Product overview

IMR

Inductive reduction factor 1 sensors for welding applications

SICK
Sensor Intelligence.

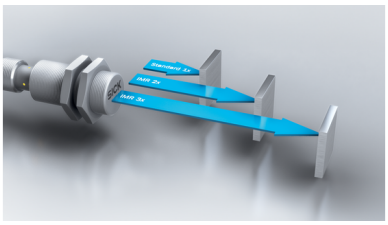
Advantages

Reduction factor 1 for all metals

The IMR inductive proximity sensors with reduction factor 1 offer uniform sensing ranges on all non-ferrous metals such as aluminum or stainless steel. Due to the combination of reduction factor 1 with the increased sensing ranges of the IMR, the sensors detect objects at a distance up to 3 times what the standard prescribes.

Safe detection of all metals at the largest possible distance

The same sensing range on all metals thanks to reduction factor 1



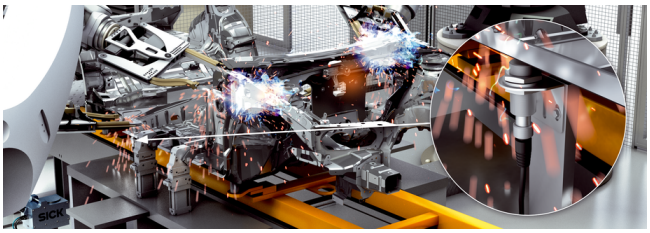
Thanks to the threefold sensing ranges of up to 75 mm, the IMR sensors detect every object from a safe distance

IMR proximity sensors with reduction factor 1 detect non-ferrous metals at the largest possible distance, thereby increasing plant availability

Very high magnet field and welding field strength

Since they do not contain ferrite cores, IMR proximity sensors are resistant to strong magnetic fields such as those they occur with resistance welding. The use of the most up-to-date ASIC technology also results in excellent EMC sensor properties. That is why they are the first choice not only for use in the automotive industry. The rugged PTFE non-stick coating of the metal sleeves and the use of resistance Duroplast plastic reliably prevents weld spatter from sticking. IMR proximity sensors are therefore optimally designed for long-term use in welding areas with strict requirements.

Best selection for welding applications



Electrical and mechanical welding field strength for long service life

Thanks to a temperature range of –30 °C to 85 °C and enclosure rating IP68, they are optimally suited for any use

IMR proximity sensors are perfectly designed for challenging welding applications

Technical data overview

Housing	Metric / rectangular (depends on variant)
Thread size	M8 x 1 M12 x 1 M18 x 1 M30 x 1.5
Dimensions	40 mm x 40 mm x 65 mm 80 mm x 40 mm x 114 mm
Diameter	Ø 8 mm ... Ø 30 mm (depends on variant)
Sensing range S_n	2 mm ... 75 mm (depends on variant)
Housing material	PTFE coating / plastic (depends on variant)
Enclosure rating	IP68

Product description

The IMR inductive proximity sensors are not the least bothered by magnetic interference fields or weld spatter, such as arise in resistance welding applications. IMR sensors are made without a ferrite core, which makes them magnetic field resistant, and also have a very high electromagnetic compatibility. Thanks to the rugged non-stick coating made from PTFE, these sensors provide very good protection against flying sparks and slag deposits, thereby guaranteeing a high operational safety. Since IMR sensors operate on the reduction factor 1 principle, they can detect all metals within the same sensing range. The very high sensing ranges of up to 75 mm help reduce mechanical damage to the sensors and therefore sensor failures, and increase plant availability.

At a glance

- Types: M8 to M30, 40 x 40 mm and 80 x 80 mm
- Increased sensing range: up to 75 mm
- Electrical configuration: DC 3- and 4-conductor
- Enclosure rating: IP68
- Temperature range: –30° C to +85° C
- PTFE coating for cylindrical thread designs
- Reduction factor 1 for all metals

Your benefits

- Switching errors due to electromagnetic fields are precluded
- Long service life, even for welding applications with stringent requirements, thanks to the special PTFE coating
- Extra large sensing range for all metals, e.g. Aluminum or stainless steel, reduces mechanical damage to the sensors and therefore sensor failures, and increases machine availability
- Simple and reliable detection of objects made from different metals
- Reliable even under harsh ambient conditions thanks to the extended temperature range and an IP68 enclosure rating
- Cylindrical design with high switching frequencies for fast automation processes

Fields of application

- Monitoring of clamping devices in welding processes
- Presence monitoring in welding processes
- Positioning of skid conveyors
- Presence monitoring for sheet metal in punching processes
- Presence monitoring in material feed units, e.g., in lathes

Ordering information

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

- **Product version:** IMR08
- **Cylindrical thread design:** M8
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 2 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR08-02BPSTC0S	6069273

- **Product version:** IMR08
- **Cylindrical thread design:** M8
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 6 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant, triple sensing range	Male connector M12, 4-pin	IMR08-06NPSTC0S	6069274

- **Product version:** IMR12
- **Cylindrical thread design:** M12
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 4 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR12-04BPSTC0S	6069275

- **Product version:** IMR12
- **Cylindrical thread design:** M12
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 10 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant, triple sensing range	Male connector M12, 4-pin	IMR12-10NPSTC0S	6069276

- **Product version:** IMR18
- **Cylindrical thread design:** M18
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 8 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR18-08BPSTC0S	6069277

- **Product version:** IMR18
- **Cylindrical thread design:** M18
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 15 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR18-15NPSTC0S	6069278

- **Product version:** IMR30
- **Cylindrical thread design:** M30
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 15 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR30-15BPSTC0S	6069279

- **Product version:** IMR30
- **Cylindrical thread design:** M30
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 30 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IMR30-30NPSTC0S	6069280

- **Product version:** IQR40
- **Cuboid shape (W x H x D):** 40 mm x 40 mm x 65 mm
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 20 mm
- **Housing:** short-body

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR40-20BPSKC0K	6069281

- **Product version:** IQR40
- **Cuboid shape (W x H x D):** 40 mm x 40 mm x 65 mm
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n:** 45 mm
- **Housing:** short-body

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	NO	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR40-45NPSKC0K	6069282

- **Product version:** IQR40
- **Cuboid shape (W x H x D):** 40 mm x 40 mm x 65 mm
- **Installation type:** flush
- **Electrical wiring:** DC 4-wire
- **Sensing range S_n:** 20 mm
- **Housing:** short-body

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	Complementary	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR40-20BPPKC0K	6069283

- **Product version:** IQR40
- **Cuboid shape (W x H x D):** 40 mm x 40 mm x 65 mm
- **Installation type:** non-flush
- **Electrical wiring:** DC 4-wire
- **Sensing range S_n:** 45 mm
- **Housing:** short-body

Switching output	Output function	Special features	Connection type	Type	Part no.
PNP	Complementary	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR40-45NPPKC0K	6069284

- **Product version:** IQR80
- **Cuboid shape (W x H x D):** 80 mm x 40 mm x 114 mm
- **Installation type:** flush
- **Electrical wiring:** DC 4-wire

Sensing range S_n	Switching output	Output function	Special features	Connection type	Type	Part no.
50 mm	PNP	Complementary	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR80-50BPPKC0S	6069285

- **Product version:** IQR80
- **Cuboid shape (W x H x D):** 80 mm x 40 mm x 114 mm
- **Installation type:** non-flush
- **Electrical wiring:** DC 4-wire

Sensing range S_n	Switching output	Output function	Special features	Connection type	Type	Part no.
75 mm	PNP	Complementary	Reduction factor 1, Magnetic-field-resistant	Male connector M12, 4-pin	IQR80-75NPPKC0S	6069286

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