

IMS

Inductive sensors for mobile machines

SICK
Sensor Intelligence.

Advantages



Maximum operating times of your machine

Mobile machines can be used in any weather. Impacts and vibrations as well as rain, snow, frost, dirt, oil residues, cold or heat heavily impact the sensors installed in the machines. Other factors are aggressive machine cleaning processes. IMF inductive proximity sensors master these challenges with their tight and rugged design. The IP68 and IP69K enclosure ratings, high impact and vibration resistance as well as wide specification limits enable maximum operating times for your machine.



Winter in Siberia: -40 °C. While others freeze, the IMS works perfectly



Grain fields in summer: Even at very high temperatures, the IMS shows no weakness



The very tight IMS housing withstands regular high-pressure cleaning without any problems



Ready for use in any weather



Stable and fault-free processes: The more stable and fault-free the processes, the higher the throughput.

The IMS inductive proximity sensors demonstrate high compatibility with electromagnetic faults up to 100 V/m, thereby tolerating even motor vehicle electrical system pulses effortlessly. This compatibility, combined with the high-precision SICK ASIC technology, ensures optimal functionality of the mobile machines.



High resistance against electromagnetic faults



High-precision processes, high throughput

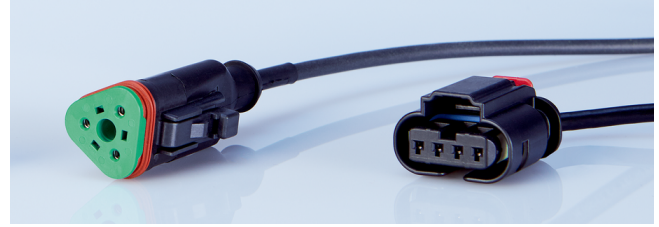


Extensive portfolio with application-specific special variants

The IMS inductive proximity sensors from SICK cover a large range of relevant industry applications. Even in the event of specific customer requirements, SICK offers quick, uncomplicated tailored sensor solutions.



Implementation of mobile plug connectors common in the industry



Tailored solutions



With specific variants, IMS sensors cover a large range of relevant industry applications.



Technical data overview

Housing	Metric
Thread size	M12 x 1 M18 x 1 M30 x 1.5
Diameter	Ø 12 mm ... Ø 30 mm (depends on variant)
Sensing range S_n	2 mm ... 20 mm (depends on variant)
Housing material	Stainless steel V2A Stainless steel V4A Brass (depends on variant)
Enclosure rating	IP68, IP69K

Product description

The IMS inductive proximity sensors combine tried-and-tested, rugged SICK mechanics with advanced electronics. With the E1 type approval by the German Federal Motor Transport Authority, the sensors are especially well-suited for use in mobile machines. The IMS products feature protection against load dump, electromagnetic compatibility and a large voltage range of 7.2 V to 60 V DC. Versions with connecting cables offer enough hold for mobile male connectors due to the oil-resistant material and a 0.5 mm² cross section of these cables. The ambient temperature range is from -40 °C to +100 °C, thereby enabling sensor function in any weather.

At a glance

- Thread sizes: M12 to M30
- Large sensing ranges: 4 mm to 20 mm
- Electrical configuration: DC, 3-wire
- Enclosure rating: IP68, IP69K
- Ambient temperature: -40 °C to +100 °C
- Rugged stainless-steel housing; plastic sensing face
- Load dump protection and high electromagnetic compatibility of 100 V/m
- E1 type approval

Your benefits

- Maximum operating times due to rugged sensor technology, even in harsh environments that are subjected to severe weather conditions
- Stable and fault-free processes thanks to high electromagnetic compatibility and very precise detection
- Extensive portfolio with application-specific special variants
- Worldwide availability due to global SICK sales network and countless approvals

Fields of application

- Detection and positioning tasks in balers
- Monitoring of belt speed in harvesters
- Detection of ring mount position in excavators
- Monitoring of loading area position in dump trucks
- Detection of aerial ladder end position in fire trucks
- Positioning of drums in garbage trucks
- Detection tasks in aircraft tractors

Ordering information

Other models and accessories → www.sick.com/IMS

- **Product version:** IMS12
- **Cylindrical thread design:** M12
- **Installation type:** flush
- **Electrical wiring:** DC 3-wire
- **Housing:** Standard design

Sensing range S _n	Switching output	Output function	Special features	Connection type	Type	Part no.
2 mm	NPN	NO	Resistant against coolant lubricants, Temperature resistance	Cable with Deutsch DT04-3P-E004 male connector, 3-pin, 0.8 m	IMS12-02BNSVUDSS03	1143023
4 mm	NPN	NC		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-04BNOVU2S
			Male connector M12, 4-pin ¹⁾		IMS12-04BNOVC0S	1097639
			Cable, 3-wire, 2 m	IMS12-04BNONU2S	1103206	
			Male connector M12, 4-pin ¹⁾	IMS12-04BNONC0S	1103202	
		NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-04BNSVU2S	1097580
				Cable, 3-wire, 4 m	IMS12-04BNSVU4S	1112289
			Resistant to cleaning agents, Temperature resistance	Male connector M12, 4-pin ¹⁾	IMS12-04BNSVC0S	1097576
				Cable, 3-wire, 2 m	IMS12-04BNSNU2S	1103182
	PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-04BPOVU2S	1097642
				Male connector M12, 4-pin ¹⁾	IMS12-04BPOVC0S	1097638
			Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-04BPONU2S	1103205
				Male connector M12, 4-pin ¹⁾	IMS12-04BPONC0S	1103201
		NO	Resistant against coolant lubricants, Temperature resistance	Cable with Deutsch DT04-3P-E004 male connector, 3-pin, 0.3 m	IMS12-04BPSVUDSS01	1131899
				Cable, 3-wire, 2 m	IMS12-04BPSVU2S	1097579
			Resistant to cleaning agents, Temperature resistance	Male connector M12, 4-pin ¹⁾	IMS12-04BPSVC0S	1097575
				Cable, 3-wire, 2 m	IMS12-04BPSNU2S	1103181
Male connector M12, 4-pin ¹⁾	IMS12-04BPSNC0S	1103177				

¹⁾ With gold plated contact pins.

- **Product version:** IMS12
- **Cylindrical thread design:** M12
- **Installation type:** non-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.
NPN	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NN0VU2S	1097645
			Male connector M12, 4-pin ¹⁾	IMS12-08NN0VCOS	1097641
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NN0NU2S	1103208
			Male connector M12, 4-pin ¹⁾	IMS12-08NN0NCOS	1103204
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NNSVU2S	1097582
			Male connector M12, 4-pin ¹⁾	IMS12-08NNSVCOS	1097578
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NNSNU2S	1103184
			Male connector M12, 4-pin ¹⁾	IMS12-08NNSNCOS	1103180
PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NP0VU2S	1097644
			Male connector M12, 4-pin ¹⁾	IMS12-08NP0VCOS	1097640
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NP0NU2S	1103207
			Male connector M12, 4-pin ¹⁾	IMS12-08NP0NCOS	1103203
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NPSVU2S	1097581
			Male connector M12, 4-pin ¹⁾	IMS12-08NPSVCOS	1097577
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS12-08NPSNU2S	1103183
			Male connector M12, 4-pin ¹⁾	IMS12-08NPSNCOS	1103179

¹⁾ With gold plated contact pins.

- **Product version:** IMS18
- **Cylindrical thread design:** M18
- **Installation type:** quasi-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.	
NPN	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BNOVU2S	1097651	
			Male connector M12, 4-pin ¹⁾	IMS18-08BNOVC0S	1097647	
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BNONU2S	1103214	
			Male connector M12, 4-pin ¹⁾	IMS18-08BNONC0S	1103210	
		NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BNSVU2S	1097588
				Male connector M12, 4-pin ¹⁾	IMS18-08BNSVC0S	1097584
	Resistant to cleaning agents, Temperature resistance		Cable, 3-wire, 2 m	IMS18-08BNSNU2S	1103190	
			Male connector M12, 4-pin ¹⁾	IMS18-08BNSNC0S	1103186	
	PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BPOVU2S	1097650
				Male connector M12, 4-pin ¹⁾	IMS18-08BPOVC0S	1097646
			Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BPONU2S	1103213
				Male connector M12, 4-pin ¹⁾	IMS18-08BPONC0S	1103209
NO			Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BPSVU2S	1097587
				Male connector M12, 4-pin ¹⁾	IMS18-08BPSVC0S	1097583
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-08BPSNU2S	1103189	
			Male connector M12, 4-pin ¹⁾	IMS18-08BP SNC0S	1103185	

¹⁾ With gold plated contact pins.

- **Product version:** IMS18
- **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	Resistant against coolant lubricants, Temperature resistance	Male connector M12, 4-pin ¹⁾	IMS18-08BPSZC0SS03	1112343

¹⁾ With gold plated contact pins.

- **Product version:** IMS18
- **Cylindrical thread design:** M18
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n :** 12 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
NPN	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NNOVU2S	1097653
			Male connector M12, 4-pin ¹⁾	IMS18-12NNOVCOS	1097649
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NNONU2S	1103216
			Male connector M12, 4-pin ¹⁾	IMS18-12NNONCOS	1103212
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NNSVU2S	1097590
			Male connector M12, 4-pin ¹⁾	IMS18-12NNSVCOS	1097586
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NNSNU2S	1103192
			Male connector M12, 4-pin ¹⁾	IMS18-12NNSNCOS	1103188
PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NPOVU2S	1097652
			Male connector M12, 4-pin ¹⁾	IMS18-12NPOVCOS	1097648
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NPONU2S	1103215
			Male connector M12, 4-pin ¹⁾	IMS18-12NPONCOS	1103211
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NPSVU2S	1097589
			Male connector M12, 4-pin ¹⁾	IMS18-12NPSVCOS	1097585
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS18-12NPSNU2S	1103191
			Male connector M12, 4-pin ¹⁾	IMS18-12NPSNCOS	1103187

¹⁾ With gold plated contact pins.

- **Product version:** IMS30
- **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.
NPN	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BNOVU2S	1097659
			Male connector M12, 4-pin ¹⁾	IMS30-15BNOVC0S	1097655
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BNONU2S	1103222
			Male connector M12, 4-pin ¹⁾	IMS30-15BNONC0S	1103218
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BNSVU2S	1097596
			Male connector M12, 4-pin ¹⁾	IMS30-15BNSVC0S	1097592
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BNSNU2S	1103198
			Male connector M12, 4-pin ¹⁾	IMS30-15BNSNC0S	1103194
PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BPOVU2S	1097658
			Male connector M12, 4-pin ¹⁾	IMS30-15BPOVC0S	1097654
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BPONU2S	1103221
			Male connector M12, 4-pin ¹⁾	IMS30-15BPONC0S	1103217
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BPSVU2S	1097595
			Cable, 3-wire, 4 m	IMS30-15BPSVU4S	1118941
			Male connector M12, 4-pin ¹⁾	IMS30-15BPSVC0S	1097591
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-15BPSNU2S	1103197
			Male connector M12, 4-pin ¹⁾	IMS30-15BPSNC0S	1103193

¹⁾ With gold plated contact pins.

- **Product version:** IMS30
- **Cylindrical thread design:** M30
- **Installation type:** non-flush
- **Electrical wiring:** DC 3-wire
- **Sensing range S_n :** 20 mm
- **Housing:** Standard design

Switching output	Output function	Special features	Connection type	Type	Part no.
NPN	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NNOVU2S	1097661
			Male connector M12, 4-pin ¹⁾	IMS30-20NNOVCOS	1097657
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NNOVU2S	1103224
			Male connector M12, 4-pin ¹⁾	IMS30-20NNOVCOS	1103220
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NNSVU2S	1097598
			Male connector M12, 4-pin ¹⁾	IMS30-20NNSVCOS	1097594
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NNSVU2S	1103200
			Male connector M12, 4-pin ¹⁾	IMS30-20NNSVCOS	1103196
PNP	NC	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NPOVU2S	1097660
			Male connector M12, 4-pin ¹⁾	IMS30-20NPOVCOS	1097656
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NPONU2S	1103223
			Male connector M12, 4-pin ¹⁾	IMS30-20NPONCOS	1103219
	NO	Resistant against coolant lubricants, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NPSVU2S	1097597
			Male connector M12, 4-pin ¹⁾	IMS30-20NPSVCOS	1097593
		Resistant to cleaning agents, Temperature resistance	Cable, 3-wire, 2 m	IMS30-20NPSVU2S	1103199
			Male connector M12, 4-pin ¹⁾	IMS30-20NPSVCOS	1103195

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