



IQ Flat Inductive sensors

Compact and reliable

Inductive, flat designs IQ04, IQ06, IQ20 and IQ25 – for quick mounting in applications with limited space



- Fits in applications with limited space
- Can be fixed using a single screw
- No restrictions in machine design
- Small and compact

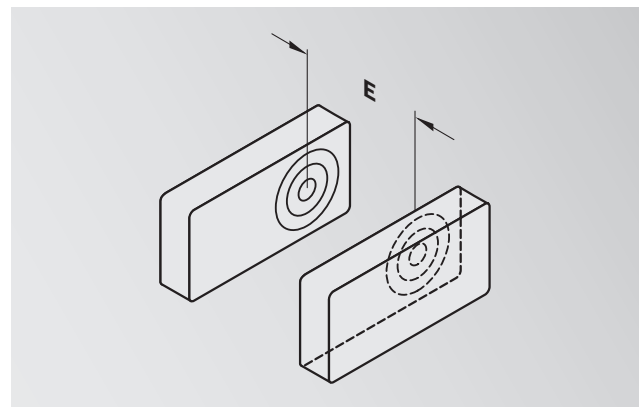
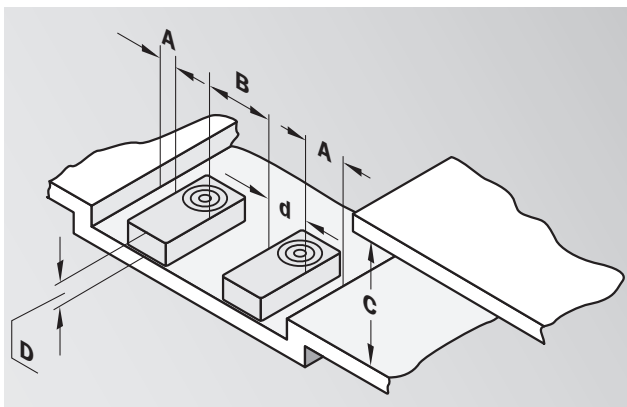
- Extremely stable and durable – thanks to robust metal housing
- Increased sensing ranges
- Flat design



INSTALLATION NOTES

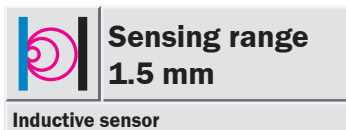
Flush installation into metal

Flush-mounted sensors can be recessed into metal so that they are level with the active surface. This gives them great protection against mechanical damage.



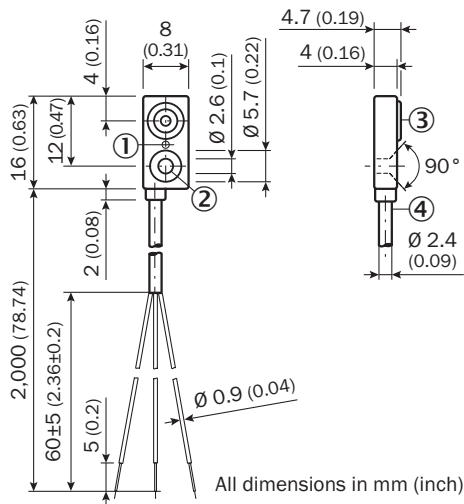
d = Outer dimensions of sensor

		A	B	C	d	D	E
6042017	IQ04-1B5PSKW2S	0 mm	16 mm	4,5 mm	8 mm	0 mm	24 mm
6042018	IQ04-1B5POKW2S	0 mm	16 mm	4,5 mm	8 mm	0 mm	24 mm
6042019	IQ04-1B5NSKW2S	0 mm	16 mm	4,5 mm	8 mm	0 mm	24 mm
6042020	IQ04-1B5NOKW2S	0 mm	16 mm	4,5 mm	8 mm	0 mm	24 mm
6042022	IQ06-03BPSKU2S	1,5 mm	20 mm	9 mm	10 mm	0 mm	30 mm
6042023	IQ06-03BPOKU2S	1,5 mm	20 mm	9 mm	10 mm	0 mm	30 mm
6042024	IQ06-03BNSKU2S	1,5 mm	20 mm	9 mm	10 mm	0 mm	30 mm
6042025	IQ06-03BNOKU2S	1,5 mm	20 mm	9 mm	10 mm	0 mm	30 mm
6042043	IQ20-07BPSPD0S	0 mm	20 mm	21 mm	20 mm	0 mm	60 mm
6042044	IQ20-07BNSPD0S	0 mm	20 mm	21 mm	20 mm	0 mm	60 mm
6042045	IQ20-07BPPDQ0S	0 mm	20 mm	21 mm	20 mm	0 mm	60 mm
6042046	IQ25-05BPSPDU2S	0 mm	25 mm	15 mm	25 mm	0 mm	75 mm
6042047	IQ25-05BPPDU2S	0 mm	25 mm	15 mm	25 mm	0 mm	75 mm



- Extremely flat
- Small and compact
- Can be fixed using a single screw

Dimensional drawing

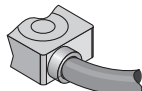


- ① LED function indicator, red
- ② Fixing hole
- ③ Active surface
- ④ Connection

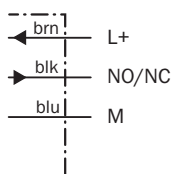


Connection type

IQ04-1B5PSKW2S
 IQ04-1B5P0KW2S
 IQ04-1B5NSKW2S
 IQ04-1B5N0KW2S



3 x 0.09 mm²



Technical specifications		IQ04-	1B5PS KW2S	1B5PO KW2S	1B5NS KW2S	1B5NO KW2S						
Sensing range S_n	1.5 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple U_{pp}	Max. 10 % ¹⁾											
Voltage drop U_d	< 2.5 V ²⁾											
Power consumption	10 mA ³⁾											
Continuous current I_a	100 mA											
Hysteresis H, of s_r	Max. 15 %											
Repeatability R	1 % (U_b and T_a constant) ⁴⁾											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
Installation	Flush											
Connection type	Cable, PVC, 3-pin, 2 m											
Enclosure rating	IP 67 ⁵⁾											
Switching frequency	600 Hz											
Dimensions	8 x 16 x 4 mm ⁶⁾											
Short-circuit protection	✓											
Reverse polarity protection	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Tightening torque	Max. 0.06 Nm											
Temperature drift of s_r	± 10 %											
Time delay before availability t_v	≤ 20 ms											
Approvals												
UL approval	cULus Listed											
Ambient temperature	-25 °C ... +70 °C											
Housing material	PA6-GF30											
Material of the active surface	PA6-GF30											

¹⁾ Of V_s ²⁾ At I_a max.³⁾ Without load⁴⁾ Of s_r ⁵⁾ According to EN 60529⁶⁾ Width x height x depth**Reduction factor R_M**

The following are reference values, which may vary from type to type:

Steel (FE360)	1
Stainless steel (V2A)	Approx. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cu)	Approx. 0.3
Brass (Ms)	Approx. 0.4

Ordering information

Model name	Part no.
IQ04-1B5PSKW2S	6042017
IQ04-1B5POKW2S	6042018
IQ04-1B5NSKW2S	6042019
IQ04-1B5N0KW2S	6042020

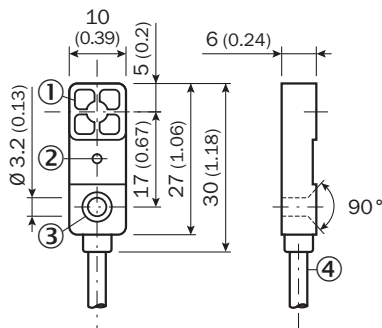


Sensing range
3 mm

Inductive sensor

- Enhanced sensing range
- Extremely flat
- Small and compact
- Can be fixed using a single screw

Dimensional drawing



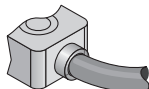
All dimensions in mm (inch)

- ① Active surface
- ② LED function indicator, red
- ③ Fixing hole
- ④ Connection

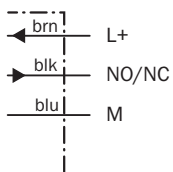


Connection type

IQ06-03BPSKU2S
 IQ06-03BP0KU2S
 IQ06-03BNSKU2S
 IQ06-03BN0KU2S



3 x 0.14 mm²



Technical specifications		IQ06-	03BPS KU2S	03BP0 KU2S	03BNS KU2S	03BNO KU2S						
Sensing range S_n	3 mm											
Electrical configuration	DC3-wire											
Supply voltage V_S	DC 10 ... 30 V											
Ripple U_{pp}	Max. 10 % ¹⁾											
Voltage drop U_d	Max. 2.5 V ²⁾											
Power consumption	10 mA ³⁾											
Continuous current I_a	100 mA											
Hysteresis H , of s_r	Max. 15 %											
Repeatability R	± 1 % (U_b and T_a constant) ⁴⁾											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
Installation	Flush											
Connection type	Cable, PUR, 3-pin, 2 m											
Enclosure rating	IP 67 ⁵⁾											
Switching frequency	1,000 Hz											
Dimensions	10 x 30 x 6 mm ⁶⁾											
Short-circuit protection	✓											
Reverse polarity protection	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Temperature drift of s_r	± 10 %											
Time delay before availability t_v	≤ 20 ms											
Tightening torque	Max. 0.06 Nm											
Approvals												
UL approval	cULus Listed											
Ambient temperature	-25 °C ... +70 °C											
Housing material	PA6-GF30											
Material of the active surface	PA6-GF30											

¹⁾ Of V_S ²⁾ At I_a max.³⁾ Without load⁴⁾ Of s_r ⁵⁾ According to EN 60529⁶⁾ Width x height x depth**Reduction factor R_M**

The following are reference values, which may vary from type to type:

Steel (FE360)	1
Stainless steel (V2A)	Approx. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cu)	Approx. 0.3
Brass (Ms)	Approx. 0.4

Ordering information

Model name	Part no.
IQ06-03BPSKU2S	6042022
IQ06-03BP0KU2S	6042023
IQ06-03BNSKU2S	6042024
IQ06-03BN0KU2S	6042025

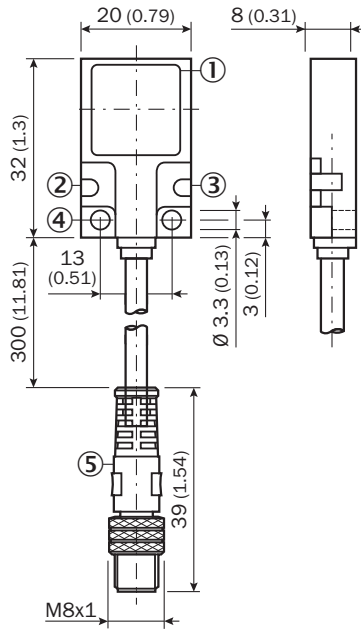


Sensing range
7 mm

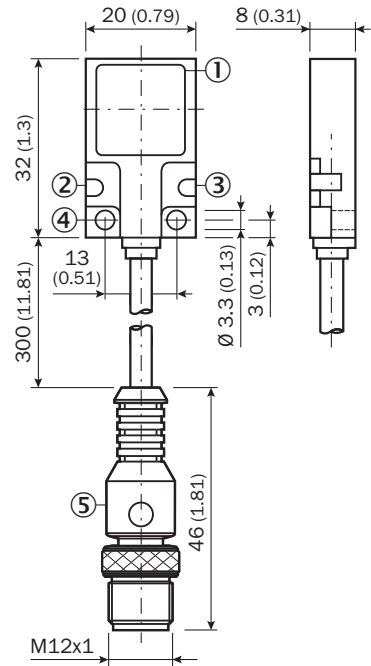
Inductive sensor

- Extremely flat
- Enhanced sensing range
- Metal housing

Dimensional drawing



All dimensions in mm (inch)



All dimensions in mm (inch)

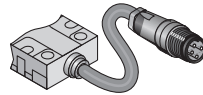
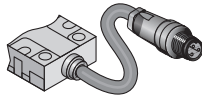
- ① Active surface
- ② LED operational status, green
- ③ LED status indicator, yellow
- ④ Fixing holes
- ⑤ Connection



Connection type

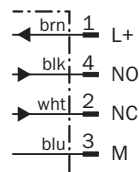
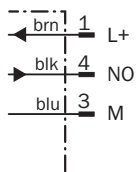
IQ20-07BPSPDPOS
IQ20-07BNSDPPOS

IQ20-07BPPDQOS



M8, 3-pin with 300 mm cable

M12, 4-pin with 300 mm cable



Technical specifications		IQ20-	07BPS DPOS	07BNS DPOS	07BPP DQOS							
Sensing range S_n	7 mm											
Electrical configuration	DC3-wire											
	DC4-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple U_{pp}	Max. 10 % ¹⁾											
Voltage drop U_d	Max. 2.5 V ²⁾											
Power consumption	15 mA ³⁾											
Continuous current I_a	200 mA											
Time delay before availability t_v	Max. 20 ms											
Hysteresis H, of s_r	Max. 15 %											
Repeatability R	5 % (U_b and T_a constant) ⁴⁾											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Complementary											
Installation	Flush											
Connection type	Cable with plug, M8, 3-pin, PUR, 0.3 m											
	Cable with plug, M12, 4-pin, PUR, 0.3 m											
Enclosure rating	IP 67 ⁵⁾											
Switching frequency	150 Hz											
Dimensions	20 x 32 x 8 mm ⁶⁾											
Short-circuit protection	✓											
Reverse polarity protection	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Temperature drift of s_r	± 10 %											
Approvals												
UL approval	cULus Listed											
Ambient temperature	-25 °C ... +70 °C											
Housing material	GD Zn											
Material of the active surface	PA12											

1) Of V_s 2) At I_a max.

3) Without load

4) Of s_r

5) According to EN 60529

6) Width x height x depth

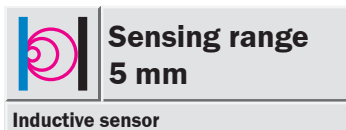
Reduction factor R_M

The following are reference values, which may vary from type to type:

Steel (FE360)	1
Stainless steel (V2A)	Approx. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cu)	Approx. 0.3
Brass (Ms)	Approx. 0.4

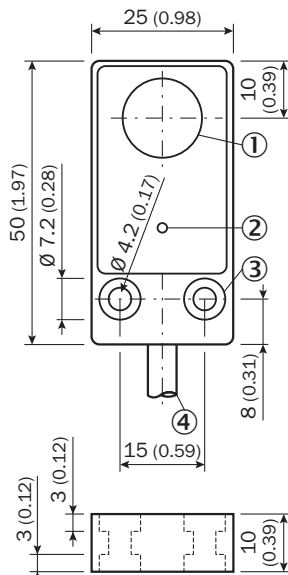
Ordering information

Model name	Part no.
IQ20-07BSPDP0S	6042043
IQ20-07BNSDP0S	6042044
IQ20-07BPPDQ0S	6042045



- Extremely flat
- Metal housing

Dimensional drawing



All dimensions in mm (inch)

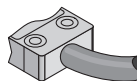
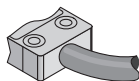
- ① Active surface
- ② LED function indicator, yellow
- ③ Fixing holes
- ④ Connection



Connection type

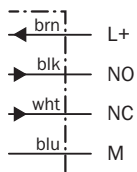
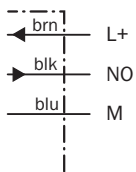
IQ25-05BPSDU2S

IQ25-05BPPDU2S



3 x 0.34 mm²

4 x 0.25 mm²



Technical specifications		IQ25-	05BPS DU2S	05BPP DU2S									
Sensing range S_n	5 mm												
Electrical configuration	DC3-wire												
	DC4-wire												
Supply voltage V_s	DC 10 ... 30 V												
Ripple U_{pp}	Max. 15 % ¹⁾												
Voltage drop U_d	Max. 2.5 V ²⁾												
Power consumption	25 mA ³⁾												
	32 mA ³⁾												
Continuous current I_a	200 mA												
Time delay before availability t_v	50 ms												
Hysteresis H, of s_r	Max. 15 %												
Repeatability R	5 % (U_b and T_a constant) ⁴⁾												
EMC	According to EN 60947-5-2												
Switching output	PNP												
Output function	Normally open												
	Complementary												
Installation	Flush												
Connection type	Cable, PUR, 2 m												
Enclosure rating	IP 67 ⁵⁾												
Switching frequency	500 Hz												
Dimensions	25 x 50 x 10 mm ⁶⁾												
Short-circuit protection	✓												
Reverse polarity protection	✓												
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm												
Temperaturdrift	± 10 %												
Approvals													
UL approval	cULus Listed												
Ambient temperature	-25 °C ... +70 °C												
Housing material	Gd Al Si 12												
Material of the active surface	PBT												

¹⁾ Of V_s ²⁾ At I_a max.³⁾ Without load⁴⁾ Of s_r ⁵⁾ According to EN 60529⁶⁾ Width x height x depth**Reduction factor R_M**

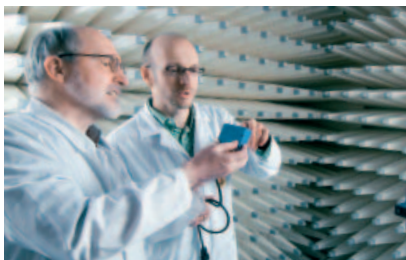
The following are reference values, which may vary from type to type:

Steel (FE360)	1
Stainless steel (V2A)	Approx. 0.7
Aluminum (Al)	Approx. 0.4
Copper (Cn)	Approx. 0.3
Brass (Ms)	Approx. 0.4

Ordering information

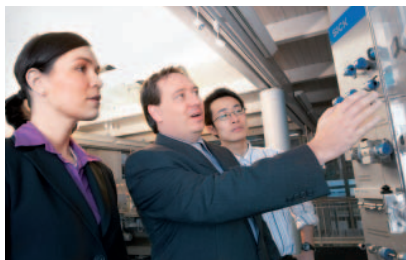
Model name	Part no.
IQ25-05BPSDU2S	6042046
IQ25-05BPPDU2S	6042047

SICK at a glance



Leading technologies

With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal www.mysick.com – price and availability of products, requests for quotation and online orders

Worldwide presence with subsidiaries in the following countries:

Australia
Belgium/Luxembourg
Brasil
Česká Republika
Canada
China
Danmark
Deutschland
España
France
Great Britain
India
Israel
Italia
Japan

México
Nederland
Norge
Österreich
Polska
România
Russia
Schweiz
Singapore
Slovenija
South Africa
South Korea
Suomi
Sverige
Taiwan
Türkiye
United Arab Emirates
USA

Please find detailed addresses and additional representatives and agencies in all major industrial nations at www.sick.com