



Background suppression sensor

ML6-8-H-40-3761



- Precise background suppression
- Very small black-white difference
- Small, sharp light spot
- Highly visible LEDs for Power-On, switching status, short-circuit, and undervoltage
- Metal-reinforced fastening holes
- Tamper-proof version with no adjustments
- Push-pull output

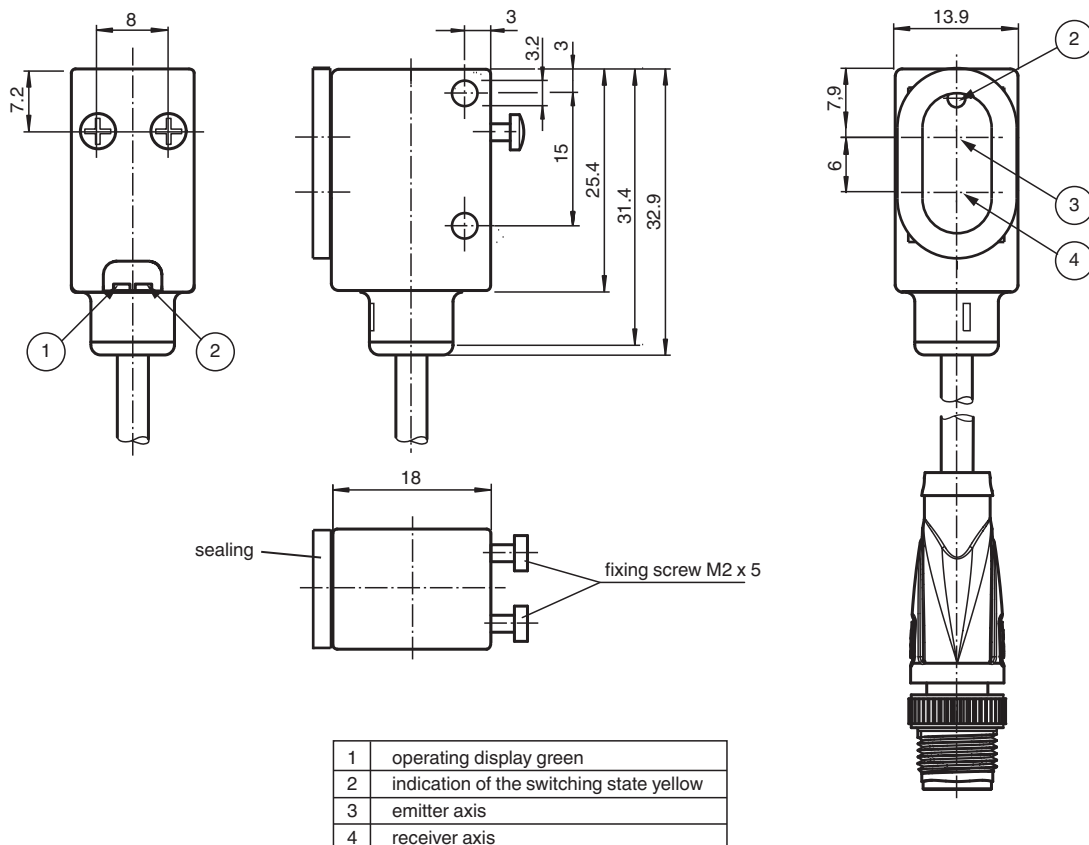
Background suppression sensor



Function

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



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

General specifications		
Detection range		10 ... 40 mm
Detection range max.		10 ... 50 mm
Background suppression		starts from 50 mm
Light source		IRED
Light type		modulated infrared light , 880 nm
Black-white difference (6 %/90 %)		approx. 3 mm
Diameter of the light spot		approx. 3 mm at 40 mm
Angle of divergence		approx. 5 °
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
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC , class 2
Ripple		10 %
No-load supply current	I ₀	< 25 mA
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	1000 Hz
Response time		0.5 ms
Conformity		
Product standard		EN 60947-5-2
Compliance with standards and directives		
Standard conformity		
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
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-20 ... 75 °C (-4 ... 167 °F)
Mechanical specifications		
Housing width		13.9 mm
Housing height		31.4 mm
Housing depth		18 mm
Degree of protection		IP67 / IP69K
Connection		200 mm fixed cable with 4-pin, M8x1 connector
Material		
Housing		ABS
Optical face		PMMA

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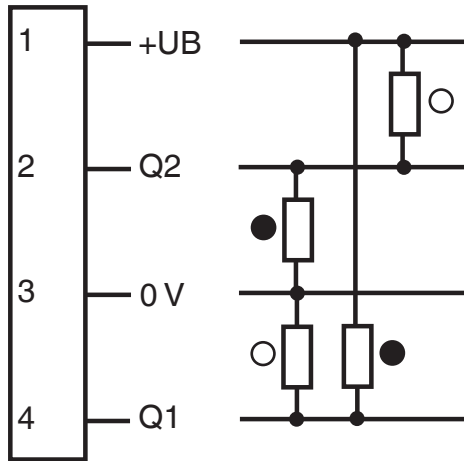
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Technical Data

Cable	PUR
Mass	approx. 15 g

Connection Assignment

Option:



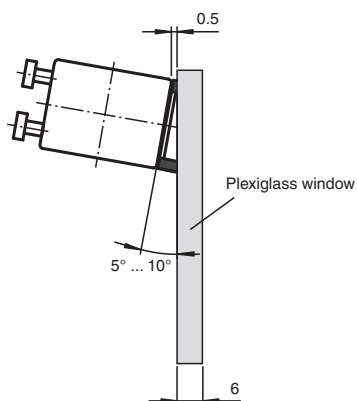
- = Light on
- = Dark on

Connection Assignment

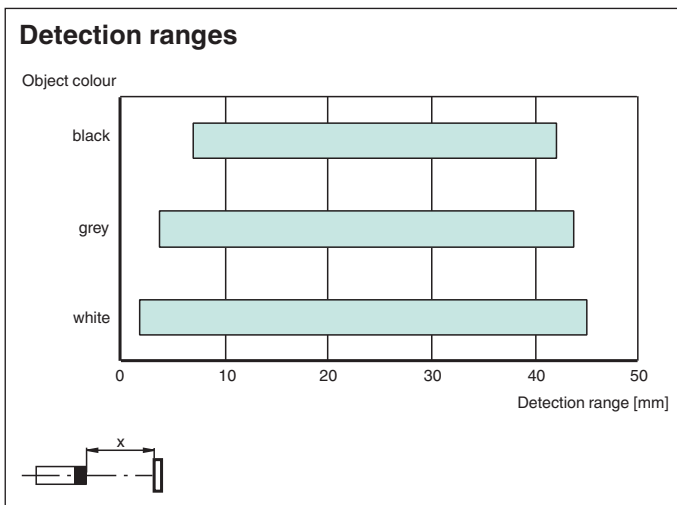
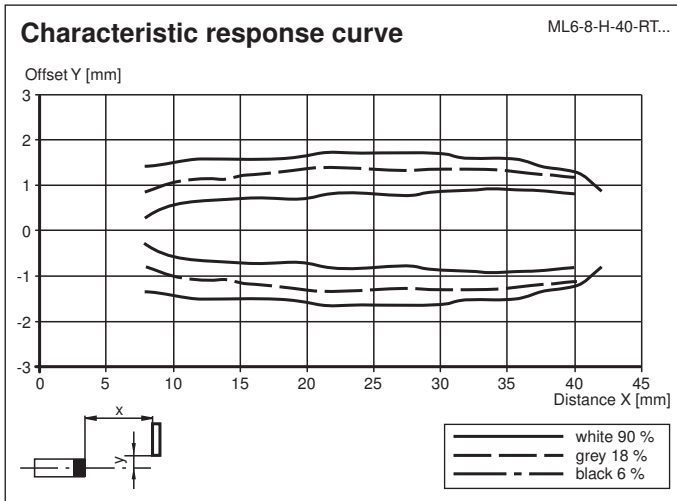


Installation

Installation drawing



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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 single-ended M8 straight A-coded, 4-pin, PUR cable grey
	V31-WM-5M-PUR	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey

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