

## SMALL RECTANGULAR HOUSINGS FOR USE IN INDUSTRIAL ENVIRONMENTS

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### Product description

Compact design with best-in-class performance. The IQB sensors offer extended sensing ranges of up to 8 mm and state-of-the-art SICK-ASIC technology. Its proven, reliable design with 270° status display is also ideal for more demanding applications. Extremely rugged

VISTAL™ housing, innovative hotmelt molding and an IP 68 enclosure rating make the sensors of the IQB product family the first choice for a wide range of applications and ensure the highest possible levels of process reliability and satisfaction.

### At a glance

- Types: 10 mm x 16 mm x 28 mm or 12 mm x 26 mm x 40 mm
- Extended sensing ranges: 2 mm to 8 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP 68
- Temperature range: -25 °C to +75 °C
- Tough VISTAL™ housing
- Small version with 270° output state display

### Your benefits

- Best mechanical and electronic stability for extra-long service life
- Highest levels of process reliability for your application
- Long service life that reduce maintenance costs thanks to SICK's ASIC technology and rugged VISTAL™ housing
- Precise detection and high sensor accuracy enable fast handling and assembly processes
- Space-saving integration in every application
- High resistance to shock and vibrations reduces maintenance costs
- Quick viewing of sensor status from any position in the room reduces maintenance costs
- Safe, fast mounting without any need for readjustment saves installation time and maintenance costs

→ [www.sick.com/IQB](http://www.sick.com/IQB)

For more information, simply 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.



## Detailed technical data

## Features

	IQ10	IQ12
<b>Housing</b>	Rectangular	
<b>Dimensions (W x H x D)</b>	10 mm x 16 mm x 28 mm	12 mm x 26 mm x 40 mm
<b>Sensing range <math>S_n</math></b>	Flush	4 mm
	Non-flush	8 mm
<b>Installation type</b>	Flush / non-flush (depending on type)	
<b>Switching frequency</b>	2,000 Hz	
<b>Output type</b>	PNP / NPN (depending on type)	
<b>Output function</b>	NO / NC / Complementary (depending on type)	
<b>Electrical wiring</b>	DC 3-wire / DC 4-wire (depending on type)	
<b>Enclosure rating <sup>1)</sup></b>	IP 68	

<sup>1)</sup> According to EN 60529.

## Mechanics/electronics

	IQ10	IQ12
<b>Supply voltage</b>	10 V DC ... 30 V DC	
<b>Ripple <sup>1)</sup></b>	≤ 10 %	
<b>Voltage drop</b>	DC 3-wire	≤ 3 V <sup>2)</sup>
	DC 4-wire <sup>2)</sup>	≤ 2 V <sup>2)</sup>
<b>Current consumption</b>	DC 3-wire	≤ 20 mA <sup>3)</sup>
	DC 4-wire <sup>2)</sup>	≤ 10 mA <sup>3)</sup>
<b>Time delay before availability</b>	≤ 100 ms	
<b>Hysteresis</b>	5 % ... 15 %	
<b>Repeatability <sup>4) 5)</sup></b>	≤ 2 %	
<b>Temperature drift (of <math>S_n</math>)</b>	± 10 %	
<b>EMC</b>	According to EN 60947-5-2	
<b>Continuous current <math>I_a</math></b>	≤ 200 mA	
<b>Connection type</b>	Cable, 2 m, PVC / Male connector, M8 (depending on type)	
<b>Short-circuit protection</b>	✓	
<b>Reverse polarity protection</b>	✓	
<b>Power-up pulse protection</b>	✓	
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm	
<b>Ambient operating temperature</b>	-25 °C ... +75 °C	
<b>Housing material</b>	Plastic, VISTAL™	
<b>Sensing face material</b>	Plastic, VISTAL™	
<b>Tightening torque, max.</b>	≤ 1 Nm	

<sup>1)</sup> Of  $V_s$ .

<sup>2)</sup> At  $I_a$  max.

<sup>3)</sup> Without load.

<sup>4)</sup>  $U_b$  and  $T_a$  constant.

<sup>5)</sup> Of  $S_r$ .

Reduction factors

	IQ10	IQ12
<b>Note</b>	The values are reference values which may vary	
<b>Stainless steel (V2A, 304)</b>	Approx. 0.7	
<b>Aluminum (Al)</b>	Flush	Approx. 0.4
	Non-flush	Approx. 0.5
<b>Copper (Cu)</b>	Flush	Approx. 0.3
	Non-flush	Approx. 0.35
<b>Brass (Br)</b>	Flush	Approx. 0.5
	Non-flush	Approx. 0.5

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Ordering information

Other models → [www.sick.com/IQB](http://www.sick.com/IQB)

IQ10

- **Housing:** 10 mm x 16 mm x 28 mm

Sensing range S <sub>n</sub>	Installation type	Electrical wiring	Output function	Output type	Connection	Connection diagram	Type	Part no.
3 mm	Flush	DC 3-wire	NO	PNP	Cable, 3-wire, 2 m, PVC	Cd-001	IQ10-03BPSKW2S	1055447
					Connector M8, 3-pin	Cd-002	IQ10-03BPSKT0S	1055453
				NPN	Cable, 3-wire, 2 m, PVC	Cd-001	IQ10-03BNSKW2S	1055450
					Connector M8, 3-pin	Cd-002	IQ10-03BNSKT0S	1055455
		DC 3-wire	NC	PNP	Cable, 3-wire, 2 m, PVC	Cd-003	IQ10-03BP0KW2S	1055449
					Connector M8, 3-pin	Cd-004	IQ10-03BP0KT0S	1055454
				NPN	Cable, 3-wire, 2 m, PVC	Cd-003	IQ10-03BN0KW2S	1055452
					Connector M8, 3-pin	Cd-004	IQ10-03BN0KT0S	1055456
		DC 4-wire	Complementary	PNP	Cable, 4-wire, 2 m, PVC	Cd-005	IQ10-03BPPKW2S	1055465
				NPN	Cable, 4-wire, 2 m, PVC	Cd-005	IQ10-03BNPKW2S	1055466
6 mm	Non-flush	DC 3-wire	NO	PNP	Cable, 3-wire, 2 m, PVC	Cd-001	IQ10-06NPSKW2S	1055457
					Connector M8, 3-pin	Cd-002	IQ10-06NPSKT0S	1055461
				NPN	Cable, 3-wire, 2 m, PVC	Cd-001	IQ10-06NNSKW2S	1055459
					Connector M8, 3-pin	Cd-002	IQ10-06NNSKT0S	1055463
		DC 3-wire	NC	PNP	Cable, 3-wire, 2 m, PVC	Cd-003	IQ10-06NPOKW2S	1055458
					Connector M8, 3-pin	Cd-004	IQ10-06NPOKT0S	1055462
				NPN	Cable, 3-wire, 2 m, PVC	Cd-003	IQ10-06NN0KW2S	1055460
					Connector M8, 3-pin	Cd-004	IQ10-06NN0KT0S	1055464

IQ12

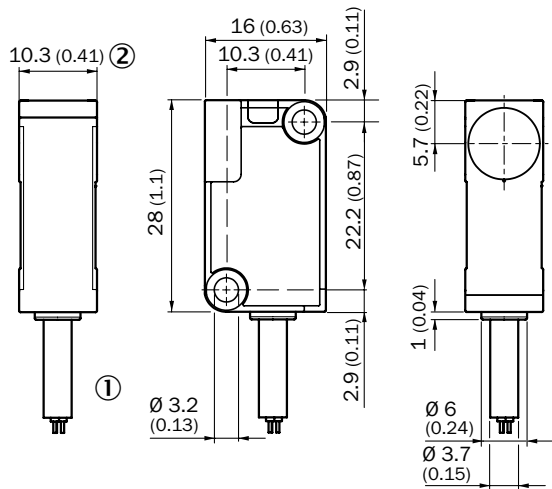
- **Housing:** 12 mm x 26 mm x 40 mm

Sensing range $S_o$	Installation type	Electrical wiring	Output function	Output type	Connection	Connection diagram	Type	Part no.
4 mm	Flush	DC 3-wire	NO	PNP	Cable, 3-wire, 2 m, PVC	Cd-001	IQ12-04BPSKW2S	1055428
					Connector M8, 3-pin	Cd-002	IQ12-04BPSKT0S	1055432
				NPN	Cable, 3-wire, 2 m, PVC	Cd-001	IQ12-04BNSKW2S	1055430
					Connector M8, 3-pin	Cd-002	IQ12-04BNSKT0S	1055434
		DC 3-wire	NC	PNP	Cable, 3-wire, 2 m, PVC	Cd-003	IQ12-04BP0KW2S	1055429
					Connector M8, 3-pin	Cd-004	IQ12-04BP0KT0S	1055433
				NPN	Cable, 3-wire, 2 m, PVC	Cd-003	IQ12-04BN0KW2S	1055431
					Connector M8, 3-pin	Cd-004	IQ12-04BN0KT0S	1055435
DC 4-wire	Complementary	PNP	Cable, 4-wire, 2 m, PVC	Cd-005	IQ12-04BPPKW2S	1055444		
		NPN	Cable, 4-wire, 2 m, PVC	Cd-005	IQ12-04BNPKW2S	1055445		
8 mm	Non-flush	DC 3-wire	NO	PNP	Cable, 3-wire, 2 m, PVC	Cd-001	IQ12-08NPSKW2S	1055436
					Connector M8, 3-pin	Cd-002	IQ12-08NPSKT0S	1055440
				NPN	Cable, 3-wire, 2 m, PVC	Cd-001	IQ12-08NNSKW2S	1055438
					Connector M8, 3-pin	Cd-002	IQ12-08NNSKT0S	1055442
		DC 3-wire	NC	PNP	Cable, 3-wire, 2 m, PVC	Cd-003	IQ12-08NPKW2S	1055437
					Connector M8, 3-pin	Cd-004	IQ12-08NPKT0S	1055441
				NPN	Cable, 3-wire, 2 m, PVC	Cd-003	IQ12-08NN0KW2S	1055439
					Connector M8, 3-pin	Cd-004	IQ12-08NN0KT0S	1055443

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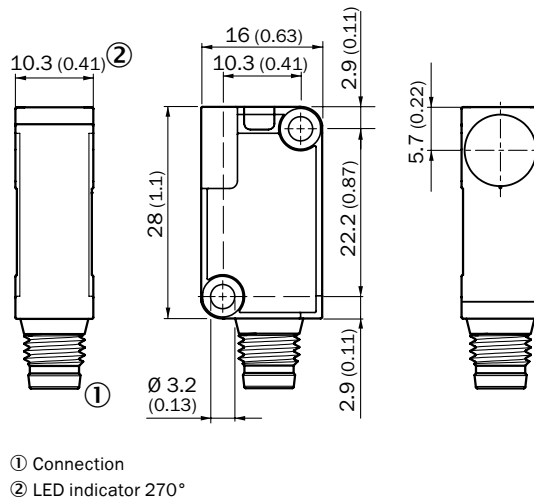
Dimensional drawings (Dimensions in mm (inch))

IQ10, cable



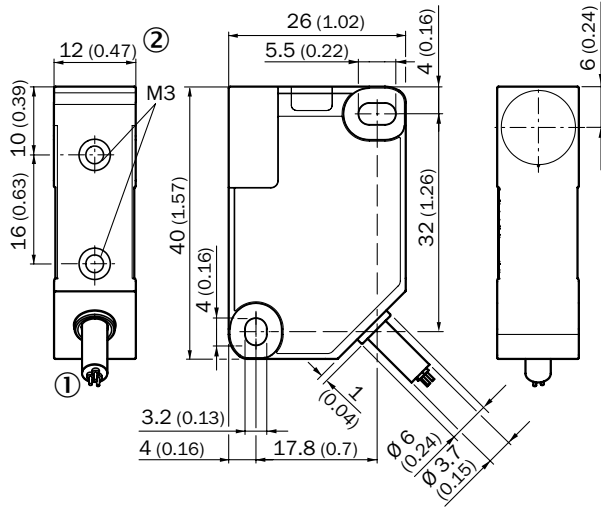
- ① Connection
- ② LED indicator 270°

IQ10, connector

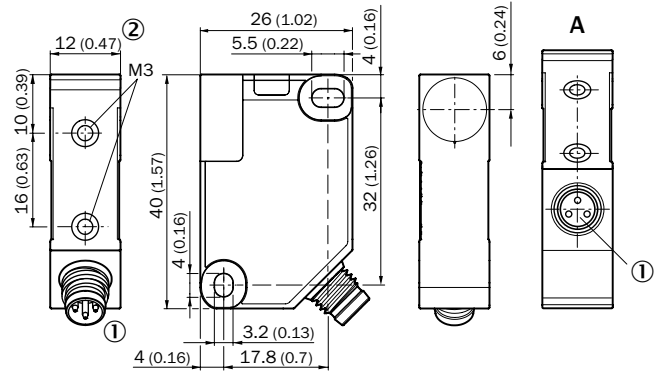


- ① Connection
- ② LED indicator 270°

IQ12, cable



IQ12, connector

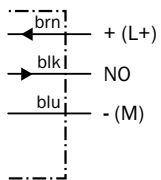


- ① Connection
- ② LED indicator 270°

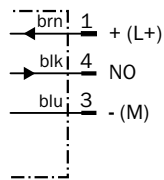
- ① Connection
- ② LED indicator 270°

**Connection diagram**

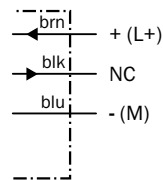
Cd-001



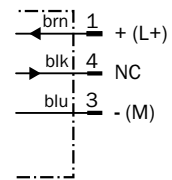
Cd-002



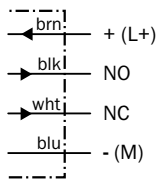
Cd-003



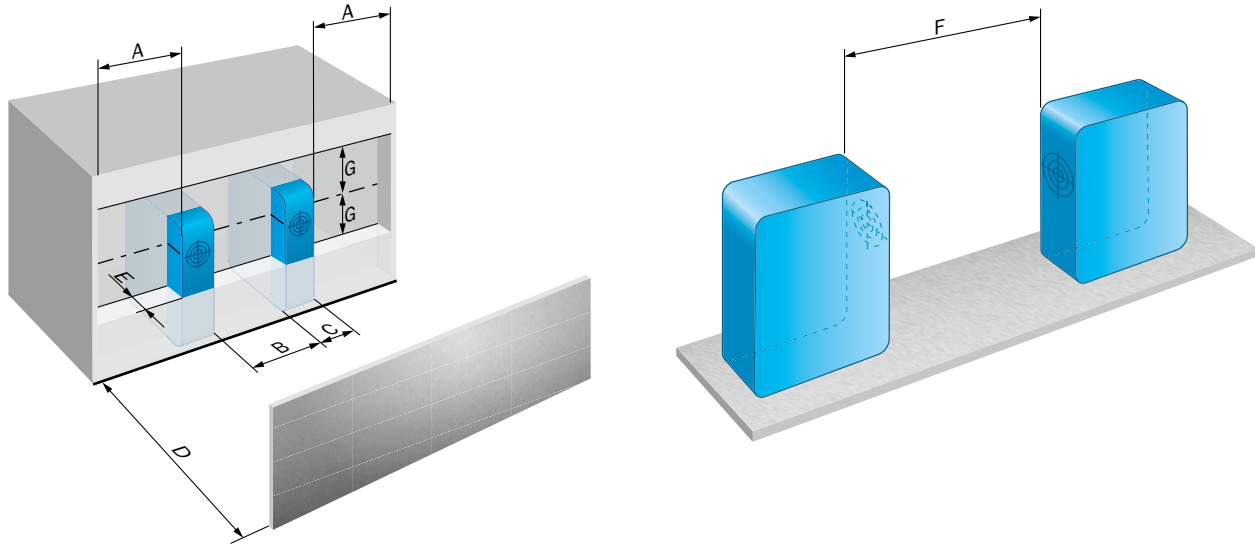
Cd-004



Cd-005



Installation note



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	Sensing range Sn	Installation type	A	B	C	D	E	F	G
IQ10-03Bxxxxxx	3 mm	Flush	0 mm	10 mm	10.3 mm	9 mm	0 mm	24 mm	0 mm
IQ10-06Nxxxxxx	6 mm	Non-flush	7 mm	30 mm	10.3 mm	18 mm	12 mm	48 mm	12 mm
IQ12-04Bxxxxxx	4 mm	Flush	0 mm	12 mm	12 mm	12 mm	0 mm	32 mm	0 mm
IQ12-08Nxxxxxx	8 mm	Non-flush	10 mm	36 mm	12 mm	24 mm	16 mm	64 mm	16 mm

Accessories

Figure	Accessory	Page
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	Mounting systems	→ H-258
	Further accessories	→ H-280