Dimensions

Model Number

M41/MV41/25/76a/115/136
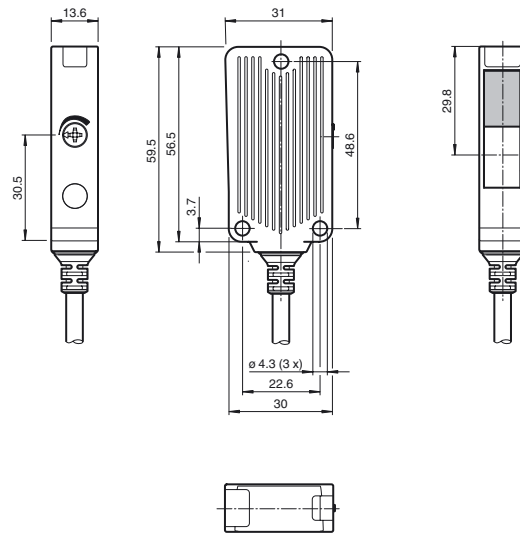
Thru-beam sensor
with 2 m fixed cable

Features

- Rugged series in corrosion-resistant metal housing
- Long sensor range with high power mode
- Resistant against noise: reliable operation under all conditions
- Clear and functional display concept for the operating modes
- Aluminum housing with high quality Delta-Seal coated
- Scratch-resistant and solvent resistant glass lens
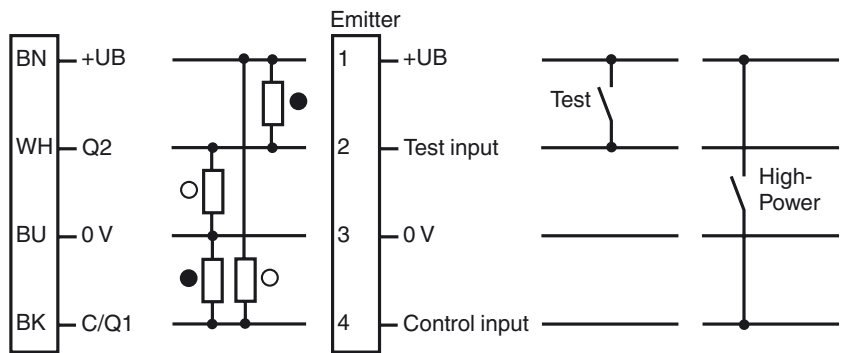
Product information

The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger phototelectric sensors. The MLV41 series comes with a range of functions. For example, highly visible status LEDs on the front and back, resistance to ambient light, crosstalk protection and universally applicable output stages that permit every possible switching logic and polarity to be realized. The enhanced resistance to ambient light ensures reliable operation even where modern energy-saving lamps with electronic ballasts are in use. The same applies where multiple devices are present, i.e. the use of a number of sensors in the same vicinity causes no problems.

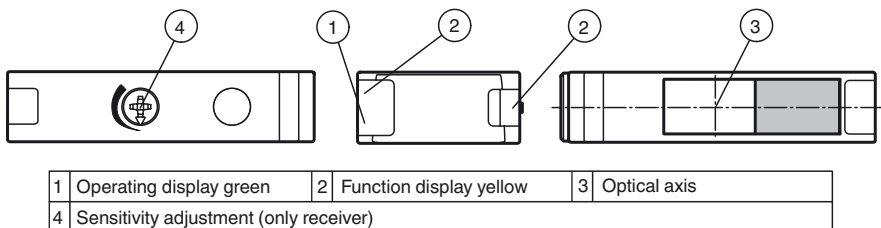## Electrical connection

○ = Light on
● = Dark on

Indicators/operating means

1	Operating display green	2	Function display yellow	3	Optical axis
4	Sensitivity adjustment (only receiver)				

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

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Technical data

System components	
Emitter	M41/76a/115
Receiver	MV41/25/115/136

General specifications	
Effective detection range	0 ... 16 m
Threshold detection range	normal mode: 25 m High power mode: 35 m (Control input at UB+)
Light source	normal mode: LED High power mode: LED+IRED
Light type	normal mode: modulated visible red light High power mode: Red and infrared, modulated light
Diameter of the light spot	approx. 500 mm at detection range 16 m
Angle of divergence	approx. 1.5 °
Optical face	frontal
Ambient light limit	50000 Lux

Functional safety related parameters		
$MTTF_d$		844 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Indicators/operating means	
Operation indicator	LED green: power on
Function indicator	Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted
Control elements	sensitivity adjustment (receiver)

Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I_0	max. 30 mA

Input	
Test input	emitter deactivation at $+U_B$ (emitter)
Control input	High power mode activation with +UB (emitter)

Output		
Switching type		light on
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

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

Mechanical specifications	
Housing width	31 mm
Housing height	56.5 mm
Housing depth	13.6 mm
Degree of protection	IP67
Connection	2 m fixed cable
Material	
Housing	Aluminum , Delta-Seal coated
Optical face	glass pane
Mass	100 g (device)

Compliance with standards and directives	
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Standards	UL 508

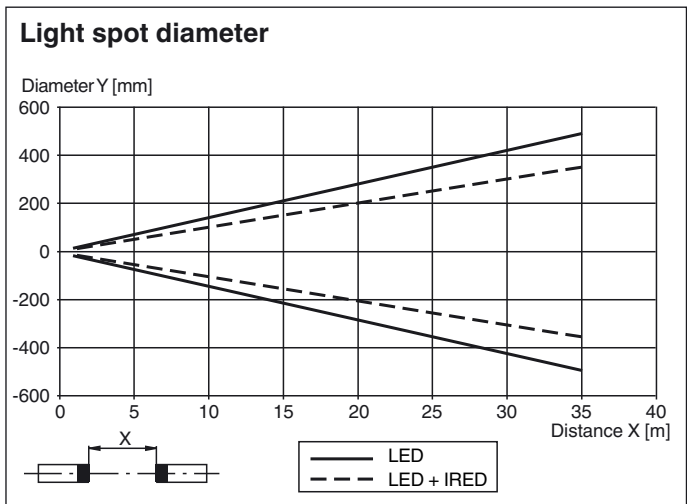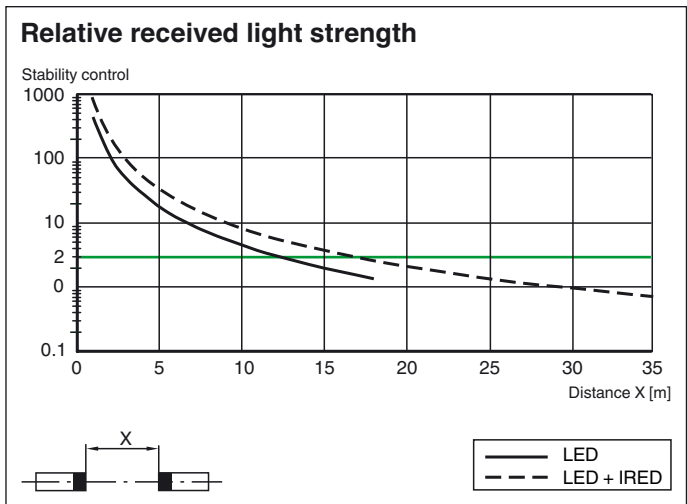| Approvals and certificates	
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Accessories

OMH-09
Mounting bracket for Sensors series MLV41 for M12 rod mounting

OMH-40
Mounting bracket

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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]

— LED
--- LED + IRED

Relative received light strength

Stability control

Distance X [m]

— LED
--- LED + IRED

Light spot diameter

Diameter Y [mm]

Distance X [m]

— LED
--- LED + IRED

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