



Contrast sensors KT5, KTL5-2 Fiber Optic

KTL5W-2P16



Model Name > [KTL5W-2P16](#)
Part No. > [1026006](#)



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:	470 nm, 525 nm, 640 nm
Light spot size:	Dependent on the fiber-optic cable
Output function:	Light/dark switching
Type of light:	Visible blue light, Visible green light, Visible red light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Static 2-point teach-in

¹⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Ripple ¹⁾ :	≤ 5 Vpp
Power consumption ²⁾ :	< 80 mA
Switching frequency ³⁾ :	10 kHz
Response time ⁴⁾ :	50 μs
Output type:	PNP: HIGH = VS- ≤ 2 V / LOW approx. 0 V
Switching mode:	PNP
Input, teach-in (ET):	PNP: Run: $U < 2\text{ V}$, Teach: $U = 10\text{ V} \dots < U_V$

Input, light/dark (L/D):	Dark: $U > 10 \text{ V} \dots < U_V$, Light: $U = 0 \text{ V}$, PNP:
Retention time (ET):	25 ms, non-volatile memory
Connection type:	Connector M12, 5-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:	-

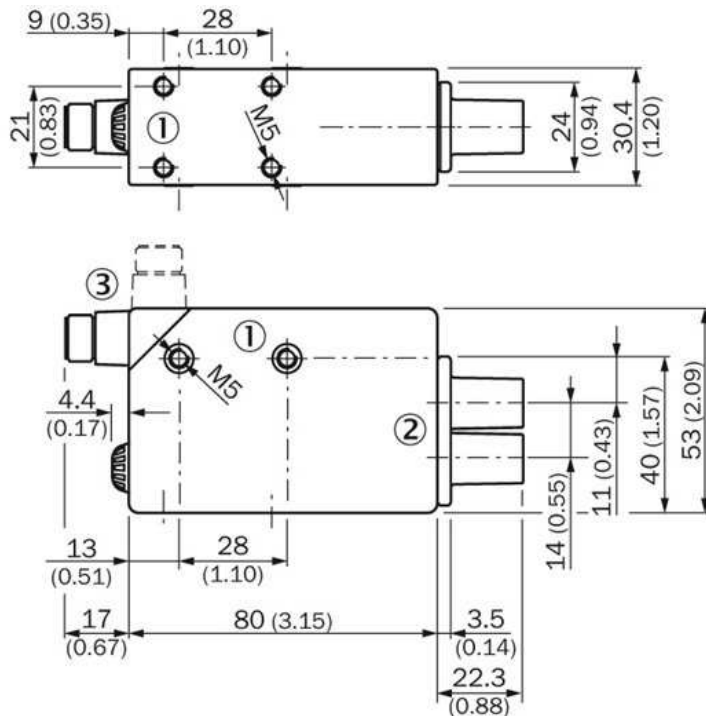
1) May not exceed or fall short of V_S tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

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

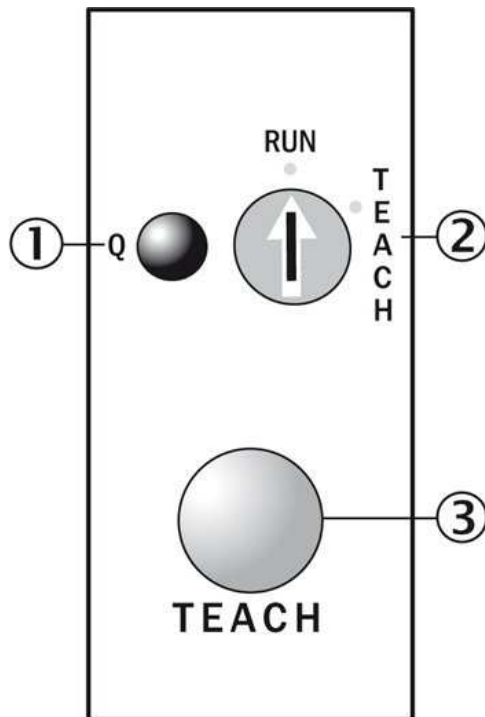
Ambient data

Shock load:	According to IEC 60068
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +75 °C

Dimensional drawing



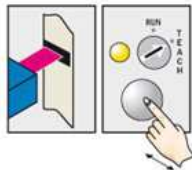
- [1] M5 threaded mounting hole, 5.5 mm deep
- [2] Fiber-optic adapter (M12 x 1 internal thread)
- [3] Connector M12 (rotatable up to 90°)



- |1| Function signal indicator (yellow)
- |2| Pre-selection switch
- |3| Teach-in button

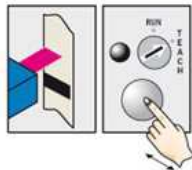
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1. Position mark



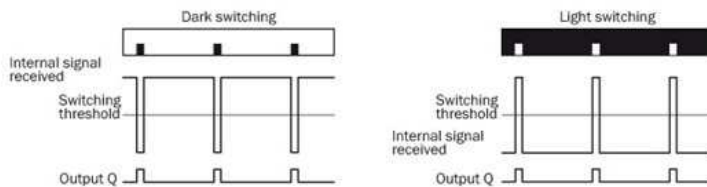
Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s.
Red emitted light and yellow LED flash.

2. Position background



Press and hold teach-in button > 1 s.
Yellow LED goes out.

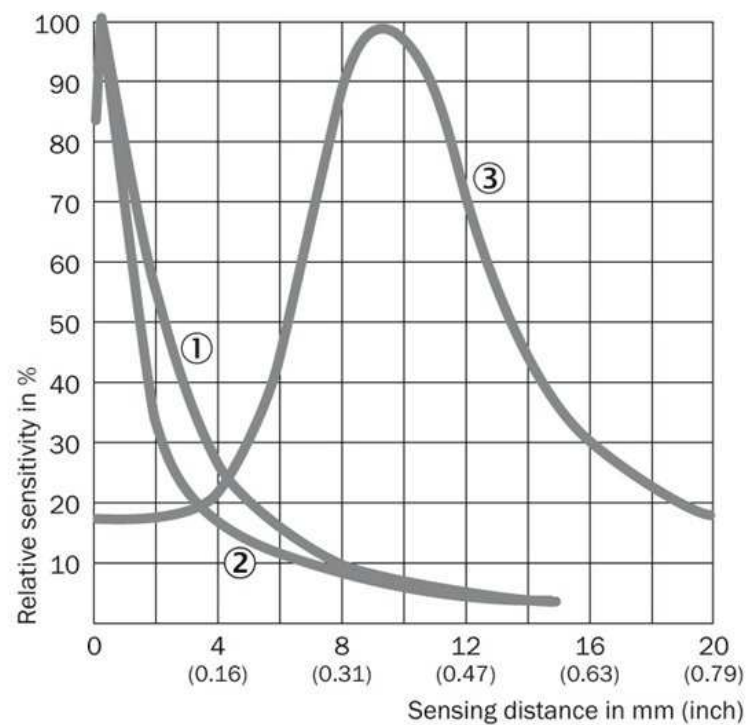
Example (for both settings)



Switching characteristics

The optimum emitted light is selected automatically.
Light/dark setting is defined using teach-in sequence.
The switching threshold is set in the center between the background and the mark.
Teach-in can also be performed using an external control signal.

Sensing distance



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

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