39, Code 128, Pharmacode,Codabar, EAN 8, EAN 13, UPC-E, UPC-A
Features per inspection, number max.	255
Field of view max.	240 x 180 mm
Field of view min.	43 x 32 mm
Focal length	16.0 mm
Inspections, number max.	20
LED group per IEC 62471	Exempt Group
Light type	LED, red light
MTTF (40 °C)	127 a
Special optical feature	Incident light, can be disabled
Wave length	630 nm

Material

Housing material	Aluminum, Die casting, Painted ABS
Housing material, surface protection	Painted
Material sensing surface	PMMA
Surface protection	Painted

Mechanical data

Dimension	51.5 x 70 x 40 mm
Mounting	Screw M4

Output/Interface

Duration of time function	Impulse 1…1000 ms or infinite
Interface	Ethernet 10/100 Base T
Supplementary output	Trigger output PNP
Switching output	3x PNP normally open (NO)
Time function	On/off delay
	Single pulse

Range/Distance

Operating Distance	50...1000 mm

Remarks

Do not press key using a pointed tool.

For additional information, refer to user's guide.

Order accessories separately.

Interface plug, if n.c. protect against ingress of dust, dirt and liquids. Cover cap included.

Detection rate is dependent on the evaluation function.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Appropriate connectors can be obtained from Balluff.

Use of external illumination recommended for working distances greater than 300 mm .

Do not use sensor where object is exposed to strong ambient light.

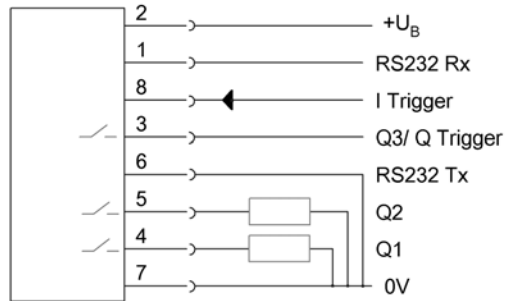For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings
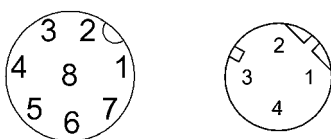
Wiring Diagrams

Conn. "PWR IO"

Pin	Signal
2	+U$_B$
1	RS232 Rx
8	I Trigger
3	Q3/ Q Trigger
6	RS232 Tx
5	Q2
4	Q1
7	0V

Conn. "To PC"

Pin	Signal
1	Rx +
2	Tx +
3	Rx -
4	Tx -