

The right sensors for your applications



Highlights

- High precision and temperature stability
- Sensing distance from 1 mm up to 40 mm
- Flush, quasi-flush, non-flush versions, NPN or PNP, NO or NC output
- Fully protected against short-circuit, reverse polarity and transients
- Quick-disconnect or cable versions
- Excellent LED visibility from any direction
- Enhanced diagnostic functions such as short circuit and overload indication and set-up assistance
- Permanently legible, laser-engraved serial number and part number for assured traceability

The applications of inductive sensors are numerous in many industrial markets: material handling, food & beverage, agriculture, heavy and mobile equipment as well as machine tools and packaging.

Carlo Gavazzi's inductive sensors provide a reliable and cost effective solution in machinery and automation equipment.

• Material handling

Carlo Gavazzi's inductive sensors are chosen to maximize efficiency and to ensure the automatic and reliable flow of goods. The triple distance ICB series, with an increased operating distance up to 40 mm, is the best solution for reliable detection in any conditions, thanks to the reduced risk of sensors breakdown, as the sensor can be positioned further away from the target.

• Food & Beverage

The ECOLAB certified ICS sensors are the best solution where high temperature and high pressure wash down processes are mandatory to comply with sanitary and hygienic regulations.

The materials used are FDA certified and compatible with most of the industrial cleaning and disinfecting agents or foams used in Food & Beverage applications.

• Agriculture, heavy and mobile equipment

Agricultural machinery, heavy and mobile equipment are exposed to difficult outdoor conditions, such as wide temperature variations, high stress due to cleaning processes. The ICS sensors provide reliable position detection of the moving parts even in such harsh environment, thanks to the solid construction and excellent tightness with certified IP68 and IP69K ratings and to the wide operating temperature.

• Machine tools

Inductive sensors are used to check the tool and component position in machining applications. The ICB series is the best solution thanks to its improved performance with vibrations and shocks, the reliable connection system between the cable and the barrel and the very high precision and quick response time.



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Overview

Inductive sensors

A complete range of high performance inductive proximity sensors

With over 50 years of experience in manufacturing and selling proximity sensors, Carlo Gavazzi offers a wide range of inductive sensors, built to the highest-quality standards and easily customizable to specific OEM customer applications.

Inductive sensors detect all ferrous and non-ferrous metals without physical contact and provide a durable solution in harsh environments, conveying reliable signals to the PLC on the position/presence of moving parts of the machinery. They are also used for rotational speed monitoring.

They are not affected by dust, oil, water, or vibrations and they can operate at high switching frequencies without reducing their long operating life.

• ICB Basic

All the ICB sensors have a with rugged nickel plated brass construction and feature a new generation of microprocessor, which allows final calibration of the sensor at the end of the assembly process, providing repeatable and highly accurate operation and increased EMC robustness.

• ICB Triple distance

The ICB is also available with an extended sensing range of up to three times the standard sensing distance, with a complete range in M12, M18 and M30 housings and advanced diagnostic LED clearly visible from any direction.

• ICS Washdown

The new series of ICS inductive sensors features an extremely robust design with a high grade stainless steel housing and extended operating temperature of between - 40°C and +85°C (-40°F to +185°F), a superior resistance to high pressure and high temperature cleaning processes and the ability to prevent water and vapour access through the front cap or connector of the sensors.

The ICS sensors are ECOLAB certified and rated to IP67, IP68 and IP69K standards.

• IA Miniature

The IA05, IA06 and IA08 series are available in short and long stainless steel housings to provide a high level of mechanical protection.

They are the ideal solution where space is limited, meeting the trend of more and more compact machinery. There are quick-disconnect or cable versions.

• IA Full metal housing

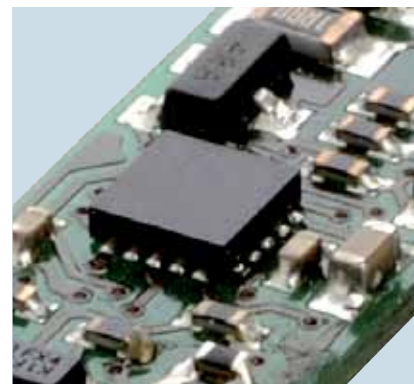
Full metal housed sensors have been specifically designed for harsh application conditions, where chemical compatibility to industrial caustic-acid conditions and mechanical resistance to impact are required.

They are available in M8, M12, M18 and M30 short or long barrel housings with one-piece stainless steel face/barrel construction.

• Special versions

The range is completed by a series of special versions such as:


- the EI flat pack series, ideal for use in conveying and material handling applications
- the IC/ID rectangular types suitable for the control of axial and rotational movements
- the DU slotted sensors for small part detection
- the IC40 rotatable-head switches with the sensing face adjustable to up to 5 positions
- the IA high temperature series with extended operating temperature range.





Inductive sensors

Overview


Inductive sensors


Basic series									
									
Family	ICB12		ICB12		ICB12		ICB12		
Sensing distance, Sn [mm]	2 mm		4 mm		4 mm		8 mm		
Range	Standard		Standard		Extended		Extended		
Connection	Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		
Mounting	Flush		Non-flush		Flush		Non-flush		
Housing	Short body	Long body	Short body	Long body	Short body	Long body	Short body	Long body	Long body
Material	Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		
Degree of protection	IP67		IP67		IP67		IP67		
Part numbers	ICB12S30F02... ICB12L50F02...		ICB12S30N04... ICB12L50N04...		ICB12S30F04... ICB12L50F04...		ICB12S30N08... ICB12L50N08...		
Operating temperature	-25° to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		
Approvals / Certifications	CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		
Main feature	Microprocessor based		Microprocessor based		Microprocessor based		Microprocessor based		


Basic series									
									
Family	ICB18		ICB18		ICB18		ICB18		
Sensing distance, Sn [mm]	5 mm		8 mm		8 mm		14 mm		
Range	Standard		Standard		Extended		Extended		
Connection	Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		
Mounting	Flush		Non-flush		Flush		Non-flush		
Housing	Short body	Long body	Short body	Long body	Short body	Long body	Short body	Long body	Long body
Material	Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		
Degree of protection	IP67		IP67		IP67		IP67		
Part numbers	ICB18S30F05... ICB18L50F05...		ICB18S30N08... ICB18L50N08...		ICB18S30F08... ICB18L50F08...		ICB18S30N14... ICB18L50N14...		
Operating temperature	-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		
Approvals / Certifications	CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		
Main feature	Microprocessor based		Microprocessor based		Microprocessor based		Microprocessor based		

Basic series									
									
Family	ICB30		ICB30		ICB30		ICB30		
Sensing distance, Sn [mm]	10 mm		15 mm		15 mm		22 mm		
Range	Standard		Standard		Extended		Extended		
Connection	Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		
Mounting	Flush		Non-flush		Flush		Non-flush		
Housing	Short body	Long body	Short body	Long body	Short body	Long body	Short body	Long body	Long body
Material	Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		
Degree of protection	IP67		IP67		IP67		IP67		
Part numbers	ICB30SF10... ICB30LF10...		ICB30SN15... ICB30LN15...		ICB30SF15... ICB30LF15...		ICB30SN22... ICB30LN22...		
Operating temperature	-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		
Approvals / Certifications	CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		CE - cULus - cCSAus		
Main feature	Microprocessor based		Microprocessor based		Microprocessor based		Microprocessor based		


Inductive sensors

Washdown series									
									
Family	ICS12		ICS12		ICS18		ICS18		
Sensing distance, Sn [mm]	2 mm		4 mm		8 mm		12 mm		
Range	Standard		Extended		Standard		Extended		
Connection	Plug		Plug		Plug		Plug		
Mounting	Flush		Non-flush		Flush		Non-flush		
Housing	Long body		Long body		Long body		Long body		
Material	Stainless steel		Stainless steel		Stainless steel		Stainless steel		
Degree of protection	IP67, IP68, IP69K		IP67, IP68, IP69K		IP67, IP68, IP69K		IP67, IP68, IP69K		
Part numbers	ICS12LF02..-FB ICS12LF04..-FB		ICS12LN04..-FB ICS12LN08..-FB		ICS18LF05..-FB ICS18LF08..-FB		ICS18LN08..-FB ICS18LN12..-FB		
Operating temperature	-40 ° to +80 °C (-40 to +176°F)		-40 ° to +80 °C (-40 to +176°F)		-40 ° to +80 °C (-40 to +176°F)		-40 ° to +80 °C (-40 to +176°F)		
Approvals / Certifications	CE - cULus - ECOLAB		CE - cULus - ECOLAB		CE - cULus - ECOLAB		CE - cULus - ECOLAB		
Main feature	FDA approved plastic face/µP based		FDA approved plastic face/µP based		FDA approved plastic face/µP based		FDA approved plastic face/µP based		

Washdown series									
									
Family	ICS30		ICS30		ICS30		ICS30		
Sensing distance, Sn [mm]	10 mm		15 mm		15 mm		22 mm		
Range	Standard		Extended		Standard		Extended		
Connection	Plug		Plug		Plug		Plug		
Mounting	Flush		Non-flush		Flush		Non-flush		
Housing	Short body		Short body		Long body		Long body		
Material	Stainless steel		Stainless steel		Stainless steel		Stainless steel		
Degree of protection	IP67, IP68, IP69K		IP67, IP68, IP69K		IP67, IP68, IP69K		IP67, IP68, IP69K		
Part numbers	ICS30SF10..-FB ICS30SF15..-FB		ICS30SN15..-FB ICS30SN22..-FB		ICS30LF10..-FB ICS30LF15..-FB		ICS30LN15..-FB ICS30LN22..-FB		
Operating temperature	-40 to +85 °C (-40 to +185°F)		-40 to +85 °C (-40 to +185°F)		-40 to +85 °C (-40 to +185°F)		-40 to +85 °C (-40 to +185°F)		
Approvals / Certifications	CE - cULus - ECOLAB		CE - cULus - ECOLAB		CE - cULus - ECOLAB		CE - cULus - ECOLAB		
Main feature	FDA approved plastic face/µP based		FDA approved plastic face/µP based		FDA approved plastic face/µP based		FDA approved plastic face/µP based		

High temperature series									
									
Family	IA05		IA08		IA12		IA18		IA30
Sensing distance, Sn [mm]	0.8 mm		1 mm		2 mm		5 mm		10 mm 15 mm
Range	Standard		Standard		Standard		Standard		Standard
Connection	2 m silicone cable		Plug or 2 m PUR cable		Plug or 2 m PUR cable		Plug or 2 m PUR cable		Plug or 2 m PUR cable
Mounting	Flush		Flush		Non-flush		Flush		Non-flush
Housing	Short body		Short body		Short body		Short body		Short body
Material	Stainless steel		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass
Degree of protection	IP67		IP67		IP67		IP67		IP67
Part numbers	IA08SF08..HTK IA08BF08..HTK		IA12SF02..HTK IA12SN04..HTK		IA18SF05..HTK IA18SN08..HTK		IA30SF10..HTK IA30SN15..HTK		
Operating temperature	-25 to +120 °C (-13 to +248°F)		-40 to +100 °C (-40 to +212°F)		-40 to +100 °C (-40 to +212°F)		-40 to +100 °C (-40 to +212°F)		
Approvals / Certifications	CE		CE		CE		CE		

Inductive sensors

Triple distance series									
									
Family	ICB12		ICB12		ICB18		ICB18		
Sensing distance, Sn [mm]	6 mm		10 mm		12 mm		20 mm		
Range	Triple distance		Triple distance		Triple distance		Triple distance		
Connection	Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		Plug or 2m PVC cable		
Mounting	Quasi-flush		Non-flush		Quasi-flush		Non-flush		
Housing	Short body	Long body	Short body	Long body	Short body	Long body	Short body	Long body	
Material	Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		Nickel-plated brass		
Degree of protection	IP67		IP67		IP67		IP67		
Part numbers	ICB12S30F06.. ICB12L50F06..		ICB12S30N10.. ICB12L50N10..		ICB18S30F12.. ICB18L50F12..		ICB18S30N20.. ICB18L50N20..		
Operating temperature [°C]	-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		-25 to +70°C (-13 to +158°F)		
Approvals / Certifications	CE - cULus - cSAus		CE - cULus - cSAus		CE - cULus - cSAus		CE - cULus - cSAus		
Main feature	Microprocessor based		Microprocessor based		Microprocessor based		Microprocessor based		