



Model Number

MLV41-55-IO/98/103

Retroreflective sensor with 3-pin, M8 x 1 connector

Features

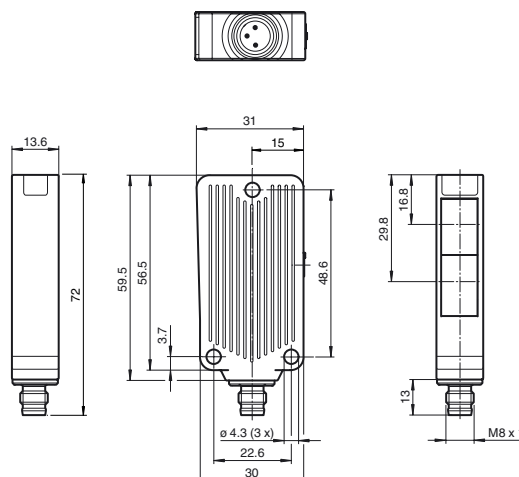
- Rugged series in corrosion-resistant metal housing
- IO-link interface for service and process data
- Extremely high switching frequency
- Clear and functional display concept for the operating modes
- Resistant against noise: reliable operation under all conditions
- Aluminum housing with high quality Delta-Seal coated

Product information

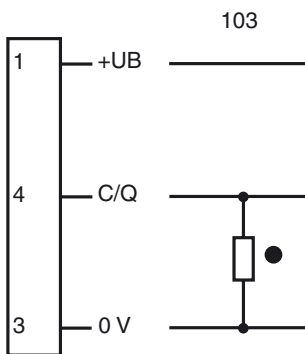
The unique and extremely popular design of the MLV41 series enables it be mounted correctly in confined areas and offers all the functions that are normally only found on larger phototelectric sensors. The MLV41 series comes with a range of functions. For example, highly visible status LEDs on the front 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.

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Dimensions

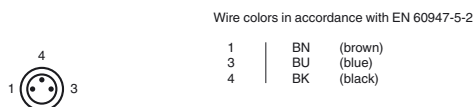


Electrical connection

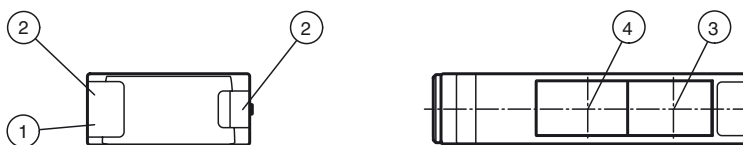


○ = Light on
● = Dark on

Pinout



Indicators/operating means



1	Operating display green	3	Optical axis transmitter
2	Function display yellow	4	Optical axis receiver

Technical data**General specifications**

Effective detection range	0 ... 7 m
Reflector distance	0.1 ... 8 m
Threshold detection range	10 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 625 nm
Polarization filter	yes
Angle deviation	max. $\pm 1.5^\circ$
Diameter of the light spot	approx. 300 mm at detection range 8.5 m
Angle of divergence	1.5°
Optical face	frontal
Ambient light limit	20000 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, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz) , IO link communication: green LED goes out briefly (1 Hz)
Function indicator	LED yellow, lights up when light beam is free, flashes when falling short of the stability control
Control elements	none

Electrical specifications

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

Interface

Interface type	IO-Link
Protocol	IO-Link V1.0
Mode	COM 2 (38.4 kBaud)

Output

Signal output	1 PNP output, short-circuit protected, reverse polarity protected, open collector	
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
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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	M8 x 1 connector, 3-pin
Material	
Housing	Aluminum , Delta-Seal coated
Optical face	glass pane
Connector	metal
Mass	50 g

Approvals and certificates

UL approval	cULus Listed 57M3 (Only in association with UL Class 2 power supply; 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

IO-Link-Master02-USB

IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

IO-Link-Master-USB DTM

Communication DTM for use of IO-Link-Master

IODD Interpreter DTM

Software for the integration of IODDs in a frame application (e. g. PACTware)

PACTware 4.1

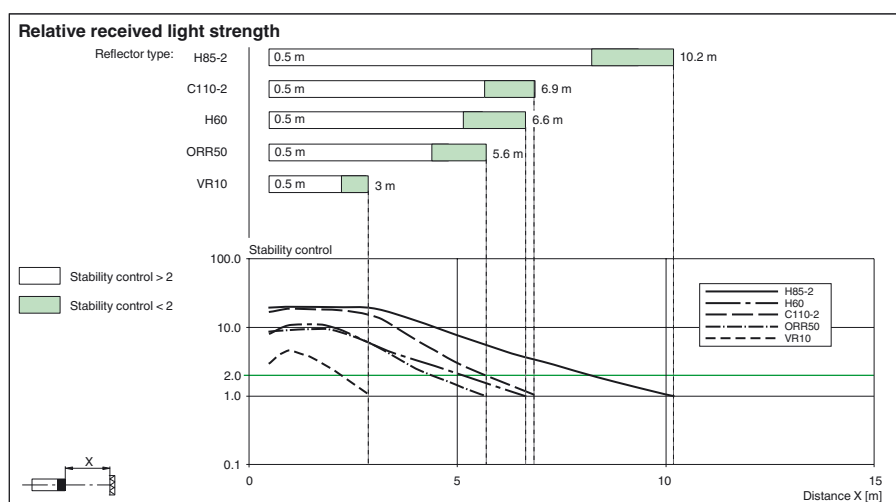
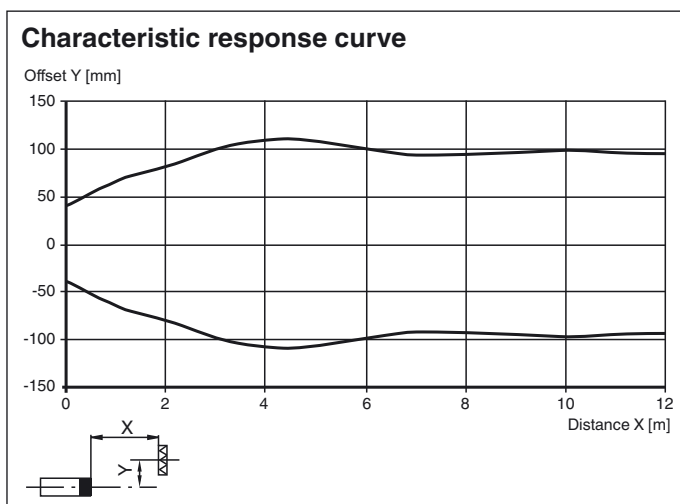
FDT Framework

MLV41-55 IODD

IODD for communication with MLV41-55-IO-Link sensors

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

Curves/Diagrams



IO link function

The IO link operating mode is indicated by the green LED indicator with a short interruption ($f = 1 \text{ Hz}$). IO link communication simultaneously provides process data (measurement data from the sensor) and access to requirement data. The requirement data contains the following information:

Identification:

- Manufacturer information
- Product ID
- User-specific ID

Device parameters:

- Teach-in parameters
- Operating parameters
- Configuration parameters
- Device commands

Diagnostic messages and warnings