



# IMR12-04BPSTC0S

IMR

INDUCTIVE PROXIMITY SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
IMR12-04BPSTC0S	6069275

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



## Detailed technical data

### Features

<b>Housing</b>	Metric
<b>Housing</b>	Standard design
<b>Thread size</b>	M12 x 1
<b>Diameter</b>	Ø 12 mm
<b>Sensing range <math>S_n</math></b>	4 mm
<b>Safe sensing range <math>S_a</math></b>	3.2 mm
<b>Installation type</b>	Flush
<b>Switching frequency</b>	2,000 Hz
<b>Connection type</b>	Male connector M12, 4-pin
<b>Switching output</b>	PNP
<b>Switching output detail</b>	PNP
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP68
<b>Special features</b>	Reduction factor 1, Magnetic-field-resistant
<b>Special applications</b>	Welding range, Difficult application conditions
<b>Items supplied</b>	Mounting nut, brass, PTFE coating (2x) Washer, brass, PTFE coating, with locking teeth (2x)

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	≤ 10 %
<b>Voltage drop</b>	≤ 1.8 V <sup>1)</sup>
<b>Hysteresis</b>	3 % ... 15 %
<b>Reproducibility</b>	≤ 2 % <sup>2)</sup>

<sup>1)</sup> At  $I_a$  max.

<sup>2)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

<sup>3)</sup> Of  $S_r$ .

<sup>4)</sup> -25 °C ... +70 °C.

<sup>5)</sup> Reference voltage: 50 V DC.

	3)
<b>Temperature drift (of S<sub>r</sub>)</b>	$\leq \pm 10 \% \leq \pm 15 \%$ <sup>4)</sup>
<b>Continuous current I<sub>a</sub></b>	$\leq 200 \text{ mA}$
<b>No load current</b>	$\leq 15 \text{ mA}$
<b>Off-state current</b>	$\leq 0.1 \text{ mA}$
<b>Short-circuit protection</b>	✓
<b>Magnetic field strength</b>	$\leq 100 \text{ mT}$
<b>Shock and vibration resistance</b>	30 g, 11 ms / 10 ... 55 Hz, 1 mm
<b>Ambient operating temperature</b>	-30 °C ... +85 °C
<b>Housing material</b>	PTFE coating, brass
<b>Sensing face material</b>	Plastic, PTFE coating
<b>Housing length</b>	52 mm
<b>Thread length</b>	36 mm
<b>Tightening torque, max.</b>	Typ. 7 Nm
<b>Protection class</b>	II <sup>5)</sup>
<b>UL File No.</b>	E191603

1) At I<sub>a</sub> max.

2) Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

3) Of S<sub>r</sub>.

4) -25 °C ... +70 °C.

5) Reference voltage: 50 V DC.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	139 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

## Reduction factors

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

## Installation note

<b>Remark</b>	Associated graphic see "Installation"
<b>A</b>	12 mm
<b>B</b>	12 mm
<b>C</b>	12 mm
<b>D</b>	12 mm
<b>E</b>	0 mm
<b>F</b>	24 mm
<b>G</b>	36 mm

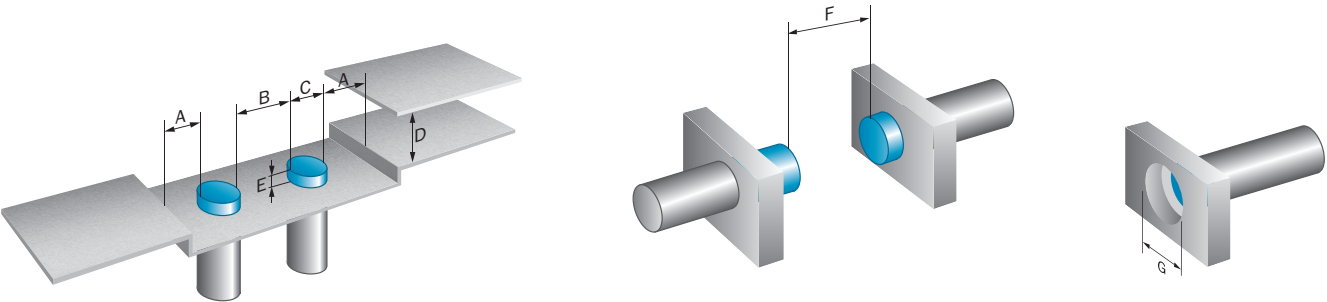
Certificates

EU declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

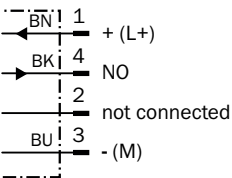
Classifications

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

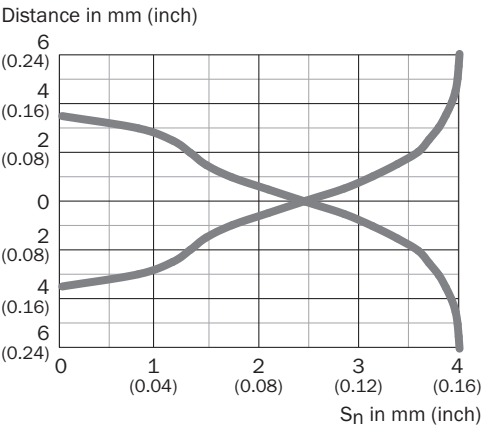
Installation note



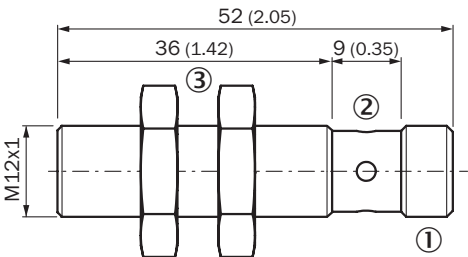
Connection diagram Cd-007



Response diagram




Dimensional drawing




- Dimensions in mm (inch)
- ① M12 x 1
  - ② LED output state, yellow
  - ③ Fastening nuts (2x); width across 17, metal

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket for M12 sensors</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Items supplied:</b> Without mounting hardware</li></ul>	BEF-WN-M12	5308447

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 4-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>	YF2A14-050UB3XLEAX	2095608

## 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)