

# Through-beam sensors miniSNAP, snap-in housing



- Simplest and quick snap-in mounting
- Fully integrated electronics in emitter and receiver
- Transistor output PNP or NPN, light-on or dark-on
- *Test input*
- Insensitive to foreign light sources, e.g. HF-lamps, etc.
- *Short-circuit protection, reverse polarity protection and power-up output suppression*
- Connection: Cable, 2 meter  
Connector M8 on cable, 3 pin
- EMC-tested according to EN 60947-5-2, EN 61000-6-1/3/4



	Emitter		Receiver		
	MSS 1KA 141 I1	MSE 1NH 140 I1	MSE 1ND 140 I1	MSE 1PH 140 I1	MSE 1PD 140 I1
Product designation Cable 2 m <sup>1)</sup>	MSS 1KA 541 I1	MSE 1NH 540 I1	MSE 1ND 540 I1	MSE 1PH 540 I1	MSE 1PD 540 I1
Product designation Connector M8 <sup>1)</sup>					
Output		NPN, light-on	NPN, dark-on	PNP, light-on	PNP, dark-on
Range adjustment	No	No			
<b>Optical data <sup>2)</sup></b>					
Max. range	15 m				
Emitter	Infrared-LED, 875 nm, pulsed				
Aperture angle at 3 m	typ. +/-14 °		typ. +/-8 °		
<b>Electrical data <sup>2)</sup></b>					
Supply voltage U <sub>s</sub>	10...30 VDC				
Allowable ripple	+/- 10% of U <sub>s</sub>				
Current consumption (without load)	< 15 mA		< 8 mA		
Max. load current I <sub>L</sub>			100 mA		
Residual voltage			< 1.6 V		
Max. switching frequency			200 Hz		
<i>Test input:</i> emitter on emitter off	≥ 7 V open or ≤ 3 V				
<b>Environmental data</b>					
Sealing (Sensor)	IP 67				
Light immunity	> 75'000 Lux @ > 3 °		> 100'000 Lux @ > 15 ° Angle incidence		
Temperature T <sub>A</sub> (operating / storage)	-40...+70 °C / -25...+65 °C				
Weight (cable / connector)	ca. 50 g / 10 g				

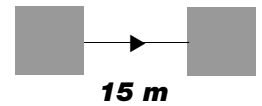
1) For product designation of sensors with options see designation code  
2) When not otherwise noted, all technical data at T<sub>A</sub> = 25 °C, U<sub>s</sub> = 24 V.

### Note:

The emitter is only activated, if the *test input* is connected to U<sub>s</sub> or to a corresponding test signal.

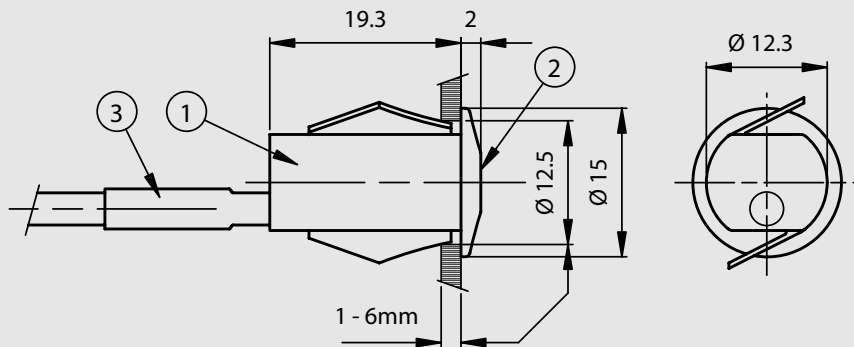
10...30 VDC

NPN / PNP  
light-on or  
dark-on output



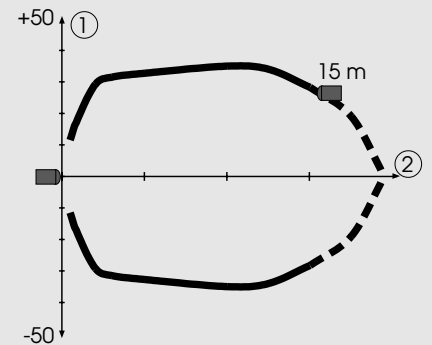
**MSS/MSE**

**Dimensions (Ø 12.3 mm x 19.3 mm)**



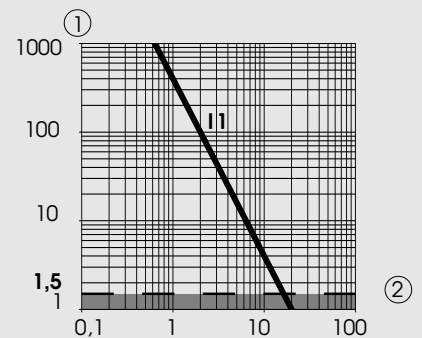
- ① Plastic housing
- ② Emitter or receiver optics
- ③ Cable outlet  
(red: Emitter; blue: Receiver)

**Optical diagrams**



**Typical beam diameter**

- ① Diameter in (cm)
- ② Range in (m)



**Typical excess gain curve**

- ① Gain factor
- ② Range in (m)

**Wiring diagram**

