Tippkemper®

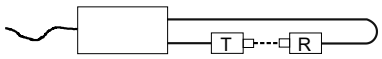
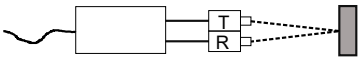
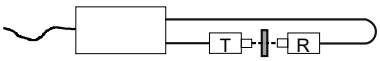
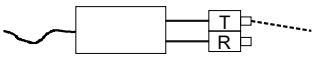
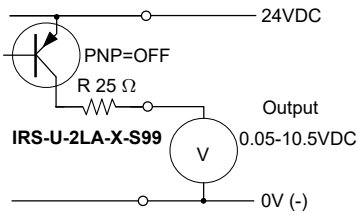
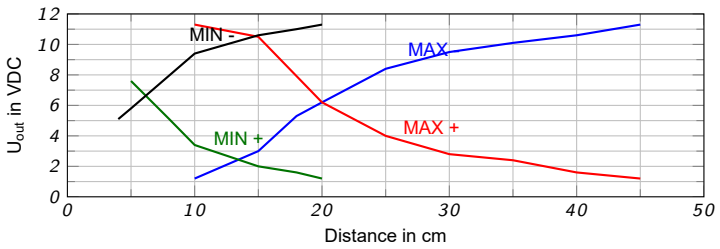
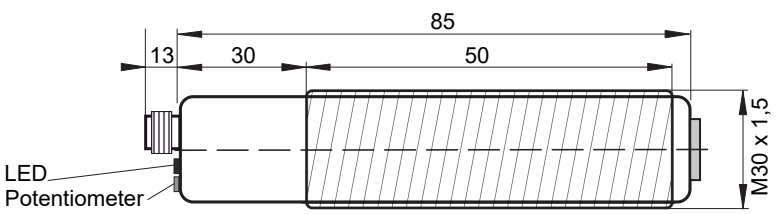
ISO 9001:2015 / ATEX

MATRIX elektronik ag

Original operating manual: IRS-U-2LA-X-S99
Photoelectric proximity switch

CE

- Also for using with fibre optics.
- Robust sensor for industrial applications.
- Output polarity invertable by reversing the supply polarity.

Technical Data \ Type	IRS-U-2LA-X-S99	
Optical Range	200mm, with potentiometer adjustable	
Output Signal Range	0.05VDC - 10.5VDC (Ripple: < 20mV)	
Light Source	Infrared 870nm	
Optical aperture angle	approx. 12°	
Maximum optical radiant power	not limited	
Maximum optical radiant intensity	not limited	
Response time	5ms	
Output type	PNP, output impedance approx. 25Ω, RL: 2kΩ bis 1MΩ	
Working range	5VDC/20cm (On white paper 80g, 20cm x 30cm)	
Supply voltage, Ue	24VDC	
Absolute maximum supply voltage, Um	30VDC	
Current consumption	60mA	
Maximum power consumption	1.4W	
Housing	M30, brass, nickel plated	
Enclosure rating	IP54	
Ambient working temperature range, T_{amb}	–20°C up to +60°C	
Relative humidity	15% ... 80%, non-condensing	
EMC, shock and vibration resistance	Vibration: 30g over 20Hz to 2kHz. Shock: 100g for 3ms	
Socket	Lumberg, M12 male, type RSF 5, 5 pins	
Accessories	**Included**	**Optional**
	• 2x nuts M30	
Function and LED Indication	Light barrier with optical fiber  Light path free  Proximity switch with optical fiber	Light barrier with optical fiber  Light path broken  Proximity switch with optical fiber
Pin out and output circuit	**Pin out** +24VDC 1 NC 2 0V 3 Output 4 PE 5	
Output diagram (measured on white paper, 80g, 20cm x 30cm) Potentiometer on minimal and maximal setting	 	
Dimensions	 	

IRS-U-2LA-X-S99_e1/2020–11–10/MP/PDL

General mounting prescriptions
Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function
The IRS-U-2LA-X analog sensor provides an analog output signal of 0-10 VDC, depending on the amount of diffusely reflected light. Determined by the polarity of the supply voltage, the function of the output curve can be inverted. With connected light guide (function as a light barrier) the sensor is also used for turbidity measurement of liquids. By means of the potentiometer the sensor can be optimally adapted to the measuring conditions.

Range
The nominal optical range is specified on white paper A4, 80. The range will be influenced by the color, kind of surface and shape of the object.

Fibre optics
For efficiently detection solutions look for our multiple program of certificated fibre optics, also for high temperature areas.

Maintenance
Protect the sensor and the fibre optics against pollution. If the fibre optics or the sensor lenses are contaminated, clean with alcohol. Do not use aggressive solvents. Optical fibres can be destroyed by strong solvents. Equipment must only be repaired or serviced by the manufacturer.

General notes, disposal
We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

General Safety Information
The sensor must not be used for fail-safe applications! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and national regulations.
The sensors are conform to the following standards:
EN 60529:2000, IEC 61000-4-2 to IEC 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4, Machine directive 2006/42/EC, RoHS directive 2011/65/EU, EMC directive 2004/108/EG

EU-Declaration of Conformity
The conformity of the devices with all used standards and directives and the EC-type examination certificate and the observation of the Quality Management System ISO 9001:2015 declares:

Ehrendingen, 10.11.2020

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