

- Optimized for the detection of small parts
- High switching frequency
- Multiple device installation possible, no mutual interference (no cross-talk)
- Sensitivity adjuster and light-on/dark-on changeover switch as standard features of this series
- Visible red light
- Degree of protection IP67
- cULus approval
- Diecast zinc housing, powder coated

CE cULus UKCA

Photoelectric slot sensors offer vast installation benefits thanks to their housing design. When it comes to operation, these new generation devices boast features such as high resolution, high repeatability, automatic signal threshold adjustment, ambient light resistance, and detection of and/or light transmission through transparent objects. Cross-talk protection enables parallel installation of devices despite extremely high switching frequency. These characteristics guarantee reliable detection of small parts, from 0.3 mm, across the entire detection range, even in very fast moving applications.

Technical drawing of a rectangular metal plate. The main view shows a plate with overall dimensions of 145 mm (width) by 90 mm (height). The inner rectangular area has dimensions of 121 mm by 60 mm. The plate has a thickness of 12 mm. There are four mounting holes, each with a diameter of $\phi 4.3$ (2x). The distance between the centers of the two holes on the left is 33.5 mm. The distance between the centers of the two holes on the right is 10 mm. The distance between the center of the left hole and the center of the right hole is 10.5 mm. The plate has a chamfered edge with a radius of R5. The mounting holes are located at a distance of 22 mm from the bottom edge and 22 mm from the right edge. The distance between the centers of the two holes on the right is 4.3 mm. The distance between the center of the right hole and the right edge is 5 mm. The distance between the center of the left hole and the left edge is 1 mm. The plate has a central slot with a width of 5 mm and a depth of 20 mm. The slot is located at a distance of 10 mm from the top edge and 10 mm from the bottom edge. The slot has a chamfered edge with a radius of R5. The plate has a central slot with a width of 5 mm and a depth of 20 mm. The slot is located at a distance of 10 mm from the top edge and 10 mm from the bottom edge. The slot has a chamfered edge with a radius of R5.

Technical Data

General specifications

Light source	LED
Light type	modulated visible red light
Target size	0.3 mm
Slot width	121 mm
Slot depth	60 mm
Ambient light limit	100000 Lux

Functional safety related parameters

MTTF _d	1290 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Function indicator	LED red in connector
Control elements	Sensitivity adjuster, light/dark switch

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	≤ 15 mA

Output

Switching type		light/dark on
Signal output		1 NPN, short-circuit protected open collector
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Repeat accuracy		0.05 mm
Switching frequency	f	3 kHz
Response time		≤ 160 μs

Conformity

Product standard	EN 60947-5-2
------------------	--------------

Approvals and certificates

CE conformity	CE
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Ambient conditions

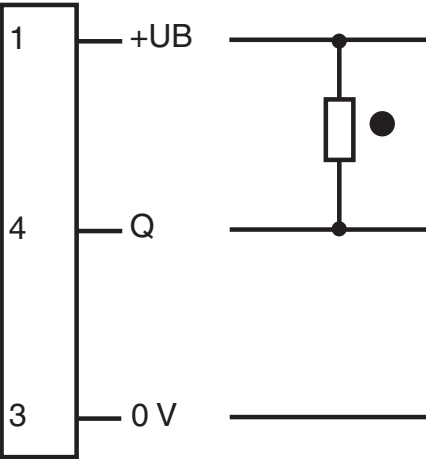
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

Mechanical specifications

Degree of protection	IP67
Connection	M8 connector, 3-pin
Material	
Housing	powder coated diecast zinc
Optical face	glass
Mass	295 g

Release date: 2023-05-09 Date of issue: 2023-05-09 Filename: 201770_eng.pdf

Connection Assignment



○ = Light on
● = Dark on

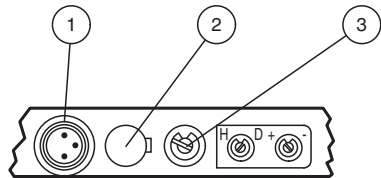
Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

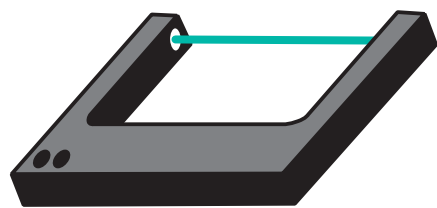
Assembly



1	Functional display	red
2	Light-/dark switch	
3	Sensitivity adjuster	

Release date: 2023-05-09 Date of issue: 2023-05-09 Filename: 201770_eng.pdf

Application



Function Principle

Photoelectric slot sensors are photoelectric sensors that operate according to the thru-beam sensor principle. The transmitter sends signals directly to the receiver. If an object breaks the light beam, the switching element function is triggered. The special U-shaped design means the transmitter and receiver can be accommodated in one housing, which ensures high resistance to vibrations. In contrast to standard thru-beam sensors, photoelectric slot sensors have the added advantage of not requiring complex electrical installation, as only one device needs to be connected. Also, adjustment of the optical axes is not necessary.

Accessories

	V3-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey
---	---------------------	--

Release date: 2023-05-09 Date of issue: 2023-05-09 Filename: 201770_eng.pdf

Application

- Small part detection, from object size 0.3 mm
- Can also be used for systems with strong vibrations
- Detection of small needles in transparent hollow needles
- Counting of small parts on conveyors
- Feed and correct separation verification
- Web edge control
- Elevator car position in elevators