



Model Number

ML6-8-H-150-RT/40b/65a/95/110

Background suppression sensor
with 4-pin, M8 x 1 connector

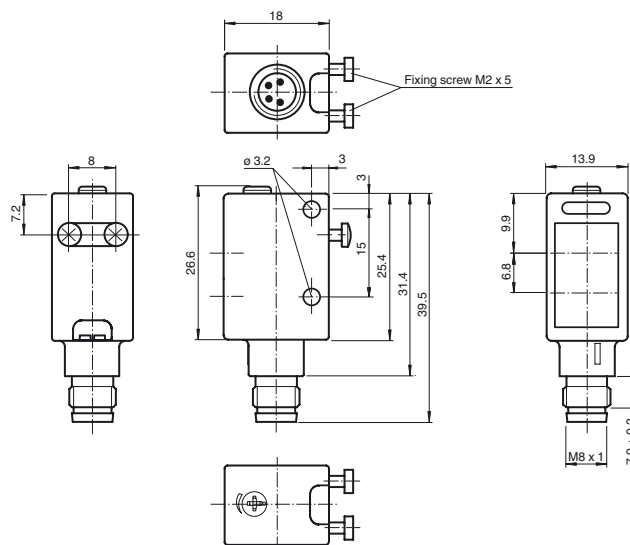
Features

- Precise background suppression
- Adjustable background suppression
- Small, sharp light spot
- Very small black-white difference
- Highly visible LEDs for Power-On, switching status, short-circuit, and undervoltage
- Metal-reinforced fastening holes
- Push-pull output

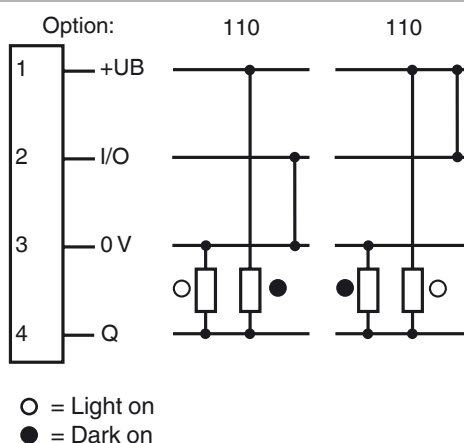
Product information

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.

Dimensions



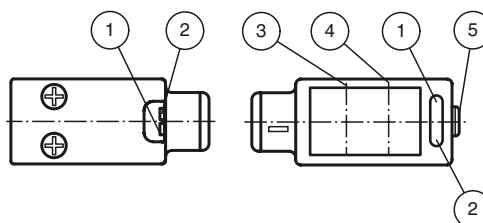
Electrical connection



Pinout



Indicators/operating means



1	operating display	green
2	indication of the switching state	yellow
3	receiver axis	
4	emitter axis	
5	detection range adjuster	

**Technical data****General specifications**

Detection range	15 ... 150 mm
Detection range min.	10 ... 30 mm
Detection range max.	18 ... 150 mm
Adjustment range	30 ... 150 mm
Reference target	standard white, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light , 660 nm
Black/White difference (6 %/90 %)	< 15 %
Diameter of the light spot	approx. 6 mm at detection range 150 mm
Ambient light limit	
Continuous light	40000 Lux
Modulated light	5000 Lux

Functional safety related parameters

MTTF _d	1940 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: lights when object is detected
Control elements	Detection range adjuster

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I ₀	< 25 mA

Output

Switching type	light/dark on electrically switchable	
Signal output	Push-pull output, short-circuit protected, 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	1000 Hz
Response time	500 μs	

Ambient conditions

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

Mechanical specifications

Degree of protection	IP67 / IP69K
Connection	M8 x 1 connector, 4-pin
Material	
Housing	ABS
Optical face	PMMA
Mass	approx. 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 -150 Hz, 5 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

Mounting bracket

OMH-ML6-U

Mounting bracket

OMH-ML6-Z

Mounting bracket

V31-GM-5M-PUR

Female cordset, M8, 4-pin, PUR cable

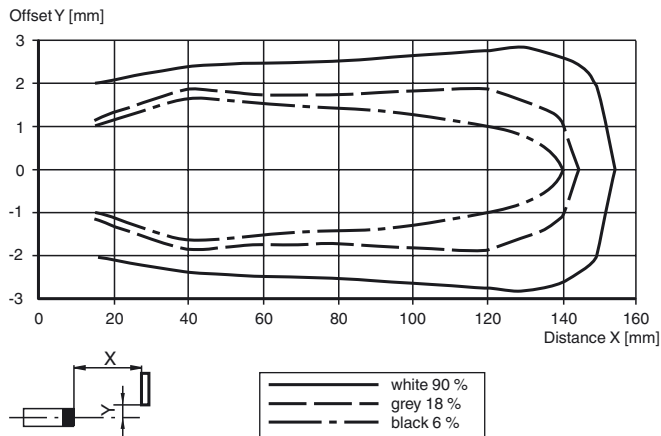
V31-WM-5M-PUR

Female cordset, M8, 4-pin, PUR cable

Other suitable accessories can be found at
www.pepperl-fuchs.com

Curves/Diagrams

Characteristic response curve



Difference in detection distance

