



IMS

Rugged sensors for use in mobile machines

INDUCTIVE PROXIMITY SENSORS

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

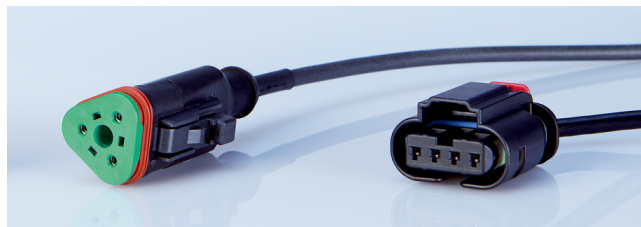


Extensive portfolio with application-specific special variants

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	Cylindrical thread design
Thread size	M12 x 1 M18 x 1 M30 x 1.5
Diameter	Ø 12 mm ... Ø 30 mm (depending on type)
Sensing range S_n	4 mm ... 20 mm (depending on type)
Housing material	Stainless steel V2A Stainless steel V4A Brass (depending on type)
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

- **Sub product family:** IMS12
- **Cylindrical thread design:** M12
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant against coolant lubricants, Temperature resistance

Installation type	Sensing range S _n	Housing	Switching output	Output function	Connection type	Type	Part no.				
Flush	4 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS12-04BNOVU2S	1097643				
					Male connector M12, 4-pin ¹⁾	IMS12-04BNOVCOS	1097639				
				NO	Cable, 3-wire, 2 m	IMS12-04BNSVU2S	1097580				
					Cable, 3-wire, 4 m	IMS12-04BNSVU4S	1112289				
					Male connector M12, 4-pin ¹⁾	IMS12-04BNSVCOS	1097576				
				PNP	NC	Cable, 3-wire, 2 m	IMS12-04BPOVU2S	1097642			
			Male connector M12, 4-pin ¹⁾			IMS12-04BPOVCOS	1097638				
			NO		Cable, 3-wire, 2 m	IMS12-04BPSVU2S	1097579				
					Male connector M12, 4-pin ¹⁾	IMS12-04BPSVCOS	1097575				
			Non-flush		8 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS12-08NNOVU2S	1097645
									Male connector M12, 4-pin ¹⁾	IMS12-08NNOVCOS	1097641
				NO				Cable, 3-wire, 2 m	IMS12-08NNSVU2S	1097582	
Male connector M12, 4-pin ¹⁾	IMS12-08NNSVCOS	1097578									
PNP	NC	Cable, 3-wire, 2 m		IMS12-08NPOVU2S				1097644			
		Male connector M12, 4-pin ¹⁾		IMS12-08NPOVCOS				1097640			
	NO	Cable, 3-wire, 2 m	IMS12-08NPSVU2S	1097581							
		Male connector M12, 4-pin ¹⁾	IMS12-08NPSVCOS	1097577							

¹⁾ With gold plated contact pins.

- **Sub product family:** IMS12
- **Cylindrical thread design:** M12
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant to cleaning agents, Temperature resistance

Installation type	Sensing range S_n	Housing	Switching output	Output function	Connection type	Type	Part no.			
Flush	4 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS12-04BNONU2S	1103206			
					Male connector M12, 4-pin ¹⁾	IMS12-04BNONCOS	1103202			
				NO	Cable, 3-wire, 2 m	IMS12-04BNSNU2S	1103182			
					Male connector M12, 4-pin ¹⁾	IMS12-04BNSNCOS	1103178			
				PNP	NC	Cable, 3-wire, 2 m	IMS12-04BPONU2S	1103205		
						Male connector M12, 4-pin ¹⁾	IMS12-04BPONCOS	1103201		
			NO		Cable, 3-wire, 2 m	IMS12-04BPSNU2S	1103181			
					Male connector M12, 4-pin ¹⁾	IMS12-04BPSNCOS	1103177			
			Non-flush	8 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS12-08NNU2S	1103208
								Male connector M12, 4-pin ¹⁾	IMS12-08NNONCOS	1103204
							NO	Cable, 3-wire, 2 m	IMS12-08NNSNU2S	1103184
								Male connector M12, 4-pin ¹⁾	IMS12-08NNSNCOS	1103180
PNP	NC	Cable, 3-wire, 2 m					IMS12-08NPONU2S	1103207		
		Male connector M12, 4-pin ¹⁾					IMS12-08NPONCOS	1103203		
	NO	Cable, 3-wire, 2 m				IMS12-08NPSNU2S	1103183			
		Male connector M12, 4-pin ¹⁾				IMS12-08NPSNCOS	1103179			

¹⁾ With gold plated contact pins.

- **Sub product family:** IMS18
- **Cylindrical thread design:** M18
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant against coolant lubricants, Temperature resistance

Installation type	Sensing range S _n	Housing	Switching output	Output function	Connection type	Type	Part no.
Flush	8 mm	Standard	PNP	NO	Male connector M12, 4-pin ¹⁾	IMS18-08BPSZC0SS03	1112343
Non-flush	12 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS18-12NNOVU2S	1097653
					Male connector M12, 4-pin ¹⁾	IMS18-12NNOVC0S	1097649
				NO	Cable, 3-wire, 2 m	IMS18-12NNSVU2S	1097590
					Male connector M12, 4-pin ¹⁾	IMS18-12NNSVC0S	1097586
			PNP	NC	Cable, 3-wire, 2 m	IMS18-12NPOVU2S	1097652
					Male connector M12, 4-pin ¹⁾	IMS18-12NPOVC0S	1097648
				NO	Cable, 3-wire, 2 m	IMS18-12NPSVU2S	1097589
					Male connector M12, 4-pin ¹⁾	IMS18-12NPSVC0S	1097585
Quasi-flush	8 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS18-08BNOVU2S	1097651
					Male connector M12, 4-pin ¹⁾	IMS18-08BNOVC0S	1097647
				NO	Cable, 3-wire, 2 m	IMS18-08BNSVU2S	1097588
					Male connector M12, 4-pin ¹⁾	IMS18-08BNSVC0S	1097584
			PNP	NC	Cable, 3-wire, 2 m	IMS18-08BPOVU2S	1097650
					Male connector M12, 4-pin ¹⁾	IMS18-08BPOVC0S	1097646
				NO	Cable, 3-wire, 2 m	IMS18-08BPSVU2S	1097587
					Male connector M12, 4-pin ¹⁾	IMS18-08BPSVC0S	1097583

¹⁾ With gold plated contact pins.

- **Sub product family:** IMS18
- **Cylindrical thread design:** M18
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant to cleaning agents, Temperature resistance

Installation type	Sensing range S_n	Housing	Switching output	Output function	Connection type	Type	Part no.			
Non-flush	12 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS18-12NNOU2S	1103216			
					Male connector M12, 4-pin ¹⁾	IMS18-12NNOCCOS	1103212			
				NO	Cable, 3-wire, 2 m	IMS18-12NNSU2S	1103192			
					Male connector M12, 4-pin ¹⁾	IMS18-12NNSCCOS	1103188			
				PNP	NC	Cable, 3-wire, 2 m	IMS18-12NPOU2S	1103215		
						Male connector M12, 4-pin ¹⁾	IMS18-12NPOCCOS	1103211		
			NO		Cable, 3-wire, 2 m	IMS18-12NPSU2S	1103191			
					Male connector M12, 4-pin ¹⁾	IMS18-12NPSCCOS	1103187			
			Quasi-flush	8 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS18-08BNOU2S	1103214
								Male connector M12, 4-pin ¹⁾	IMS18-08BNOCCOS	1103210
							NO	Cable, 3-wire, 2 m	IMS18-08BNSU2S	1103190
								Male connector M12, 4-pin ¹⁾	IMS18-08BNSCCOS	1103186
PNP	NC	Cable, 3-wire, 2 m					IMS18-08BPOU2S	1103213		
		Male connector M12, 4-pin ¹⁾					IMS18-08BPOCCOS	1103209		
	NO	Cable, 3-wire, 2 m				IMS18-08BPSU2S	1103189			
		Male connector M12, 4-pin ¹⁾				IMS18-08BPSCCOS	1103185			

¹⁾ With gold plated contact pins.

- **Sub product family:** IMS30
- **Cylindrical thread design:** M30
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant against coolant lubricants, Temperature resistance

Installation type	Sensing range S _n	Housing	Switching output	Output function	Connection type	Type	Part no.			
Flush	15 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS30-15BNOVU2S	1097659			
					Male connector M12, 4-pin ¹⁾	IMS30-15BNOVCOS	1097655			
				NO	Cable, 3-wire, 2 m	IMS30-15BNSVU2S	1097596			
					Male connector M12, 4-pin ¹⁾	IMS30-15BNSVCOS	1097592			
				PNP	NC	Cable, 3-wire, 2 m	IMS30-15BPOVU2S	1097658		
						Male connector M12, 4-pin ¹⁾	IMS30-15BPOVCOS	1097654		
			NO		Cable, 3-wire, 2 m	IMS30-15BPSVU2S	1097595			
					Cable, 3-wire, 4 m	IMS30-15BPSVU4S	1118941			
					Male connector M12, 4-pin ¹⁾	IMS30-15BPSVCOS	1097591			
			Non-flush	20 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS30-20NNOVU2S	1097661
								Male connector M12, 4-pin ¹⁾	IMS30-20NNOVCOS	1097657
NO	Cable, 3-wire, 2 m	IMS30-20NNSVU2S					1097598			
	Male connector M12, 4-pin ¹⁾	IMS30-20NNSVCOS					1097594			
PNP	NC	Cable, 3-wire, 2 m					IMS30-20NPOVU2S	1097660		
		Male connector M12, 4-pin ¹⁾					IMS30-20NPOVCOS	1097656		
	NO	Cable, 3-wire, 2 m				IMS30-20NPSVU2S	1097597			
		Male connector M12, 4-pin ¹⁾				IMS30-20NPSVCOS	1097593			

¹⁾ With gold plated contact pins.

- **Sub product family:** IMS30
- **Cylindrical thread design:** M30
- **Electrical wiring:** DC 3-wire
- **Special features:** Resistant to cleaning agents, Temperature resistance

Installation type	Sensing range S_n	Housing	Switching output	Output function	Connection type	Type	Part no.			
Flush	15 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS30-15BNONU2S	1103222			
					Male connector M12, 4-pin ¹⁾	IMS30-15BNONCOS	1103218			
				NO	Cable, 3-wire, 2 m	IMS30-15BNSNU2S	1103198			
					Male connector M12, 4-pin ¹⁾	IMS30-15BNSNCOS	1103194			
				PNP	NC	Cable, 3-wire, 2 m	IMS30-15BPONU2S	1103221		
						Male connector M12, 4-pin ¹⁾	IMS30-15BPONCOS	1103217		
			NO		Cable, 3-wire, 2 m	IMS30-15BPSNU2S	1103197			
					Male connector M12, 4-pin ¹⁾	IMS30-15BPSNCOS	1103193			
			Non-flush	20 mm	Standard	NPN	NC	Cable, 3-wire, 2 m	IMS30-20NNU2S	1103224
								Male connector M12, 4-pin ¹⁾	IMS30-20NNONCOS	1103220
							NO	Cable, 3-wire, 2 m	IMS30-20NNSNU2S	1103200
								Male connector M12, 4-pin ¹⁾	IMS30-20NNSNCOS	1103196
PNP	NC	Cable, 3-wire, 2 m					IMS30-20NPONU2S	1103223		
		Male connector M12, 4-pin ¹⁾					IMS30-20NPONCOS	1103219		
	NO	Cable, 3-wire, 2 m				IMS30-20NPSNU2S	1103199			
		Male connector M12, 4-pin ¹⁾				IMS30-20NPSNCOS	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