



**Model Number**

**MLV41-LL-IR-2492**

Fiber optic sensor  
with 4-pin, M12 x 1 connector

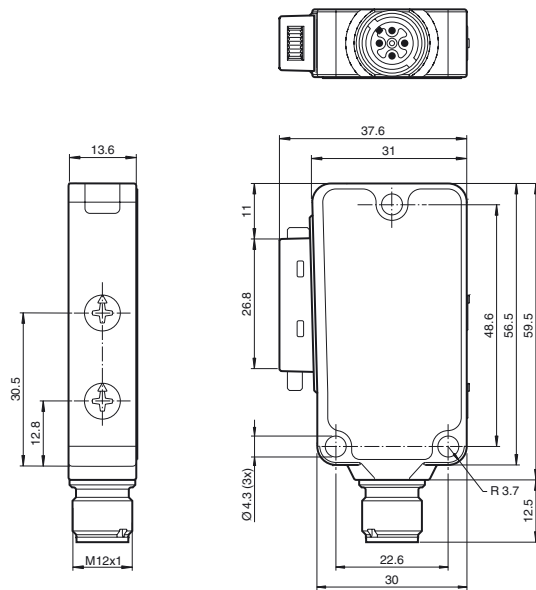
**Features**

- Robust fiber optic sensor for reliable operation under all conditions
- Adjustable continuous sensitivity
- Easy fiber optic installation with quick-action clamping lock
- Aluminum housing with high-quality Delta Seal coating

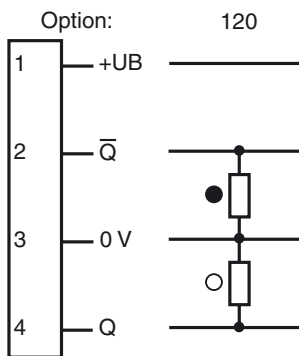
**Product information**

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.

**Dimensions**

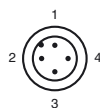


**Electrical connection**



○ = Light on  
● = Dark on

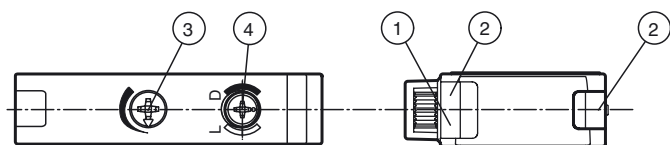
**Pinout**



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

**Indicators/operating means**



1	Operating display green	3	Sensing range adjuster
2	Function display yellow	4	Bright/dark switch

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

Sensor range	on black (6 %): up to 55 mm on Kodak white, reflection factor 90% up to 160 mm with LLR 04-1.6-0.5-WC3 fiberoptic cable
Adjustment range	0 ... 160 mm on Kodak white, reflection factor 90%
Reference target	100 mm x 100 mm on Kodak white, reflection factor 90%
Light source	IRED
Light type	modulated infrared light , 880 nm

**Functional safety related parameters**

MTTF <sub>d</sub>	770 a
Mission Time (T <sub>M</sub> )	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 up with receiver lit ; flashes when falling short of the stability control
Control elements	Sensitivity adjuster, light/dark switch

**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 The switching modes specified in the "Electrical Connection" section apply to L/D switches in the "L" position (light switch)	
Signal output	2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U <sub>d</sub>	≤ 2.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms

**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 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
Fiber optic adapter	04
Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	Aluminum , Delta-Seal coated
Optical face	Fiber optic connection
Connector	metal
Mass	50 g

**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

**Approvals and certificates**

Protection class	II, rated voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1 functional insulation acc. to DIN EN 50178
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-41**

Mounting bracket

**V1-G-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**V1-W-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**LCR 04-1,6-0,5-Z1**Glass fiber optic - diffuse with PVC co-  
vering**LLR 04-1,6-0,5-G(M6x30)**Glass fiber optic - diffuse with metal silico-  
ne covering**LCR 04-1,6-0,5-WC 3**Glass fiber optic - diffuse with PVC co-  
vering**LLR 04-1,6-0,5-W C3**Glass fiber optic - diffuse with metal silico-  
ne covering**LCE 04-1,6-1,0-Z1**Glass fiber optic - thru-beam with PVC co-  
vering**LCE 04-1,6-1,0 G**Glass fiber optic - thru-beam with PVC co-  
vering**LLE 04-1,6-1,0-G**Glass fiber optic - thru-beam with metal si-  
licone covering**LCE 04-1,6-1,0-W C3**Glass fiber optic - thru-beam with PVC co-  
vering**LLE 04-1,6-1,0-W C3**Glass fiber optic - thru-beam with metal si-  
licone covering

Other suitable accessories can be found at