



**Model Number**

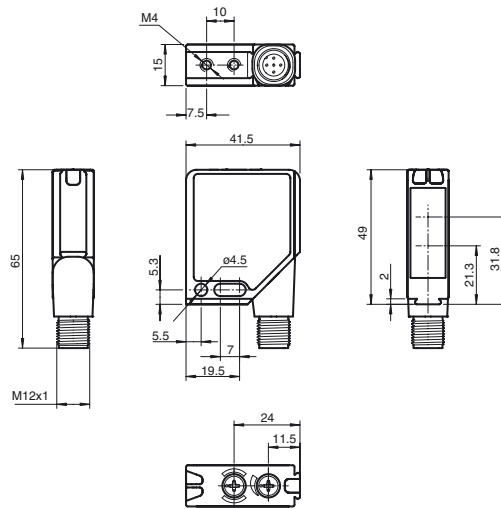
**MLV12-54/47/124**

Retroreflective sensor  
with metal connector M12; 5-pin, 90°  
convertible

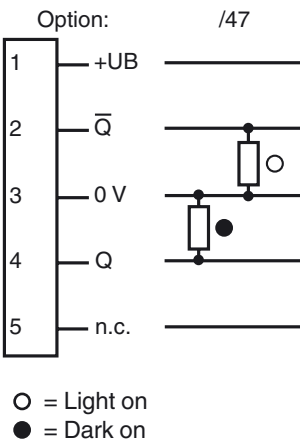
**Features**

- Robust photoelectric sensor series in a widely used standard housing
- Resistant against noise: reliable operation under all conditions
- Clear and functional display concept for the operating modes
- High level of stability thanks to the metal housing frame
- Tightly sealed thanks to welded plastic components
- Suitable for operation at low temperatures down to -40 °C

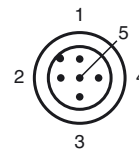
**Dimensions**



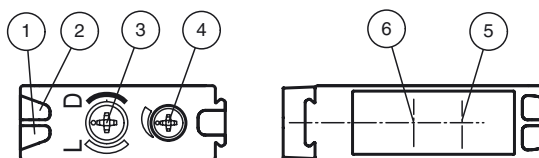
**Electrical connection**



**Pinout**



**Indicators/operating means**



1	Operating display	green
2	Switch state	yellow
3	Light/dark switch	
4	Sensitivity adjuster	
5	Optical axis emitter	
6	Optical axis receiver	

Release date: 2013-04-18 17:06 Date of issue: 2013-05-13 120581\_eng.xml

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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

Effective detection range	0 ... 6.5 m
Reflector distance	0.01 ... 6.5 m
Threshold detection range	9 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 660 nm
Diameter of the light spot	approx. 170 mm at detection range 6.5 m
Angle of divergence	1.5 °
Ambient light limit	
Continuous light	50000 Lux
Modulated light	5000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	1000 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Operating display	LED green, flashes in case of short-circuit
Function display	2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted
Controls	rotary switch for light/dark, sensitivity adjuster

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	max. 40 mA

**Output**

Switching type	light/dark on switchable	
Signal output	2 PNP outputs, complementary, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 0.2 A	
Voltage drop	U <sub>d</sub>	≤ 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**

Protection degree	IP67
Connection	Metal connector, M12, 5-pin, 90° rotatable
Material	
Housing	Frame: nickel plated, die cast zinc, Laterals: glass-fiber reinforced plastic PC
Optical face	Plastic pane
Mass	60 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**

Protection class	II, rated voltage ≤ 300 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus
CCC approval	CCC approval / marking not required for products rated ≤36 V

**Accessories****OMH-MLV12-HWG**

Mounting bracket for series MLV12 sensors

**OMH-MLV12-HWK**

Mounting bracket for series MLV12 sensors

**OMH-K01**

dove tail mounting clamp

**OMH-K02**

dove tail mounting clamp

**OMH-K03**

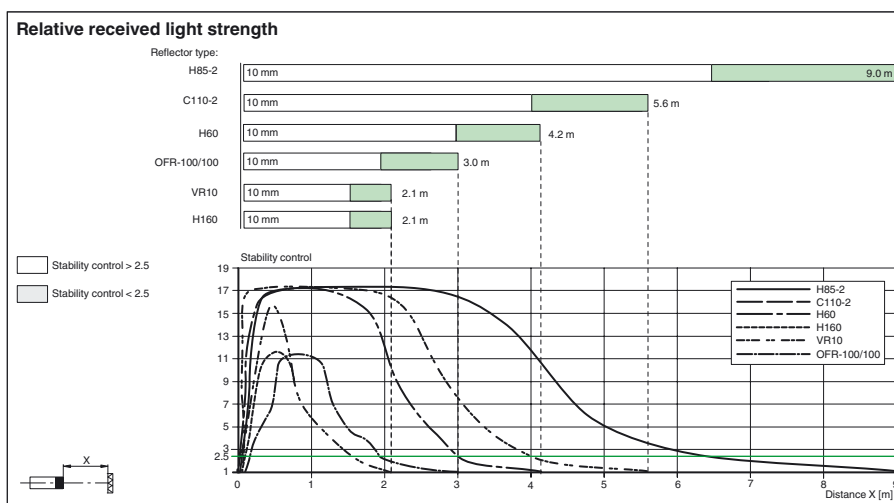
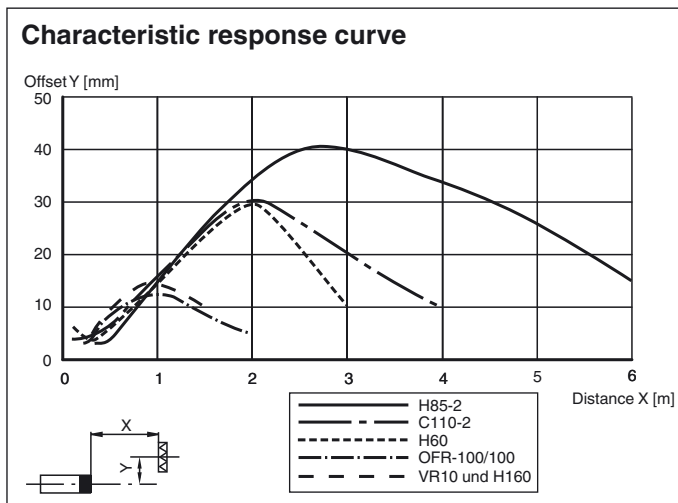
dove tail mounting clamp

**OMH-06**

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## Curves/Diagrams



## Additional Information

## Conventional use

The reflex light beam switch contains the emitter and receiver in a single housing. The light from transmitter is beamed back from a reflector to the receiver. If an object interrupts the light beam the switching function is initiated.

## Mounting instructions

The sensor can be fastened over the through-holes directly or with a support angle or clamping components (this are not contained in the scope of supply).

The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts and screws with washers to prevent misalignment.

## Adjustment instructions

Connect the sensor to operating voltage, the LED green lights up constantly.

Mount suitable reflector opposite light beam switch and align roughly.

The exact adjustment takes by swivelling the sensor horizontally and vertically. With optimum light reception the yellow LED lights up constantly. They flash if setting is inexact.

## Object detection check

Move the object into the light beam. If the object is recorded, the yellow LED switch off. If it does not switch off, reduce the sensitivity with the potentiometer until the switches off. It should lights up constantly on again when the object is removed.

## Lustration

The yellow LED flashes if reception deteriorates (e.g. soiled lenses.)

We recommend that you clean the optical interfaces and check the plug- and screw connections at regular intervals.