

# Through-beam sensors, laser, M18 housing



- High optical range, adjustable
- 5000 Hz switching frequency for fast and precise switching
- Fix laser beam geometry, convergent
- Laser class 1
- Test input for system analysis
- Short-circuit protection, reverse polarity protection and power-up output suppression
- Connections: Cable, 2 meter  
Connector, M12
- EMC tested according to EN 61000-6-1/2/3/4



Product designation Plastic housing <sup>1)</sup>

Product designation Stainless steel <sup>1)</sup>

Output	
Connection	
Range adjustment	
<b>Optical data</b> <sup>2)</sup>	
Max. range	
Emitter	
<b>Electrical data</b> <sup>2)</sup>	
Supply voltage $U_s$	
Allowable ripple	
Current consumption (without load)	
Max. load current $I_L$	
Residual voltage	
Max. switching frequency	
Test input: emitter on emitter off	
Test input inverse: emitter on emitter off	
<b>Environmental data</b>	
Sealing	
Laser class	
Temperature $T_A$ (operating and storage)	
Weight Plastic/Stainless steel	

Emitter		Receiver			
M1LS 1KA 101 R1	M1LS 1KA 401 R1	M1LE 1NA 140 R1	M1LE 1NA 440 R1	M1LE 1PA 140 R1	M1LE 1PA 440 R1
M1LS 1KA 101 R1M	M1LS 1KA 401 R1M	M1LE 1NA 140 R1M	M1LE 1NA 440 R1M	M1LE 1PA 140 R1M	M1LE 1PA 440 R1M
		NPN (light-/dark-on)		PNP (light-/dark-on)	
Cable 2 m	Connector M12	Cable 2 m	Connector M12	Cable 2 m	Connector M12
Yes		No			
100 m					
Laser, red 650 nm, pulsed					
10...30 VDC					
+/- 10% of $U_s$					
< 15 mA		< 15 mA			
		100 mA			
		< 1,6 V			
5000 Hz					
> 8 V or open < 1,5 V					
Open or < 1,5 V > 8 V					
IP 67					
1 (IEC 825-1; EN 60825-1:2001)					
-25...+60 °C					
Connector M12: ca.15/25 g , Cable 2 m: ca. 100/110 g					

1) For product designation of sensors with options see designation code.  
2) When not otherwise noted, all technical data at  $T_A = 25\text{ °C}$  and  $U_s = 24\text{ V}$ .

## Option

Receiver with integrated optical aperture for the detection of small objects or for precise positioning.

Designation	Round aperture	Range
M1LE xxx xxx R96x	∅ 1.0 mm	15 m

10...30 VDC

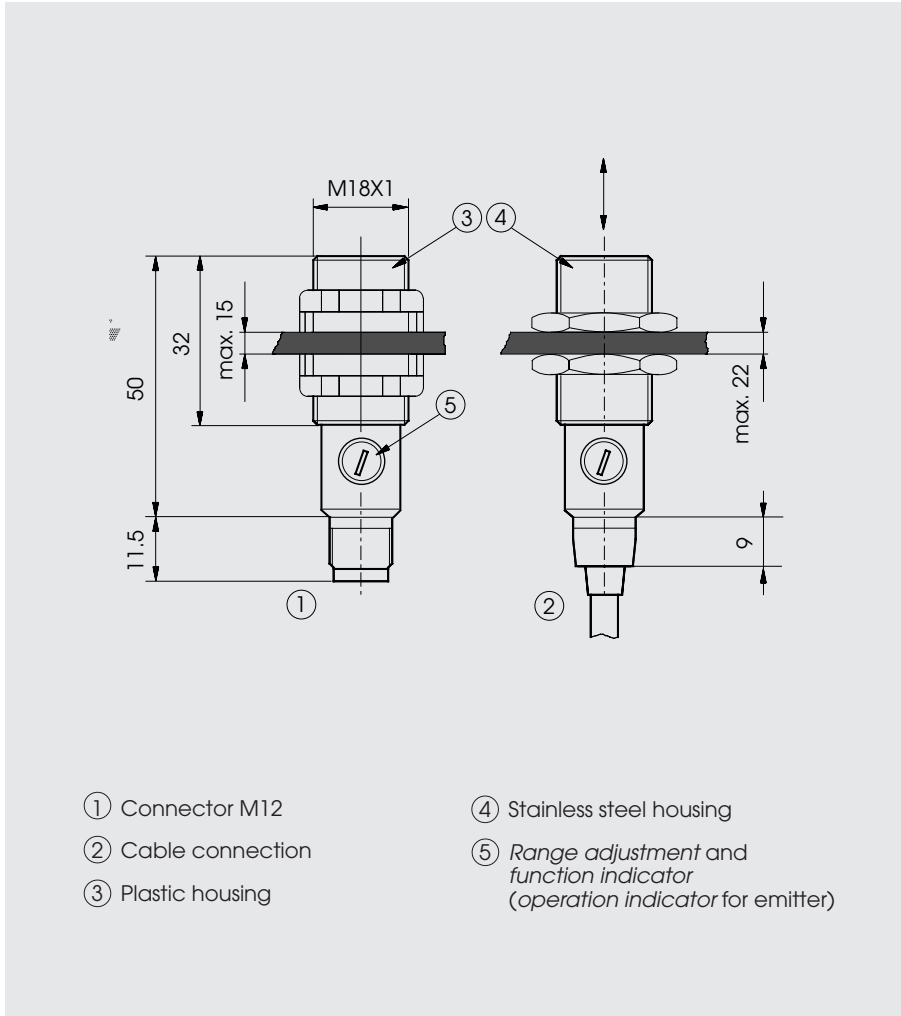
NPN / PNP  
light-on and  
dark-on output



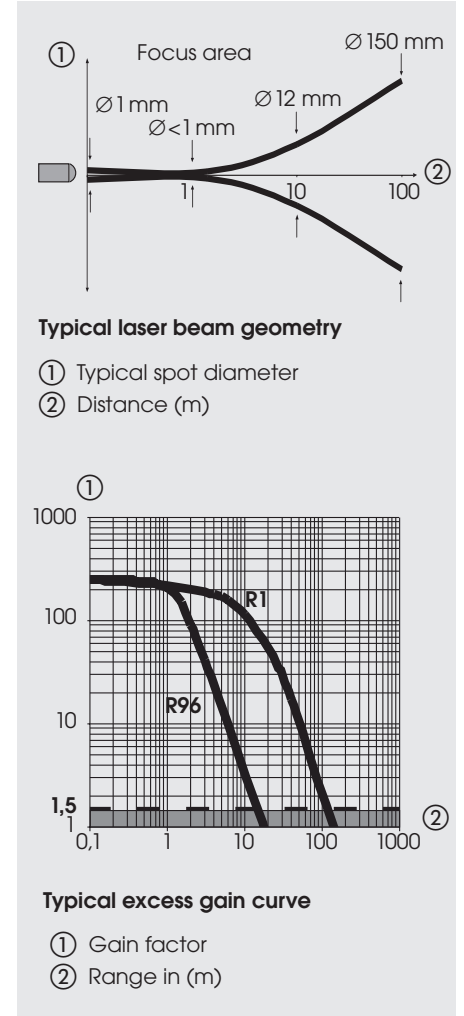
**100 m**

**M1LS/M1LE**

**Dimensions (50 mm, M18 x 1)**



**Optical diagrams**



**Wiring diagram**

