

INPROX Sensors



Gap-Diameter Laser Sensor

Series MLB3

- Resolution $\geq 10\mu\text{m}^*$
- High switching frequency 25 kHz
- Integrated switching output
- Axial und 90°-angled housing
- OEM versions on request

Principal features:

- Resolution $\geq 10\mu\text{m}^*$
- Switching frequency 25 kHz
- Analog output 0-10 V
- Switching point adjustable
- Glass optic with interference- and polarization filter
- Supply 12-32 VDC
- Range max. 2 m
- Insensitive to external light
- Adjustable laser power
- Solid aluminum housing
- Laser Class 2
- Degree of protection IP 67
- Plug connector M12 / 4-pin.
- ϕ

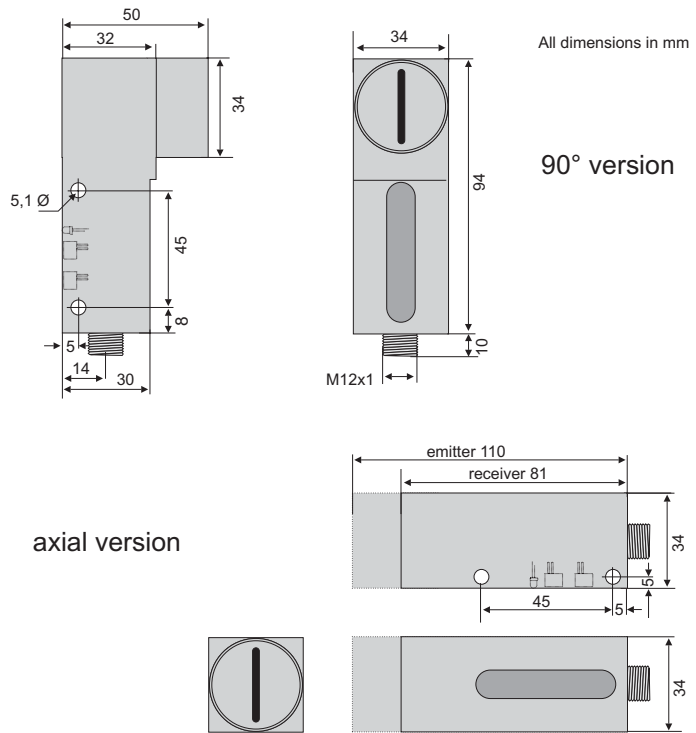
* depends on diaphragm size

Applications:

- Filling control
- Height control
- Gap control
- Diameter control
- Positioning control
- Inspection of threads
- Edge detection
- Flow- and opacity measurement
- Thickness measurement
- Sagging control

Advantages:

- Highly precise and dynamical
- Integrated switching output
- Easy alignment due to visible Laser beam and visible receiver diaphragm



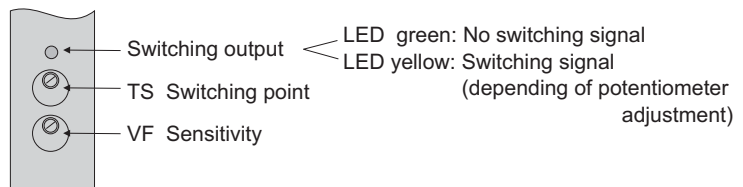
Emitter

- (+)12-32 VDC
- Laser power control (0-5 VDC)
Test input (5-32 VDC)
- GND
- Shield / housing



Receiver

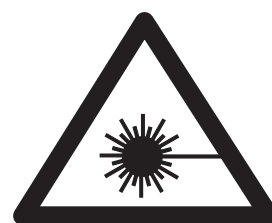
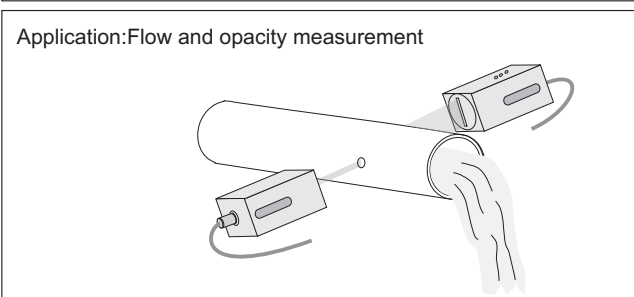
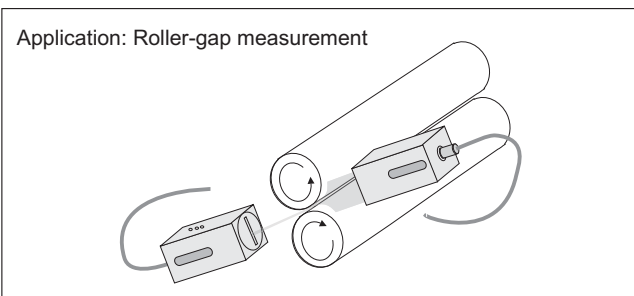
- (+)12-32 VDC
- Analog output (0-10 VDC)
- GND
- Output \bar{Q}



MLB3 Principal data	Operating range		2 m				
	Max operating temperature		-20 °C to +50 °C				
	Max. external light		≤ 5000 Lux (depends on diaphragm size)				
	Degree of protection		IP 67				
	Connection		M12 plug connector, 4-pin				
	Housing version		Axial or 90°				
	Housing		Aluminum anodized				
	Diaphragm size		5x2	10x2	20x2*	25x2	30x2* **
	Resolution		10 µm	20 µm	40 µm	50 µm	60 µm
	Linearity +/-		0.3% FS	1% FS	2% FS	2% FS	3% FS
	Reproduceability		1 ‰ FS				
Emitter	Supply voltage		12-32 VDC, inverse and overload protected				
	Max. residual ripple		≤ 10%				
	Current consumption		~ 60 mA				
	Laser power control / test input		0-5 VDC / 5-32 VDC Emitter switch-off				
	Laser		CW Laser red, 670 nm				
	Protection class		2 (EN 60825:1-1994)				
Receiver	Supply voltage		12-32 VDC				
	Max. residual ripple		≤ 10%				
	Current consumption		~ 30 mA (without load)				
	Switching output / logic		PNP or NPN \bar{Q}				
	Analog output		0-10 VDC				
	Output current		max. 100 mA				
	Switching frequency		≤ 25 kHz				
	Cutoff frequency		≤ 50 kHz				
	Adjustments		Switching point and sensitivity adjustable via 3-gear potentiometer				

Laser-Beam-Sensor	Part No.	Cable	Part No.
5x2 Diaphragm Axial Optic	MLB3052LZTK1E	PNP, M12, angular length 2 m	INMLB3PK1E
10x2 Diaphragm Axial Optic	MLB3102LZTK1E		
25x2 Diaphragm Axial Optic	MLB3252LZTK1E	NPN, M12, angular length 2 m	INMLB3NK1E
5x2 Diaphragm Radial Optic	MLB3052LZRK1E		
10x2 Diaphragm Radial Optic	MLB3102LZRK1E		
25x2 Diaphragm Radial Optic	MLB4252LZRK1E		

* optional
* optional diaphragms with 50 mm available
** diaphragm with 30 mm results a 28 mm shadowing



LASER CLASS 2
EN 60825-1:1994

Do not stare into beam !