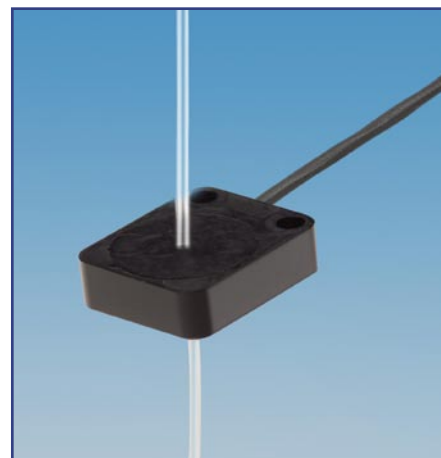




- ▶ Precision tube sensors for the detection of microbubbles in transparent tubes
- ▶ Can reliably detect minute entrapments of gas in transparent liquids
- ▶ High precision without extensive optical adjustment
- ▶ Accurate tube positioning
- ▶ Resistant PEEK housing
- ▶ With cable connection for use on STM MICROmote® amplifiers with digital or analog output
- ▶ Customizing to individual dimensions possible

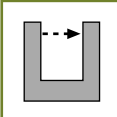


PRECISION TUBE SENSOR
for microbubble detection

▶ TECHNICAL DATA

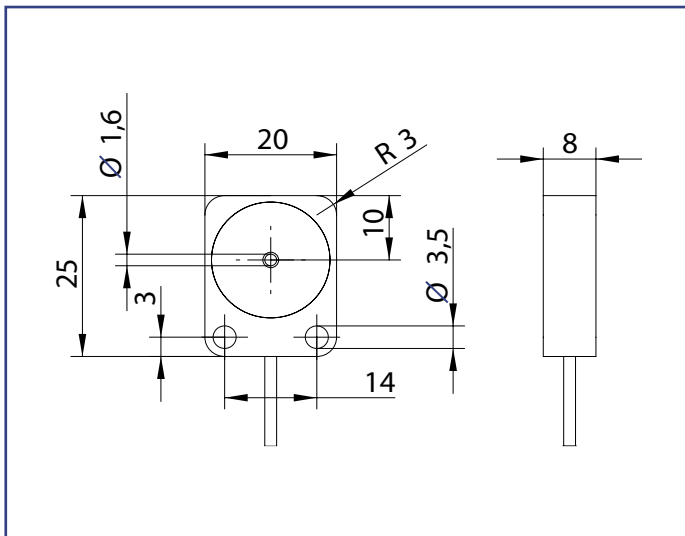
Type	TSL-K16R
Tube diameter	1,6mm (1/16")
Light type	visible red 665nm
Housing material	Polyetherketone (PEEK), black
Operating temperature	-10°C / +60°C
Protection class	IP54
Connection	PUR-cable with connector
Mounting	screw fastening





TSL-K16R

▶ DIMENSIONS Measurements in mm. Subject to technical change.



▶ MODE OF OPERATION

Precision tube sensors type TSL are designed for the detection of free floating microbubbles in transparent liquids. Microbubbles are per definition all gaseous entrapments whose dimensions are smaller than the inner tube diameter.

Due to a concentric arrangement of several light beams with very homogenous intensity distribution a uniform illumination of the liquid column is achieved. Gas bubbles travelling through this field produce a signal peak on the integrated optoelectronic receiver components.

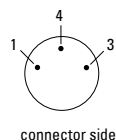
In combination with the microprocessor controlled V10 MICROmote® amplifiers with digital display and switching or analog signal output the tube sensors of the TSL type represent a complete detection system with various options of usage in laboratory or medical technology.

The optical property of the tube and its wall thickness can influence the range of the emerging signal strengths.

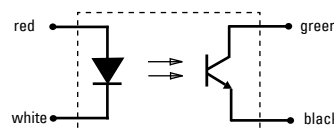
▶ PIN CONNECTION

M8, 3pin (standard)

- 1 (red) LED +
- 4 (white/black) LED- /FT-
- 3 (green) FT +



▶ EQUIVALENT CIRCUIT DIAGRAM



	<p>jacket material P: PUR-cable black ø 1,8mm special cable on request</p>	<p>connector Ø: M8 - connector 3pin special model available on request</p>	<p>cable length (specification in [m]) standard length 1m special cable length available on request</p>
PART DESIGNATION	Typ - <input type="text"/> - <input type="text"/> : <input type="text"/>		
ORDERING EXAMPLE	<p>TSL-K16R-P-Ø:1m = Tube sensor TSL - tube diameter 1,6mm - PUR-cable - M8, 3pin : cable length 1m</p> <p>Please note, for correct operation, a separate amplifier is required.</p>		