EASY CONTRAST DETECTION

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Product description

The KT6W-2 is a high-performance, cost-competitive contrast sensor with easy setup. The 3-color RGB LED technology allows even the smallest marks and contrasts to be reliably detected. High-gloss reflective marks are also detected due to the sensor's automatic gloss adjustment feature. A tough, metal housing ensures a long service life and high quality. The teach-in process is simple and easy all key parameters, such as transmission color and light/dark switching are detected automatically by the sensor. The KT6W-2 is available with the light emission located on the side of the device or on the end of the device. In addition to sturdy fixing holes, the KT6W-2 features two additional t-slots for even more mounting flexibility.

At a glance

- 3-color RGB LED technology
- 2-point teach-in (mark and background)
- Tough, metal housing
- Automatic gloss adjustment for highly reflective materials
- 10 mm sensing distance
- Light exits at end or side, based on model
- Common mounting footprint

Your benefits

- 3-color RGB LED for all registration mark applications – one sensor fits all
- Tough, metal housing for long service life
- Reliable operation, even with high-gloss reflective and jittering materials
- Easy setup – detect all marks with one sensor

Additional information

→ www.sick.com/de/en/KT6

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Sensing distance	10 mm
Housing design (light emission)	Rectangular
Sensing distance tolerance	± 3 mm
Light source [1]	LED
Type of light	RGB
Light emission	Short side of housing / Long side of housing (depending on type)
Light spot size	1.5 mm x 6.5 mm
Light spot direction [2]	Vertical
Teach-in mode	Static 2-point teach-in

[1] Average service life: 100,000 h at T_U = +25 °C.

[2] In relation to long side of housing.

Mechanics/electronics

Supply voltage [1]	10 V DC ... 30 V DC
Ripple [2]	≤ 5 V_{pp}
Power consumption [3]	< 40 mA
Switching frequency [4]	5 kHz
Response time	100 µs
Switching output	PNP: HIGH = V_S– ≤ 2 V / LOW approx. 0 V / NPN: HIGH = approx. V_S / LOW ≤ 2 V,
Output type	PNP / NPN
Output current $I_{max.}$	100 mA
Retention time (ET)	25 ms, non-volatile memory
Connection type	Connector M12, 4-pin
Protection class [5]	II
Circuit protection	V_S connections reverse-polarity protected, Output Q short-circuit protected, Interference suppression
Enclosure rating	IP 67
Weight	400 g
Housing material	Metal, zinc diecast

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

[2] May not exceed or fall below U_v tolerances.

[3] Without load.

[4] With light/dark ratio 1:1.

[5] Reference voltage DC 50 V.

Ambient data

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

Ordering information

Other models ➜ www.sick.com/de/en/KT6

Light emission	Output type	Type	Part no.
Short side of housing	PNP	KT6W-2P5116	1046013
	NPN	KT6W-2N5116	1046010
Long side of housing	PNP	KT6W-2P6116	1046014
	NPN	KT6W-2N6116	1046012

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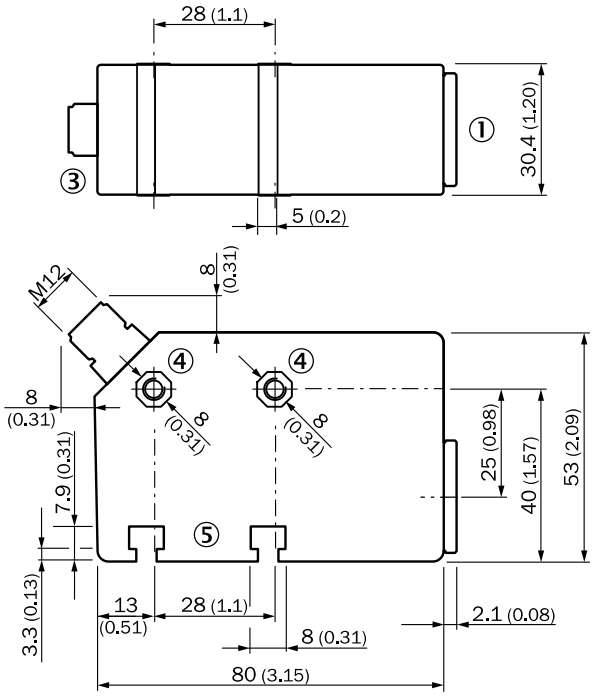
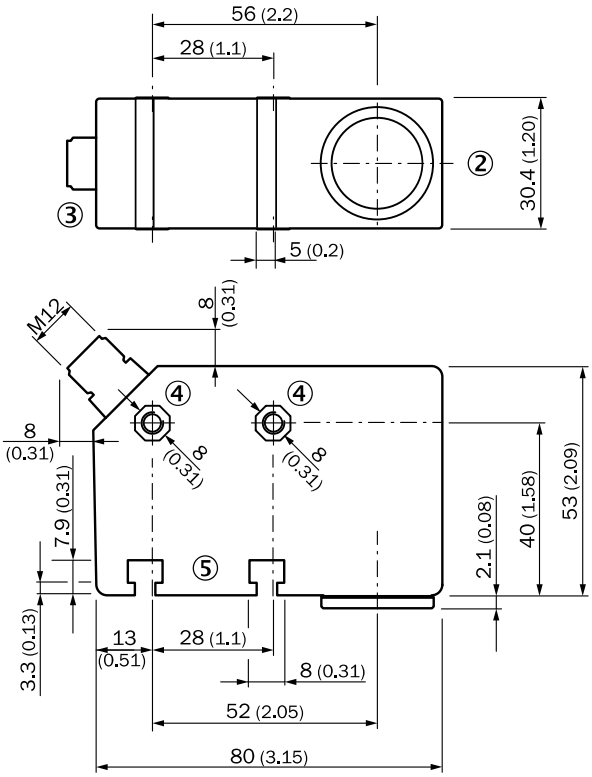
Dimensional drawings (Dimensions in mm (inch))

KT6W-2x5xxx



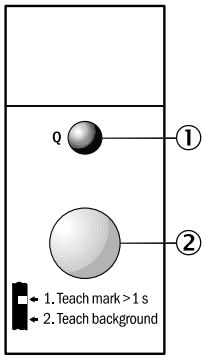
① Lens (light transmission), edge side
③ Connector M12
④ SW8 mounting hole for M5 nut
⑤ SW8 T-slot for M5 nut

KT6W-2x6xxx



② Lens (light transmission), length side
③ Connector M12
④ SW8 mounting hole for M5 nut
⑤ SW8 T-slot for M5 nut

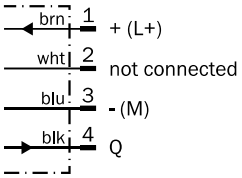
Adjustments



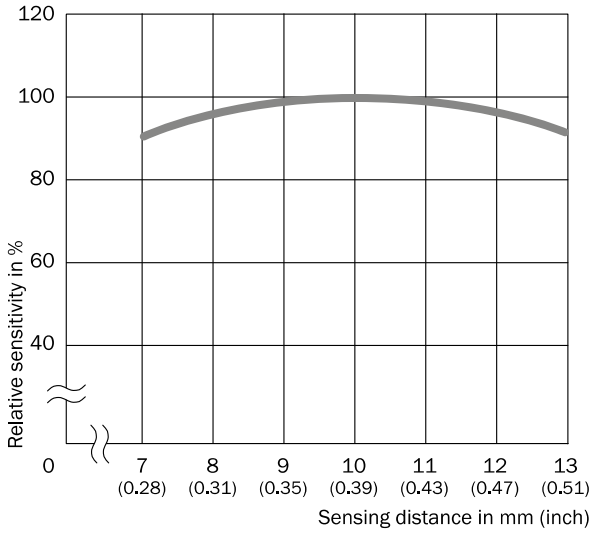
① Function signal indicator
② Teach-in button

Connection diagram

Cd-066



Sensing distance



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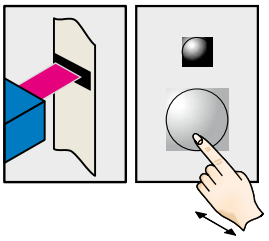
Setting the switching threshold

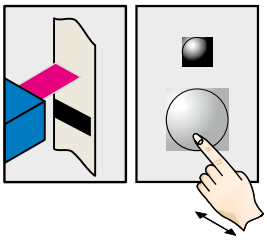
Teach-in static

1. Position mark



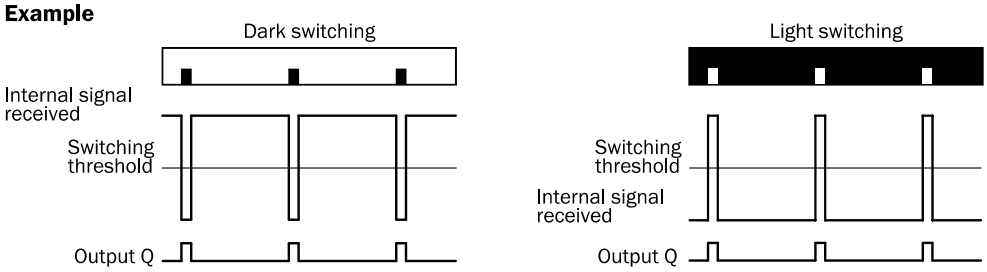
Press and hold teach-in button > 1 s.
Red emitted light flashes.

2. Position background



Press and hold teach-in button > 1 s.
Yellow LED will illuminate, when emitted light is on the mark.

Example



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.

Recommended accessories

Universal bar clamp systems

Figure	Material	Description	Type	Part no.
	Steel, zinc coated	Plate K for universal clamp bracket	BEF-KHS-K01	2022718
		Universal clamp bracket for rod mounting	BEF-KHS-KH1	2022726
		Mounting bar, straight, 200 mm, steel	BEF-MS12G-A	4056054
		Mounting bar, straight, 300 mm, steel	BEF-MS12G-B	4056055
		Mounting bar, L-shaped, 150 mm x 150 mm, steel	BEF-MS12L-A	4056052
		Mounting bar, L-shaped, 250 x 250 mm, steel	BEF-MS12L-B	4056053

Plug connectors and cables

Connecting cables with female connector

M12, 4-pin, PVC, chemical resistant

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.
	Female connector, M12, 4-pin, straight, unshielded	Cable, open conductor heads	2 m, 4-wire	DOL-1204-G02M	6009382
			5 m, 4-wire	DOL-1204-G05M	6009866
	Female connector, M12, 4-pin, angled, unshielded	Cable, open conductor heads	2 m, 4-wire	DOL-1204-W02M	6009383
			5 m, 4-wire	DOL-1204-W05M	6009867

→ For additional accessories, please see page K-240