



Model Number

ML6-54-F/25/95/136

Retroreflective sensor
with 4-pin, M8 x 1 connector

Features

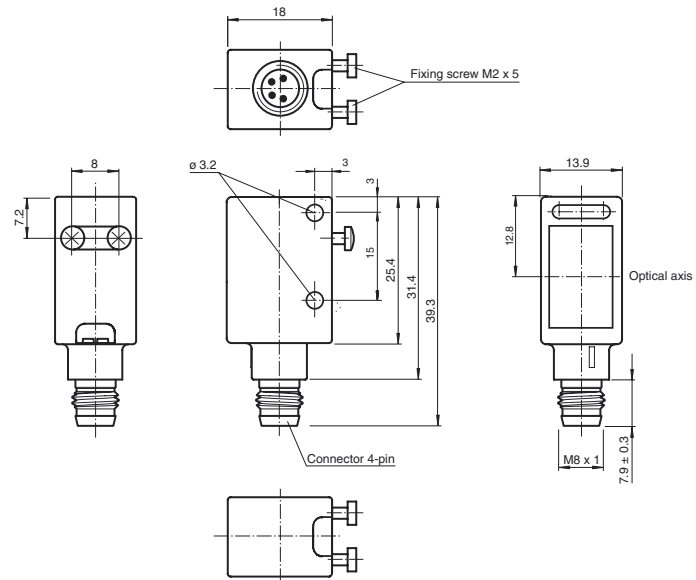
- Precision sensor for standard applications
- Miniature design with very robust and versatile mounting options
- Objects can be reliably detected down to 0 mm: no blind zone
- Small, sharp light spot
- Rear mounting option for easy mounting without mounting bracket
- Tamper-proof version with no adjustments

Product information

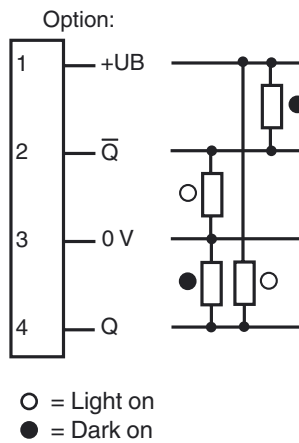
The ML6 series is characterized by a robust, powerful and standard design in a miniature housing. The housing offers IP67/IP69K degree of protection, a food-grade lens, highly visible LEDs and robust all-metal bushings for mounting. Adjustable and tamper-proof sensors with a double push-pull output are available. The sensors have a high ambient light limit. Reflections from the background are suppressed. The unusually small, sharp light spot and the quick response time offer maximum switching precision on object edges. Clearly visible red light sources facilitates alignment. A high-performance fixed focus background suppressor is a useful feature. The sensors are suitable for precise object detection and open up a wide range of application fields.

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Dimensions



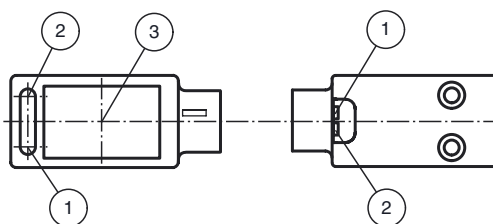
Electrical connection



Pinout



Indicators/operating means



1	Operating display	green
2	Signal display	yellow
3	Optical axis	

Technical data**General specifications**

Effective detection range	0 ... 5 m
Reflector distance	0 ... 5 m
Threshold detection range	6 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 660 nm
Polarization filter	yes
Angle deviation	max. $\pm 1^\circ$
Diameter of the light spot	approx. 40 mm at detection range 1 m
Angle of divergence	1.7 °
Ambient light limit	
Continuous light	40000 Lux
Modulated light	5000 Lux

Functional safety related parameters

MTTF _d	980 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function indicator	LED yellow: switching state ; Stability control

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	< 20 mA at 24 V DC

Output

Switching type	light/dark on, programmable	
Signal output	2 push-pull (4 in 1) outputs, complementary, short-circuit proof, reverse polarity protected	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U _d	≤ 2.5 V DC
Switching frequency	f	1 kHz
Response time		500 μ s

Ambient conditions

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

Mechanical specifications

Degree of protection	IP67 / IP69K
Connection	M8 x 1 connector, 4-pin
Material	
Housing	ABS
Optical face	PMMA
Mass	10 g

Compliance with standards and directives

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -2000 Hz, 10 g in each X, Y and Z directions

Approvals and certificates

UL approval	cULus Listed
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Accessories**OMH-4.1**

Mounting Clamp

OMH-ML6-Z

Mounting bracket

OMH-ML6-U

Mounting bracket

OMH-ML6

Mounting bracket

OMH-11-02 Aperture-V-H 0.5 mm

Slit diaphragm can be affixed for detecting very small parts

OMH-11-04 Aperture-V-H 1.0 mm

Slit diaphragm can be affixed for detecting very small parts

OMH-11-06 Aperture-V-H 1.5 mm

Slit diaphragm can be affixed for detecting very small parts

OMH-11-08 Aperture-V-H 2.0 mm

Slit diaphragm can be affixed for detecting very small parts

V31-GM-5M-PUR

Female cordset, M8, 4-pin, PUR cable

V31-WM-5M-PUR

Female cordset, M8, 4-pin, PUR cable

REF-H85-2

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

REF-C110-2Reflector, round \varnothing 84 mm, central mounting hole**REF-H60**

Reflector, rectangular 40.5 mm x 60 mm, mounting holes

REF-VR10

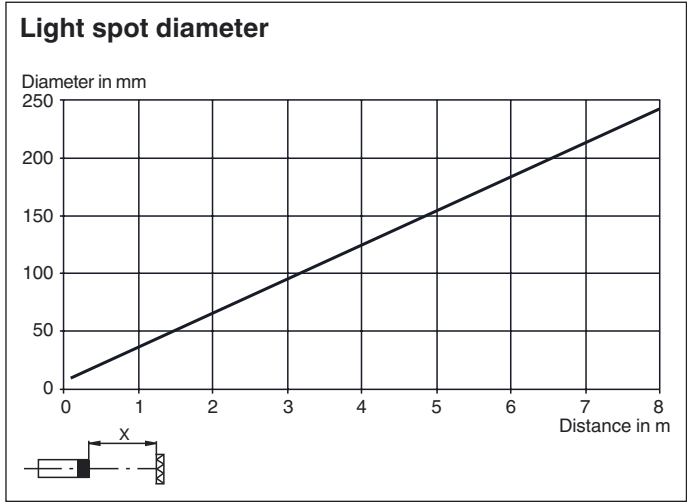
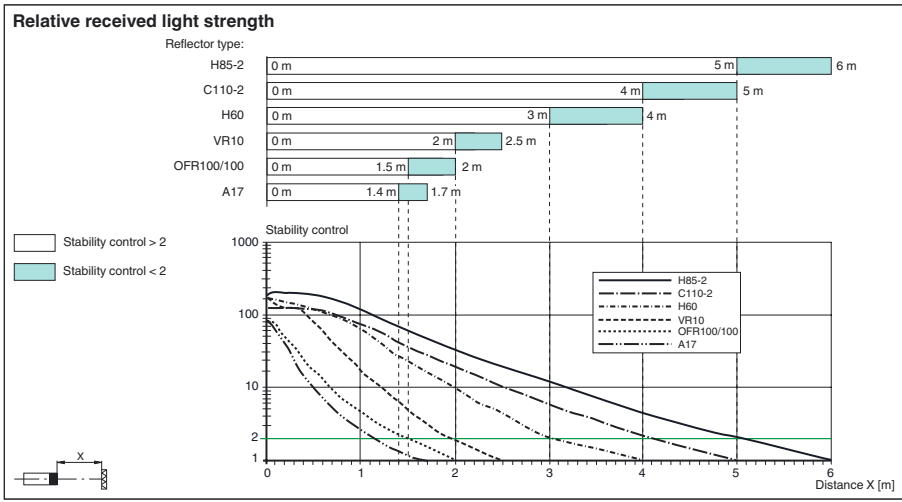
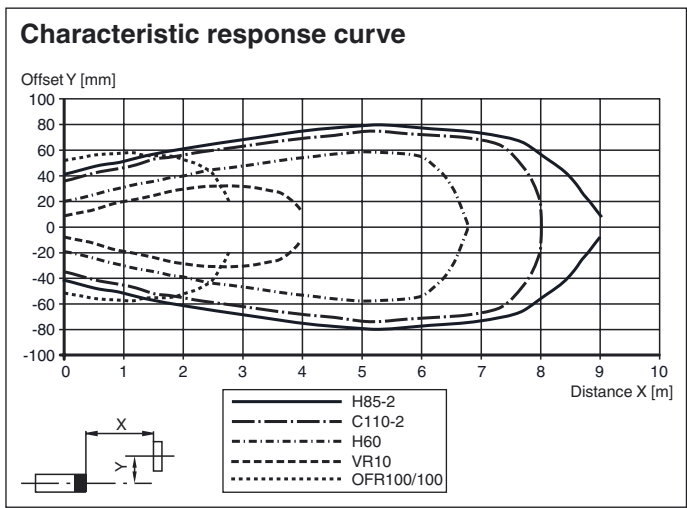
Reflector, rectangular 60 mm x 19 mm, mounting holes

OFR-100/100

Reflective tape 100 mm x 100 mm

REF-A17Reflector, round \varnothing 20.5 mm, self-adhesiveOther suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams



Aperture alignment

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When attaching the aperture, make sure that the sensor lens is aligned exactly with the black aperture.

