Product data sheet

IQR40-20BPSKC0K

IMR

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
IQR40-20BPSKC0K	6069281

Other models and accessories ➜ www.sick.com/IMR

Detailed technical data

Features

Housing	Rectangular
Housing	Short-body
Dimensions (W x H x D)	40 mm x 40 mm x 65 mm
Sensing range S_n	20 mm
Safe sensing range S_a	16.2 mm
Installation type	Flush
Switching frequency	250 Hz
Connection type	Male connector M12, 4-pin
Switching output	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68
Special features	Reduction factor 1, Weld immune
Special applications	Welding range, Difficult application conditions
Items supplied	Clamp-lock mounting system (1x)

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 10 %
Voltage drop	≤ 1.8 V [1]
Hysteresis	3 % ... 15 %
Reproducibility	≤ 2 % [2] [3]
Temperature drift (of S_r)	≤ ± 10 % ≤ ± 15 % [4]
Continuous current I_a	≤ 200 mA

[1] At I_a max.
[2] Supply voltage U_B and constant ambient temperature Ta.
[3] Of Sr.
[4] –25 °C ... +70 °C.
[5] Reference voltage: 50 V DC.

No load current	≤ 15 mA
Off-state current	≤ 0.1 mA
Short-circuit protection	✓
Reverse polarity protection	✓
Magnetic field strength	≤ 100 mT
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	–30 °C ... +85 °C
Housing material	Plastic, PBT
Sensing face material	Plastic, PBT
Protection class	II [5]
UL File No.	E191603

[1] At I_a max.
[2] Supply voltage U_B and constant ambient temperature Ta.
[3] Of Sr.
[4] –25 °C ... +70 °C.
[5] Reference voltage: 50 V DC.

Safety-related parameters

$MTTF_D$	139 years
DC_{avg}	0%
T_M (mission time)	20 years

Reduction factors

Note	The values are reference values which may vary
Reduction factor	Reduction factor 1
Stainless steel (V2A, 304)	1
Aluminum (Al)	1
Copper (Cu)	1
Brass (Br)	1

Installation note

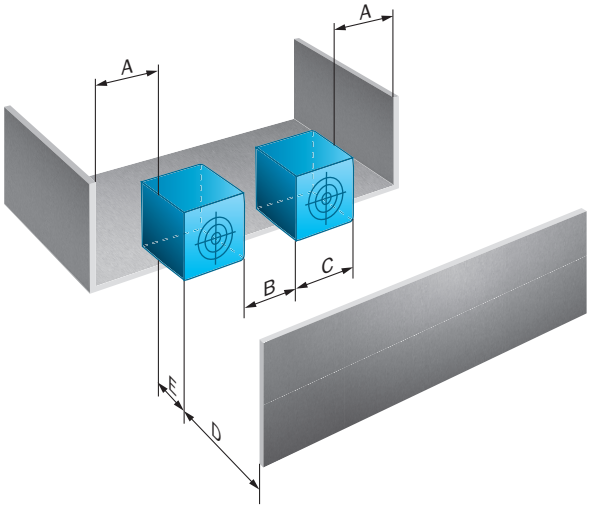
Remark	Associated graphic see "Installation"
A	20 mm
B	40 mm
C	40 mm
D	90 mm
E	0 mm
F	180 mm

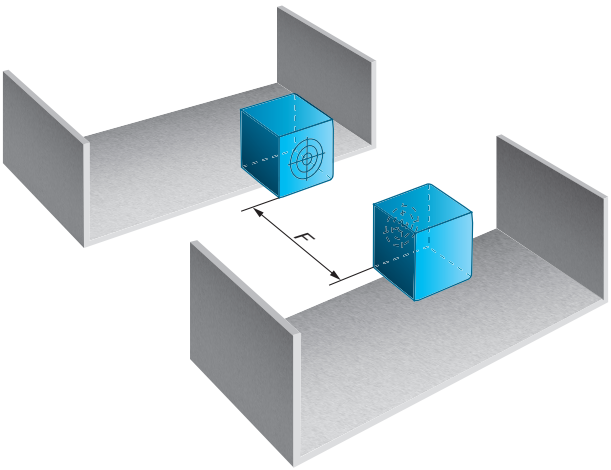
Classifications

ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101

ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

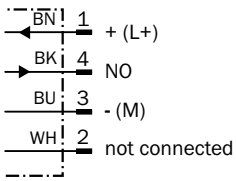
Installation note



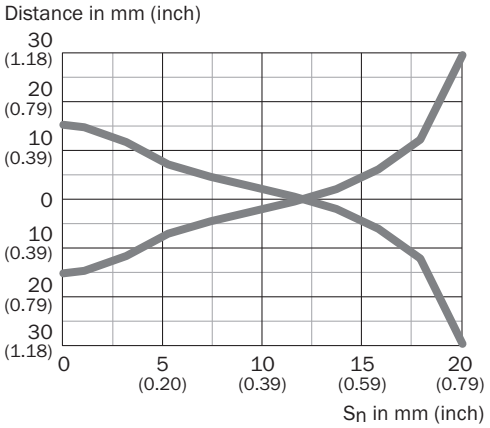


Connection diagram

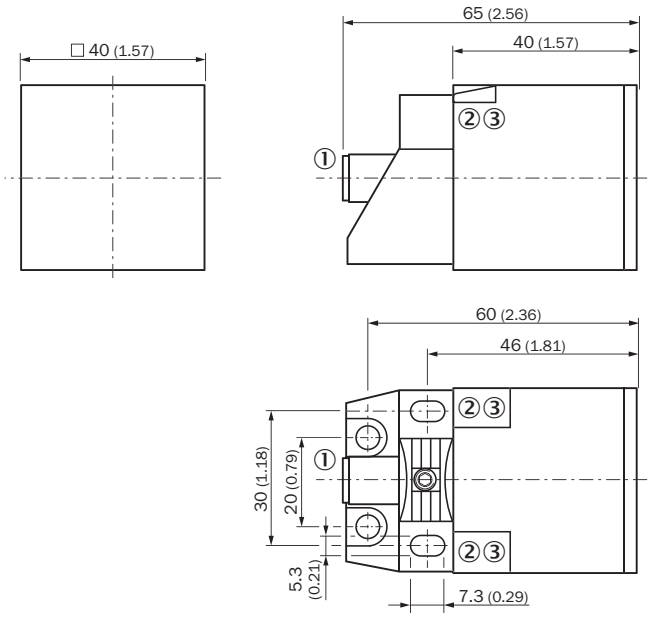
Cd-011



Response diagram



Dimensional drawing (Dimensions in mm (inch))



① M12 x 1
② LED output state, yellow
③ Operational status LED, green

Recommended accessories

Other models and accessories ➜ www.sick.com/IMR

	Brief description	Type	Part no.
Others			
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A14-050UB3XLEAX	2095608
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Weld-spark resistant, Robot	YF2A14-020UW1XLEAX	2104883
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Weld-spark resistant, Robot	YF2A14-050UW1XLEAX	2104884
	• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Weld-spark resistant, Robot	YG2A14-020UW1XLEAX	2104886
	• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Weld-spark resistant, Robot	YG2A14-050UW1XLEAX	2104887

SICK AT A GLANCE

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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.”

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