



# IQB2S12-04B4DT0

IQB2S

NON-CONTACT SAFETY SWITCHES / INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
IQB2S12-04B4DT0	1091954

Other models and accessories → [www.sick.com/IQB2S](http://www.sick.com/IQB2S)



### Detailed technical data

#### Features

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

<sup>1)</sup> Values apply for steel (FE360).

#### Safety-related parameters

<b>Safety integrity level</b>	SIL2 (IEC 61508), SILCL2 (EN 62061)
<b>Category</b>	Category 2 (ISO 13849-1)
<b>Performance level</b>	PL d (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$6.0 \times 10^{-8}$ (IEC 61508) <sup>1)</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Type</b>	Type 3 (ISO 13849-1)
<b>Actuator coding level</b>	Uncoded (EN ISO 14119)
<b>Safe state in the event of a fault</b>	At least one safety-related semiconductor output (OSSD) is in the OFF state.

<sup>1)</sup> At 40 °C and 1000 m above sea level.

#### Functions

<b>Safe series connection</b>	No
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#### Interfaces

<b>Connection type</b>	Male connector M8, 4-pin
<b>Diagnostics indicator</b>	✓
<b>Status display</b>	✓

#### Electrical data

<b>Protection class</b>	III (IEC 61140)
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<b>Rated insulation voltage <math>U_i</math></b>	28.8 V
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	1,500 V
<b>Supply voltage <math>V_s</math></b>	24 V DC (19.2 V DC ... 28.8 V DC)
<b>Power consumption</b>	≤ 20 mA
<b>Type of output</b>	Semiconductor (OSSD)
<b>Response time</b>	≤ 1 ms
<b>Enable time</b>	≤ 2 ms
<b>Risk time</b>	≤ 20 ms
<b>Switch-on time</b>	≤ 1 s

## Mechanical data

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

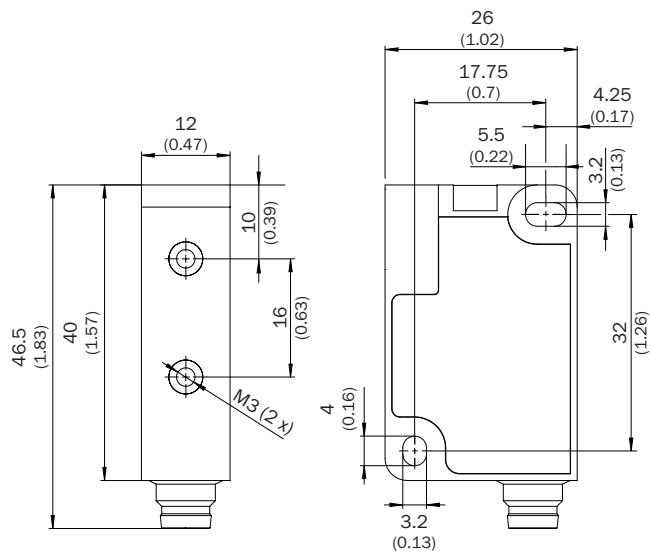
## Ambient data

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

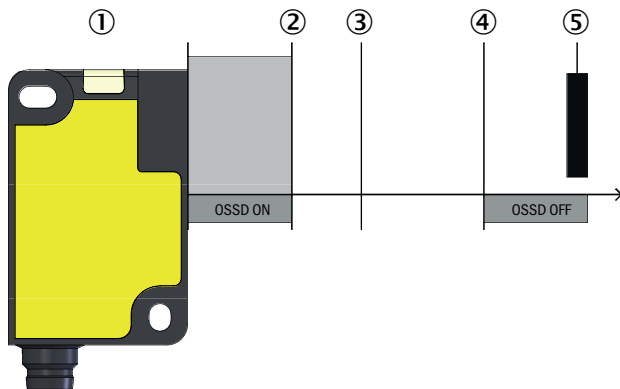
## Classifications

<b>ECI@ss 5.0</b>	27272401
<b>ECI@ss 5.1.4</b>	27272401
<b>ECI@ss 6.0</b>	27272401
<b>ECI@ss 6.2</b>	27272401
<b>ECI@ss 7.0</b>	27272401
<b>ECI@ss 8.0</b>	27272401
<b>ECI@ss 8.1</b>	27272401
<b>ECI@ss 9.0</b>	27272401
<b>ETIM 5.0</b>	EC001818
<b>ETIM 6.0</b>	EC001818
<b>UNSPSC 16.0901</b>	39122205

### Dimensional drawing (Dimensions in mm (inch))

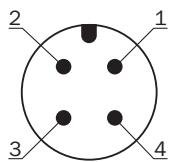


### Response range



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


### Connection diagram



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

### Recommended accessories

Other models and accessories → [www.sick.com/IQB2S](http://www.sick.com/IQB2S)

	Brief description	Type	Part no.
<b>Plug connectors and cables</b>			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YF8U14-100VA3XLEAX	2095890
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 20 m	YF8U14-200VA3XLEAX	2095891
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3M2A14	2096609
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YF8U14-100VA3M2A14	2096610

## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)