



Contrast sensors
KT5, KTL5-2 Fiber Optic

KTL5G-2N51



Model Name > **KTL5G-2N51**
Part No. > **1016951**



Illustration may differ

At a glance

- Various heat-resistant fiber-optic cable models are available
- Various teach-in methods, including potentiometer
- Analog output
- Switching frequency of 10 kHz

Your benefits

- Reliable contrast detection
- Flexible integration into machines due to minimal space requirements and various fiber-optic cable versions
- Durable, glass fiber-optic cables
- Reliable operation in adverse environmental conditions, such as extreme temperatures and moisture
- Resistant to aggressive cleaning agents
- Compact design fits in applications with limited space



Features

Sensing distance:	Dependent on the fiber-optic cable
Light source ¹⁾ :	LED
Wave length:	520 nm
Light spot size:	Dependent on the fiber-optic cable
Output function:	Light/dark switching
Type of light:	Visible green light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Manual adjustment, potentiometer

¹⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Ripple ¹⁾ :	≤ 5 Vpp
Current consumption ²⁾ :	< 80 mA
Switching frequency ³⁾ :	10 kHz
Response time ⁴⁾ :	50 μs
Output type:	NPN: HIGH = approx. VS / LOW ≤ 2 V
Switching mode:	NPN
Analog output QA:	0.3 mA ... 10 mA

Connection type:	Connector M12, 4-pin
Protection class ⁵⁾ :	II
Circuit protection:	Output Q short-circuit protected, Interference suppression, VS connections reverse-polarity protected
Enclosure rating:	IP 67
Weight:	400 g
Housing material:	Metal, Zinc diecast
Output current I _{max.} :	100 mA
Supply voltage:	10 V DC ... 30 V DC ⁶⁾
Fieldbus interface:	-

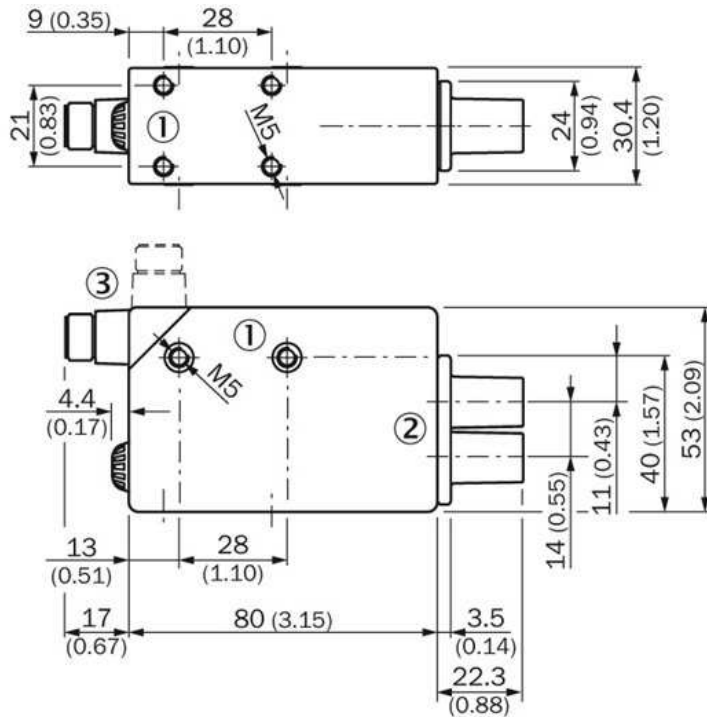
1) May not exceed or fall short of V_S tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

Limit values; operation in short-circuit protected network max. 8 A

Ambient data

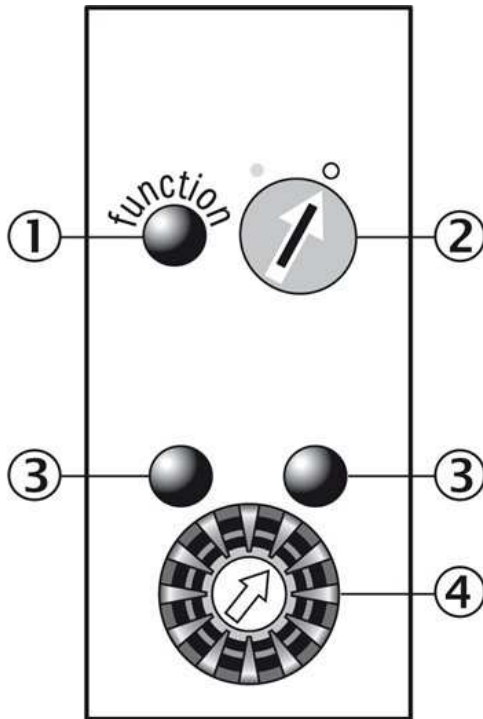
Shock load:	According to IEC 60068
UL File No.:	NRKH.E181493 & NRKH7.E181493
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +75 °C

Dimensional drawing



- [1] M5 threaded mounting hole, 5.5 mm deep
- [2] Fiber-optic adapter (M12 x 1 internal thread)
- [3] Connector M12 (rotatable up to 90°)

Adjustments



- |1| Function signal indicator (yellow)
- |2| Pre-selection switch (light/dark switching)
- |3| Adjustment indicators (green)
- |4| Switching threshold adjustment

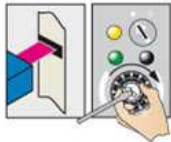
Bedienhinweis

1. Select switching function (light/dark)



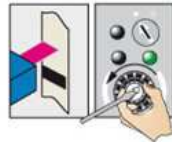
Turn the rotary switch to the desired position:
 □ = light switching
 ● = dark switching

2. Position mark

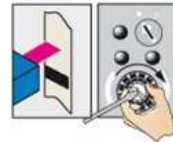


Turn potentiometer in the direction shown (green LED illuminates) until the yellow LED status changes and the green LED opposite illuminates.

3. Position background



Gradually turn back the potentiometer (count the number of turns) until the yellow LED changes status again and illuminates.

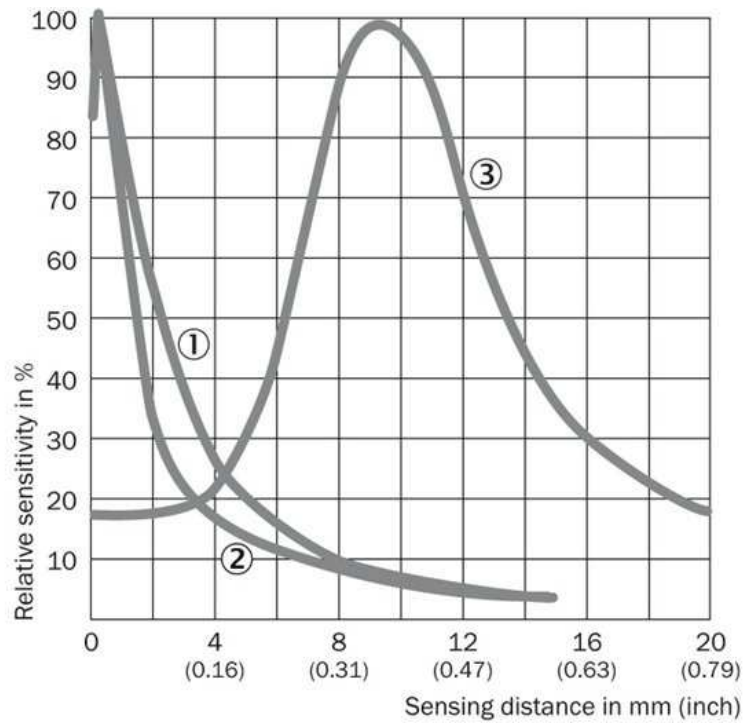


Turn the potentiometer forward again by half the number of turns to ensure that the switching threshold is optimally set.

Switching characteristics

The optimum emitted light is selected automatically.
 The switching threshold is set in the center between the background and the mark.

Sensing distance



- |1| Fiber-optic cable LBST 32900
- |2| Fiber-optic cable LBSR 32900
- |3| Fiber-optic cable OCSL

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