



IQB2S12-04B4DT0

IQB2S

NON-CONTACT SAFETY SWITCHES

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
IQB2S12-04B4DT0	1091954

Other models and accessories → www.sick.com/IQB2S



Detailed technical data

Features

Sensor principle	Inductive
Number of safe outputs	2
Sensing range S_n	4 mm ¹⁾
Safe switch on distance S_{ao}	3.2 mm ¹⁾
Safe switch off distance S_{ar}	6 mm ¹⁾
Active sensor surfaces	1
Actuation frequency	≤ 100 Hz

¹⁾ Values apply for steel (FE360).

Safety-related parameters

Safety integrity level	SIL 2 (IEC 61508)
Category	Category 2 (ISO 13849-1)
Performance level	PL d (ISO 13849-1)
PFH_p (mean probability of a dangerous failure per hour)	6.0 x 10 ⁻⁸ ¹⁾
T_M (mission time)	20 years (ISO 13849-1)
Type	Type 3 (ISO 13849-1)
Actuator coding level	Uncoded (EN ISO 14119)
Safe state in the event of a fault	At least one safety-related semiconductor output (OSSD) is in the OFF state.

¹⁾ At 40 °C and 1000 m above sea level.

Functions

Safe series connections	None, only individual wiring (with diagnostics)
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Interfaces

Connection type	Male connector M8, 4-pin
Coupling nut material	VISTAL®
IO-Link Safety	

	WCDT	≤ 1 ms
	OFDT	≤ 20 ms
Display elements		LEDs
	Diagnostics indicator	✓
	Status display	✓

Electrical data

Protection class	III (IEC 61140)
Rated insulation voltage U_i	28.8 V
Rated impulse withstand voltage U_{imp}	1,500 V
Supply voltage V_s	24 V DC (19.2 V DC ... 28.8 V DC)
Power consumption	≤ 20 mA
Type of output	Self-monitoring semiconductor outputs (OSSDs)
Response time	≤ 1 ms
Release time	≤ 2 ms
Risk time	≤ 20 ms
Switch-on time	1 s

Mechanical data

Design	Rectangular	
Dimensions	12 mm x 40 mm x 26 mm	
Material	Housing	VISTAL®
	Sensor surface	VISTAL®
Installation type	Flush	

Ambient data

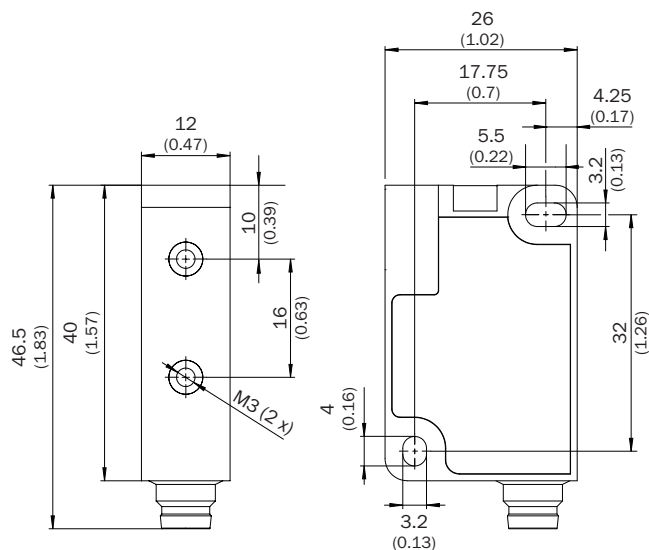
Enclosure rating	IP67 (IEC 60529)
Ambient operating temperature	-25 °C ... +70 °C
Storage temperature	-25 °C ... +70 °C
Relative humidity	50 %, at 70 °C (IEC 60947-5-2)
Vibration resistance	10 Hz ... 55 Hz, 1 mm (IEC 60947-5-2)
EMC	IEC 60947-5-2, IEC 61000-6-7, IEC 60947-5-3

Classifications

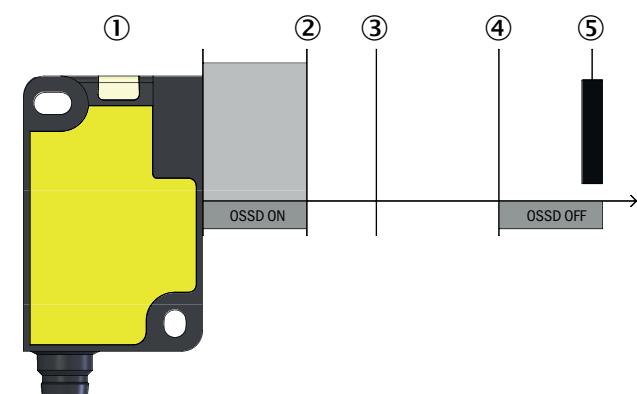
ECLASS 5.0	27272401
ECLASS 5.1.4	27272401
ECLASS 6.0	27272401
ECLASS 6.2	27272401
ECLASS 7.0	27272401
ECLASS 8.0	27272401
ECLASS 8.1	27272401
ECLASS 9.0	27272401
ECLASS 10.0	27272401
ECLASS 11.0	27272401

ECLASS 12.0	27274101
ETIM 5.0	EC001818
ETIM 6.0	EC001818
ETIM 7.0	EC001818
ETIM 8.0	EC001818
UNSPSC 16.0901	39122205

Dimensional drawing (Dimensions in mm (inch))

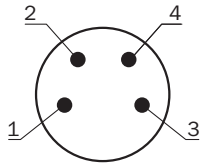


Response range



- ① Safety switch
- ② Safe switch on distance S_{ao}
- ③ Sensing range S_n
- ④ Safe switch off distance S_{ar}
- ⑤ Actuator

Pinouts



Pin	Designation	Description
1	+24 V DC	24 V DC voltage supply
2	OSSD 1	OSSD 1 output
3	0 V DC	0 V DC voltage supply
4	OSSD 2	OSSD 2 output
For details see operating instructions		

Recommended accessories

Other models and accessories → www.sick.com/IQB2S

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Male connector, M12, 4-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-050VA3M2A14	2096609
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Male connector, M12, 4-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-100VA3M2A14	2096610
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-100VA3XLEAX	2095890
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-200VA3XLEAX	2095891

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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