

1) Teach-in reference image, 2) Operating voltage, 3) Output 1 active, 4) Output 2 active, 5) Connection with PC, 6) Focus



### Basic features

Approval/Conformity	cULus CE EAC WEEE
Frame rate	3...15 Hz
Image resolution	640 x 480 pixels
Pixel size	6.0 x 6.0 $\mu$ m
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 Program select
Line-induced noise	3A
No-load current $I_0$ max. at $U_e$	200 mA
Operating voltage $U_b$	22...26 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ready delay $t_v$ max.	10 ms
Voltage drop $U_d$ max. at $I_e$	1.8 V

### Environmental conditions

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

## Functional Characteristics

<b>Features per inspection, number max.</b>	255
<b>Field of view max.</b>	320 x 240 mm
<b>Field of view min.</b>	16 x 12 mm
<b>Focal length</b>	12.0 mm
<b>Inspections, number max.</b>	20
<b>LED group per IEC 62471</b>	Exempt Group
<b>Light type</b>	LED, red light
<b>MTTF (40 °C)</b>	127 a
<b>Special optical feature</b>	Incident light, can be disabled
<b>Wave length</b>	630 nm

## Material

<b>Housing material</b>	Aluminum, Die casting, Painted ABS
<b>Material sensing surface</b>	PMMA
<b>Surface protection</b>	Painted

## Remarks

Detection rate is dependent on the evaluation function.

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

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

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

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

For additional information, refer to user's guide.

Order accessories separately.

Do not press key using a pointed tool.

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.

## Mechanical data

<b>Dimension</b>	51.5 x 70 x 40 mm
<b>Mounting part</b>	Screw M4

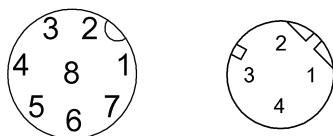
## Output/Interface

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

## Range/Distance

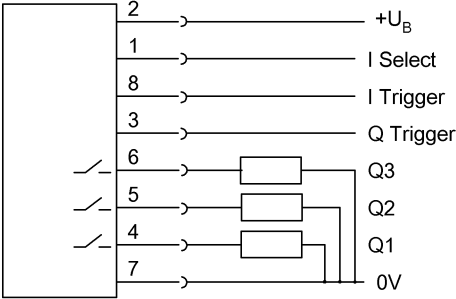
<b>Operating Distance</b>	50...1000 mm
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## Connector Drawings



Wiring Diagrams

Conn. "PWR IO"



Conn. "To PC"

