

# **IMF** Inductive sensors for hygienic and wet zones







Metric
M8 x 1 M12 x 1 M18 x 1 M30 x 1.5
Ø 8 mm Ø 30 mm (depending on type)
2 mm 20 mm (depending on type)
DC 3-wire / DC 4-wire (depending on type)
Stainless steel V4A
IP68 / IP69K / IP67 (depending on type)
Metric
M8 x 1 M12 x 1 M18 x 1 M30 x 1.5
Ø 8 mm Ø 30 mm (depending on type)
2 mm 20 mm (depending on type)
DC 3-wire / DC 4-wire (depending on type)
Stainless steel V4A

#### **Product description**

The IMF inductive proximity sensor is the new standard for reliability in the food industry. With its extended sensing ranges, made highly precise thanks to the use of SICK ASIC technology, the IMF ensures reliable, stable processes. What's more, its wide-ranging specification limits allow the IMF to be used in all areas of food production: a huge benefit when it comes to product selection and warehousing. The optical adjustment indicator saves time during commissioning and helps cut down on errors. Communication via IO-Link is also possible, creating more flexibility and adding more functions for automation applications. With an extensive standard product portfolio available, even special devices can be put into action quickly and easily.

#### At a glance

- Types: M8 to M30
- · Extended sensing ranges: 2 mm to 20 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP68, IP69K
- Temperature range: -40 °C to +100 °C
- · Food-compatible stainless-steel housing, plastic sensing face
- Optical adjustment indicator, IO-Link-ready
- · Resistant to industrial cleaning agents, Ecolab-certified

#### Your benefits

- Reliable processes thanks to extended, highly accurate sensing ranges enabled through the use of SICK ASIC technology
- Reduced machine downtimes thanks to a longer service life, even when subjected to frequent cleaning cycles
- · Quick and easy installation thanks to the optical adjustment indicator
- High degree of flexibility and communication options thanks to IO-Link
- · Easy to implement customer-specific variants thanks to a modular concept

#### **Fields of application**

- · Monitoring the positions of bend couplings on mixing panels
- · Monitoring the positions of globe valves
- Position sensing for food production facilities:

#### Ordering information

Other models and accessories -> www.sick.com/IMF

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 2 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF08-02BNSNC0S	1076749
PNP	NC	IMF08-02BPONC0S	1076747

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 2 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF08-02BPSNCOS	1076745

<sup>1)</sup> With gold plated contact pins.

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range Sn: 2 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connector M12, 4-pin $^{1)}$	IMF08-02BPSNC0SX01	1099577

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF08-04NNSNCOS	1076753
PNP	NC	IMF08-04NPONCOS	1076751

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF08-04NPSNC0S	1076750

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF08-04NPSNC0SX02	1099578

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 2 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	Complementary	Resistant to cleaning agents, IO-Link, Tem- perature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF08-02BPPNC0S	1076748

 $^{\mbox{1})}$  With gold plated contact pins.

- Sub product family: IMF08
- Cylindrical thread design: M8
- Installation type: non-flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range Sn: 4 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	Complementary	Resistant to cleaning agents, IO-Link, Tem- perature resistance	Male connector M12, 4-pin $^{1)}$	IMF08-04NPPNCOS	1076752

<sup>1)</sup> With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF12-04BNSNC0S	1076671
PNP	NC	IMF12-04BPONCOS	1076670

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust-	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF12-04BPSNCOS	1076673

Switching output	Output function	Special features	Connection type	Туре	Part no.
		ment indicator, IO-Link, Temperature resistance			

 $^{\mbox{\ $1$})}$  With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 4 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connector M12, 4-pin $^{1)}$	IMF12-04BPSNC0SX01	1099579

<sup>1)</sup> With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Sensing range Sn: 8 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF12-08NNSNCOS	1076677
PNP	NC	IMF12-08NPONCOS	1076676

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF12-08NPSNCOS	1076675

1) With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis

• Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)

- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF12-08NPSNC0SX02	1099580

<sup>1)</sup> With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- + Sensing range  $\mathbf{S}_{\mathbf{n}}\!\!:4\text{ mm}$
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Housing	Connection type	Туре	Part no.
Standard design	Cable, 4-wire, 2 m	IMF12-04BPPNS2S	1093466
	Male connector M12, 4-pin <sup>1)</sup>	IMF12-04BPPNCOS	1076674
Short-body	Male connector M12, 4-pin <sup>1)</sup>	IMF12-04BPPNCOK	1083497

 $^{(1)}$  With gold plated contact pins.

- Sub product family: IMF12
- Cylindrical thread design: M12
- Installation type: non-flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Connection type	Туре	Part no.
Cable, 4-wire, 5 m	IMF12-08NPPNS5S	1145660
Cable, 4-wire, 10 m	IMF12-08NPPNS6S	1119172
Male connector M12, 4-pin <sup>1)</sup>	IMF12-08NPPNCOS	1076678

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: quasi-flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF18-08BNSNCOS	1076664
PNP	NC	IMF18-08BPONCOS	1076663

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: quasi-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF18-08BPSNCOS	1076662

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: quasi-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connector M12, 4-pin $^{1)}$	IMF18-08BPSNC0SX01	1099581

- Sub product family: IMF18
- + Cylindrical thread design:  $\ensuremath{\text{M18}}$
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 12 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Output function	Туре	Part no.
NPN	NO	IMF18-12NNSNCOS	1076668
PNP	NC	IMF18-12NPONCOS	1076667

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 12 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF18-12NPSNCOS	1076666

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 12 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link	Male connector M12, 4-pin $^{1)}$	IMF18-12NPSNC0SX02	1099582



- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: quasi-flush
- Electrical wiring: DC 4-wire
- · Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 8 mm
- Housing: Standard design
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Connection type	Туре	Part no.
Cable, 4-wire, 2 m	IMF18-08BPPNS2S	1093468
Male connector M12, 4-pin <sup>1)</sup>	IMF18-08BPPNCOS	1076665

- Sub product family: IMF18
- Cylindrical thread design: M18
- Installation type: non-flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 12 mm
- Housing: Standard design
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Connection type	Туре	Part no.
Cable, 4-wire, 2 m	IMF18-12NPPNS2S	1093469
Male connector M12, 4-pin <sup>1)</sup>	IMF18-12NPPNCOS	1076669

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 15 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	Switching output Output function		Part no.
NPN	NO	IMF30-15BNSNC0S	1076657
PNP	NC	IMF30-15BPONC0S	1076654

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 15 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF30-15BPSNCOS	1076653

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 15 mm
- Housing: Standard design

Switching ou	put	Output function	Special features	Connection type	Туре	Part no.
PNP		NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF30-15BPSNC0SX01	1099583

 $^{\mbox{\ $1$})}$  With gold plated contact pins.

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Sensing range S<sub>n</sub>: 20 mm
- Housing: Standard design
- Special features: Resistant to cleaning agents, Visual adjustment indicator, Temperature resistance
- Connection type: male connector M12, 4-pin (With gold plated contact pins.)

Switching output	tput Output function		Part no.
NPN	NO	IMF30-20NNSNC0S	1076661
PNP	NC	IMF30-20NPONCOS	1076659



- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 20 mm
- Housing: Standard design

Switching output	Output function	Special features	Connection type	Туре	Part no.
PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF30-20NPSNCOS	1076658

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: non-flush
- Electrical wiring: DC 3-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Info: II 3G Ex ec IIC T4 Gc X, II 3D Ex tc IIIC T135 °C Dc X In the framework of directive 2014/34 / EU (ATEX) and DIN EN ISO/ IEC 80079-34, we would like to point out that the traceability of the ordered device to your customer is your responsibility (documentation of your customer and associated product data, such as part number, datcode, serial number)
- Sensing range S<sub>n</sub>: 20 mm
- Housing: Standard design

Sw	itching output	Output function	Special features	Connection type	Туре	Part no.
	PNP	NO	Resistant to cleaning agents, Visual adjust- ment indicator, IO-Link, Temperature resistance	Male connec- tor M12, 4-pin <sup>1)</sup>	IMF30-20NPSNC0SX02	1099584

<sup>1)</sup> With gold plated contact pins.

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 15 mm
- Housing: Standard design
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Connection type	Туре	Part no.
Cable, 4-wire, 2 m	IMF30-15BPPNS2S	1093470
Male connector M12, 4-pin <sup>1)</sup>	IMF30-15BPPNC0S	1076656

- Sub product family: IMF30
- Cylindrical thread design: M30
- Installation type: non-flush
- Electrical wiring: DC 4-wire
- Smart Sensor: Enhanced Sensing, efficient communication, diagnosis
- Sensing range S<sub>n</sub>: 20 mm
- Housing: Standard design
- Switching output: PNP
- Output function: Complementary
- Special features: Resistant to cleaning agents, IO-Link, Temperature resistance

Connection type	Туре	Part no.
Cable, 4-wire, 2 m	IMF30-20NPPNS2S	1093471
Male connector M12, 4-pin <sup>1)</sup>	IMF30-20NPPNC0S	1076660

 $^{\mbox{\sc 1})}$  With gold plated contact pins.

## 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



Online data sheet

