COMPACT RECTANGULAR HOUSINGS FOR USE IN HARSH AMBIENT CONDITIONS

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Product description

The IQG sensors can be mounted in a matter of seconds, offer flexible adjustment options, and are easy to monitor. The innovative push-lock system enables mounting without tools in one second flat and makes replacing sensors child's play. Thanks to the rotating sensor head, the IQG sensors can be adapted to suit a whole range of applications. The four corner LEDs enable straightforward sensor status monitoring, whatever the mounting position. A high ambient temperature range, high shock and vibration resistance and good electromagnetic compatibility enable the IQG product family sensors to work continuously and reliably in very harsh environments with strong atmospheric influences.

At a glance

- Type: 40 mm x 40 mm
- Extended sensing ranges: 15 mm to 40 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: –25 °C to +85 °C
- Plastic housing
- Push-lock mounting system
- Sensor head can be rotated in five directions

Your benefits

- Easy to mount in only two seconds without the need for additional tools
- Reliable, cost-effective detection
- The four corner LEDs ensure that the sensor status can be identified from any viewing direction, whatever the mounting position
- Can be easily adapted to numerous applications
- Long sensor service life, even in harsh environments that are subjected to severe weather conditions
- Stable processes thanks to extensive sensing ranges

Additional information

→ www.sick.com/IQG

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.

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Subject to change without notice

Detailed technical data

Features

	Short-body	Standard design
Housing	Rectangular	
Dimensions (W x H x D)	40 mm x 40 mm x 66 mm	40 mm x 40 mm x 118 mm 40 mm x 40 mm x 132 mm (depending on type)
Sensing range S_n		
Flush	20 mm	
Non-flush	40 mm	
Installation type	Flush / non-flush (depending on type)	
Switching frequency		
Flush	150 Hz	
Non-flush	100 Hz	
Output type	NPN / PNP (depending on type)	
Output function	NO / NC / Complementary (depending on type)	
Electrical wiring	DC 3-wire / DC 4-wire (depending on type)	
Enclosure rating	IP 67, IP 68, IP 69K	

Mechanics/electronics

	Short-body	Standard design
Supply voltage	10 V DC ... 30 V DC	
Ripple [1]	≤ 10 V_{pp}	
Voltage drop	≤ 2 V	
Current consumption	≤ 20 mA	
Time delay before availability	≤ 50 ms / ≤ 200 ms (depending on type)	
Hysteresis [3]	3 % ... 15 %	
Repeatability	≤ 2 % / ≤ 6 % (depending on type)	
Temperature drift (of S_r)	± 10 %	
Continuous current I_a	≤ 200 mA	
Connection type	Male connector, M12	Cable gland / Male connector, M12 (depending on type)
Short-circuit protection	✔	
Reverse polarity protection	✔	
Power-up pulse protection	✔	
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm	
Ambient operating temperature	–25 °C ... +85 °C	
Housing material	Plastic, PA 66	
Sensing face material	Plastic, PA 66	
Tightening torque, max.	1.8 Nm	

[1] Of Ub.
[2] Without load.
[3] Of S_r.

Reduction factors

Note	The values are reference values which may vary
Stainless steel (V2A, 304)	
Flush	Approx. 0.71
Non-flush	Approx. 0.8

Aluminum (Al)	
Flush	Approx. 0.3
Non-flush	Approx. 0.34
Copper (Cu)	
Flush	Approx. 0.25
Non-flush	Approx. 0.27
Brass (Br)	
Flush	Approx. 0.36
Non-flush	Approx. 0.38

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Ordering information

Other models ➜ www.sick.com/IQG

Short-body

- **Connection:** Male connector M12, 4-pin

Sensing range S_n	Installation type	Electrical wiring	Output function	Output type	Connection diagram	Type	Part no.
20 mm	Flush	DC 3-wire	NO	NPN	Cd-011	IQ40-20BNSKC0K	1071846
				PNP	Cd-011	IQ40-20BPSKC0K	1071840
			NC	NPN	Cd-008	IQ40-20BN0KC0K	1071848
				PNP	Cd-008	IQ40-20BP0KC0K	1071844
		DC 4-wire	Complementary	NPN	Cd-009	IQ40-20BNPKC0K	1071560
				PNP	Cd-009	IQ40-20BPPKC0K	1071553
40 mm	Non-flush	DC 3-wire	NO	NPN	Cd-011	IQ40-40NNSKC0K	1071854
				PNP	Cd-011	IQ40-40NPSKC0K	1071850
			NC	NPN	Cd-008	IQ40-40NN0KC0K	1071856
				PNP	Cd-008	IQ40-40NP0KC0K	1071852
		DC 4-wire	Complementary	NPN	Cd-009	IQ40-40NNPKC0K	1071864
				PNP	Cd-009	IQ40-40NPPKC0K	1071552

Standard design

- **Time delay before availability:** ≤ 50 ms
- **Repeatability:** ≤ 2 %

Sensing range S_n	Installation type	Electrical wiring	Output function	Output type	Connection	Connection diagram	Type	Part no.
20 mm	Flush	DC 3-wire	NO	NPN	Cable gland	Cd-342	IQ40-20BNSKK0S	1071847
				PNP	Cable gland	Cd-342	IQ40-20BPSKK0S	1071843
			NC	NPN	Cable gland	Cd-341	IQ40-20BN0KK0S	1071849
				PNP	Cable gland	Cd-341	IQ40-20BP0KK0S	1071845
		DC 4-wire	Complementary	PNP	Male connector M12, 4-pin	Cd-009	IQ40-20BPPKC0S	1071862
				NPN	Cable gland	Cd-030	IQ40-20BNPKK0S	1071861
				PNP	Cable gland	Cd-030	IQ40-20BPPKK0S	1071860

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Sensing range S_n	Installation type	Electrical wiring	Output function	Output type	Connection	Connection diagram	Type	Part no.
40 mm	Non-flush	DC 3-wire	NO	NPN	Cable gland	Cd-342	IQ40-40NNSKK0S	1071855
				PNP	Cable gland	Cd-342	IQ40-40NPSKK0S	1071851
			NC	NPN	Cable gland	Cd-341	IQ40-40NNOKK0S	1071857
				PNP	Cable gland	Cd-341	IQ40-40NPOKK0S	1071853
		DC 4-wire	Comple-mentary	PNP	Male connector M12, 4-pin	Cd-009	IQ40-40NPPKC0S	1071866
				NPN	Cable gland	Cd-030	IQ40-40NNPKK0S	1071865
				PNP	Cable gland	Cd-030	IQ40-40NPPKK0S	1071863

Dimensional drawings (Dimensions in mm (inch))

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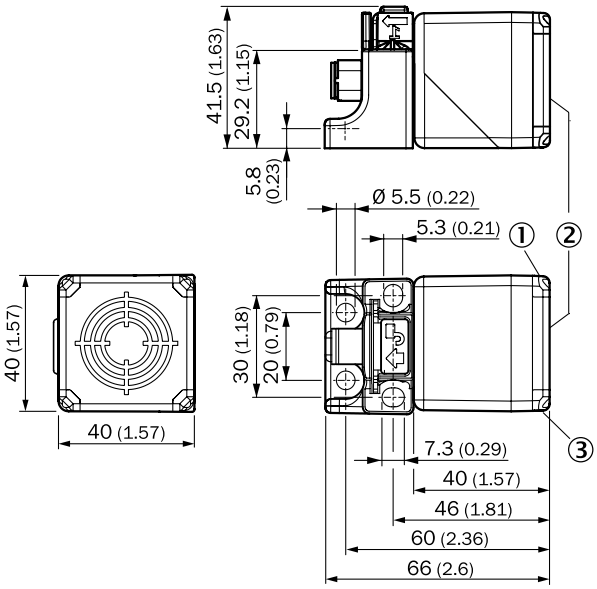
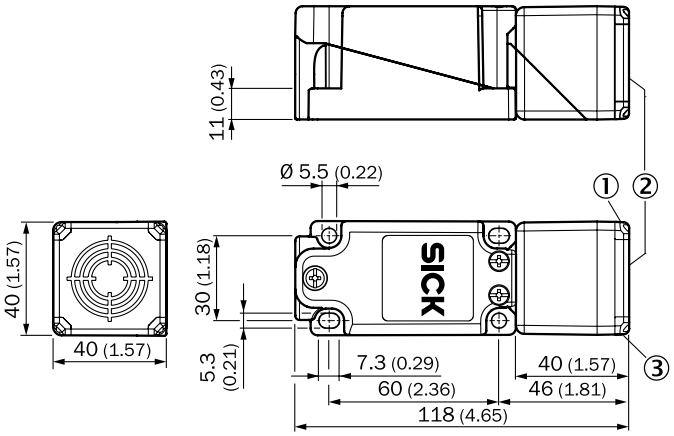
IQG Short-body housing



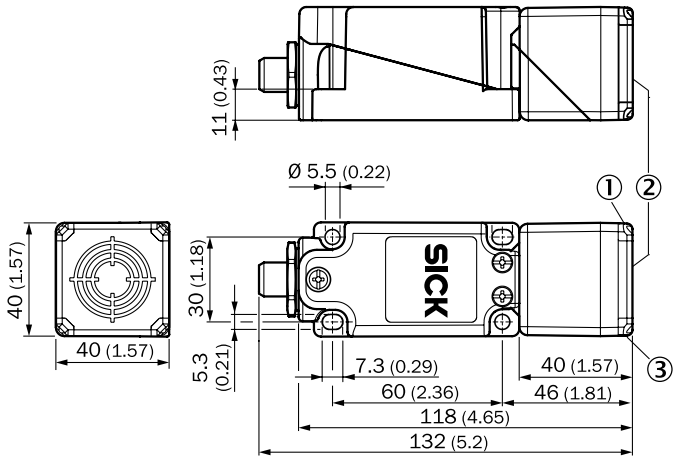
① LED output state, yellow
② Sensing face
③ Operational status LED, green

IQG Standard, cable gland



① LED output state, yellow
② Sensing face
③ Operational status LED, green

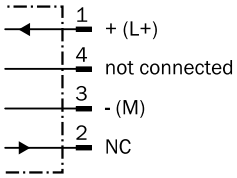
IQG Standard, connector M12



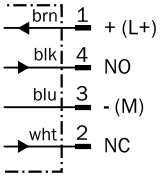
① LED output state, yellow
② Sensing face
③ Operational status LED, green

Connection diagram

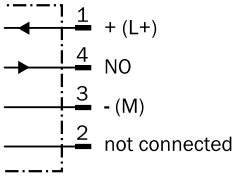
Cd-008



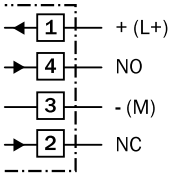
Cd-009



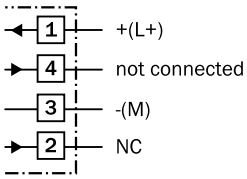
Cd-011



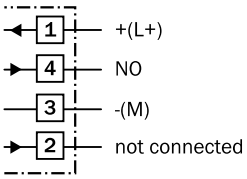
Cd-030



Cd-341

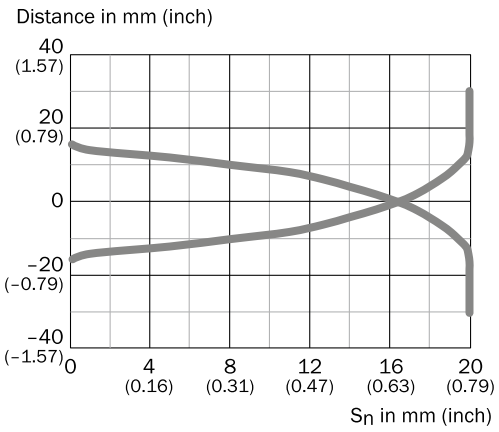


Cd-342



Response diagram

IQ40-20Bxxxxx



IQ40-40Nxxxxx