

## Inductive sensors

# Sensors

# Inductive sensors

## Our wide range

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.



## High performance inductive proximity sensors

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.

### The range includes:

- M5, M8, M12, M18, M30 housings
- Flat pack and rectangular type series
- Slot sensors
- Sensing distance from 0.8 up to 40 mm
- 2-wire, 3-wire and 4-wire
- NAMUR, DC and AC

### Power supply type:

- 2-wire, 3-wire and 4-wire
- DC and AC
- NAMUR

### Several installation possibilities:

- Flush, quasi-flush, non-flush versions
- Quick-disconnect or cable versions
- NPN or PNP output types with NO, NC or antivalent output functions

### Excellent performance:

- High precision and temperature stability
- Fully protected against short circuit, reverse polarity and transients
- 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

## High performance inductive proximity sensors

### ICB Basic

All the ICB sensors have a 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 ICS series 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.

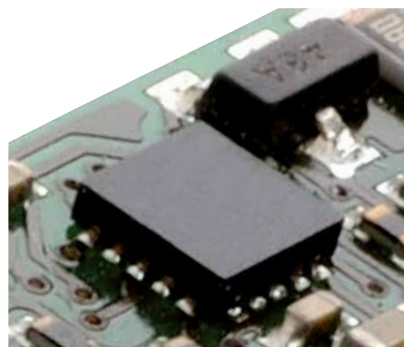
The ICS sensors are ECOLAB certified and rated to IP67, IP68 and IP69K standards.



### 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

## Selection guide

### Market applications

#### Machine tool

CNC machines repeat precise sequences and are able to produce the most complex pieces.

Tool changing machines, for example, automatically change the specific tool.

A drill machine has a variety of drill bits to make holes of several sizes.

Inductive sensors are used to check the tool position when changing the tool or to verify the component moved to the

correct location.

ICB series represents a suitable solution, thanks to the improved vibration, shock performance, and a reliable connection system between the cable and the barrel.

The very high resolution and quick response time of the ICB sensors allow an optimized and reliable solution.



#### Agriculture

Inductive sensors are mainly used for non-contact detection of the position of a part on the machine or equipment itself.

Thanks to its excellent quality and to the complete product range, ICB series are particularly suitable for the agricultural sector.

The possibility to have customizable termination options together with

the high durability and resistance to extreme conditions, such as oily and dusty environment, make ICB sensors the ideal solution.



#### Material handling systems

Material handling systems interconnect the different processes of production, from the raw material to the final product. In these systems it is mandatory to ensure the automatic and reliable flow of goods.

Inductive sensors are critical to obtaining higher productivity and quality from the automated process.

ICB series is an ideal choice, thanks

to the high precision and temperature stability. The microcontroller allows personalized solutions with programmable sensing distance and frequency.





## Heavy mobile equipment

The installation of high reliability electronic components in earth-moving vehicles is critical, due to the harsh conditions of the environment. These machineries are exposed to difficult outdoor conditions, such as wide temperature variations, high stress due to cleaning processes with high pressure and high temperature steam jets. The new ICS sensors

provide reliable position detection of the moving parts even in such harsh environment, thanks to the excellent tightness with certified IP68 and IP69K ratings, and to the wide operating temperature range. The high operating frequency also allows for high speed detection of a rotating gear.



## Packaging and food & beverage

Companies that manufacture packaging machines for food need the right electronic components to assure the best application control, and continuous operation even after the periodic harsh cleaning process. The ICS washdown sensors have been designed for food & beverage applications. The ECOLAB certification ensures the resistance to industrial

cleaning agents, such as alkaline or chlorine foam and acid foam disinfectants. The material used for the plastic cap is FDA certified. The robust design along with the IP68 and IP69K protection ratings, make the ICS the optimal choice in these demanding applications.



## Renewable energy

A solar tracker keeps a solar photovoltaic panel oriented toward the sun throughout the day, in order to maximize energy output. Inductive sensors can be used to provide feedback on the position of the tracker during the normal working function, or in some particular situations, such as wind security position. ICS proximity sensors ensure maximum

performance, durability, and reliability in any condition, thanks to a robust mechanical design and to the onboard advanced microprocessor, that provides the most accurate detection in the whole temperature range, between  $-40^{\circ}\text{C}$  and  $+85^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  and  $+185^{\circ}\text{F}$ ).



# Inductive sensors

## Selection guide

### DC application

Diameter	M5	Ø 6.5	Ø 6.5
Sensing distance (S <sub>n</sub> )	1 mm 0,8 mm (IA05.....NCP)	1 mm	2 mm
Range	Standard	Standard	Standard
Mounting	Flush	Flush	Non-flush



Family	IA05	IA06	IA06
Housing	Short body	Short body	Short body
Material	Stainless steel	Stainless steel	Stainless steel
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	2 kHz	2 kHz	2 kHz
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)
Rated operating voltage	10 to 30 V DC	10 to 30 V DC	10 to 30 V DC
Approvals/Marks	CE	CE	CE

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>IA05BSF10NOP *</b>	<b>IA06BSF10NO</b>	<b>IA06BSN20NO</b>
			NC	<b>IA05BSF10NCP</b>	<b>IA06BSF10NC</b>	<b>IA06BSN20NC</b>
	PNP	NO	<b>IA05BSF10POP *</b>	<b>IA06BSF10PO</b>	<b>IA06BSN20PO</b>	
		NC	<b>IA05BSF10PCP</b>	<b>IA06BSF10PC</b>	<b>IA06BSN20PC</b>	
	Plug	NPN	NO	<b>IA05BSF10NOM5P</b>		
			NC	<b>IA05BSF10NCM5P</b>		
PNP	NO	<b>IA05BSF10POM5P</b>				
	NC	<b>IA05BSF10PCM5P</b>				
4-wire	Cable	NPN	NO+NC			
		PNP	NO+NC			
	Plug	NPN	NO+NC			
		PNP	NO+NC			

\* Also available Ø4 version

## DC application

M8	M8	M8	M8	M8
1.5 mm	1.5 mm	2 mm	2.5 mm	2.5 mm
Standard	Standard	Extended	Standard	Standard
Flush	Flush	Flush	Non-flush	Non-flush



IA08	IA08	IA08	IA08	IA08
Short body	Long body	Short body	Short body	Long body
Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67
2 kHz	2 kHz	2 kHz	2 kHz	2 kHz
-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)	-25° to 70°C (-13° to 158°F)
10 to 30 V DC	10 to 30 V DC	10 to 60 V DC (2-wire) 10 to 30 V DC (3-wire)	10 to 30 V DC	10 to 30 V DC
CE, UL, CSA	CE, UL, CSA	CE, UL (except for 2-wire), CSA	CE, UL, CSA	CE, UL, CSA

### IA08BSF02DO

### IA08BSF02DC

<b>IA08BSF15NO</b>	<b>IA08BLF15NO</b>	<b>IA08BSF20NO</b>	<b>IA08BSN25NO</b>	<b>IA08BLN25NO</b>
<b>IA08BSF15NC</b>	<b>IA08BLF15NC</b>	<b>IA08BSF20NC</b>	<b>IA08BSN25NC</b>	<b>IA08BLN25NC</b>
<b>IA08BSF15PO</b>	<b>IA08BLF15PO</b>	<b>IA08BSF20PO</b>	<b>IA08BSN25PO</b>	<b>IA08BLN25PO</b>
<b>IA08BSF15PC</b>	<b>IA08BLF15PC</b>	<b>IA08BSF20PC</b>	<b>IA08BSN25PC</b>	<b>IA08BLN25PC</b>
<b>IA08BSF15NOM5</b>	<b>IA08BLF15NOMx</b>	<b>IA08BSF20NOM5</b>	<b>IA08BSN25NOM5</b>	<b>IA08BLN25NOMx</b>
<b>IA08BSF15NCM5</b>	<b>IA08BLF15NCM1</b>	<b>IA08BSF20NCM5</b>	<b>IA08BSN25NCM5</b>	<b>IA08BLN25NCM1</b>
<b>IA08BSF15POM5</b>	<b>IA08BLF15POMx</b>	<b>IA08BSF20POM5</b>	<b>IA08BSN25POM5</b>	<b>IA08BLN25POMx</b>
<b>IA08BSF15PCM5</b>	<b>IA08BLF15PCMx</b>	<b>IA08BSF20PCM5</b>	<b>IA08BSN25PCM5</b>	<b>IA08BLN25PCMx</b>

x = 1 → M12-plug version  
 = 5 → M8-plug version

# Inductive sensors

## Selection guide

### DC application

Diameter	M8	M12	M12
Sensing distance ( $S_r$ )	4 mm	2 mm	2 mm
Range	Extended	Standard	Standard
Mounting	Non-flush	Flush	Flush



Family	IA08	ICB12	ICB12
Housing	Short body	Short body	Long body
Material	Stainless steel	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	2 kHz (2-wire) 1 kHz (3-wire)	2 kHz	2 kHz
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)
Rated operating voltage	10 to 60 V DC (2-wire) 10 to 30 V DC (3-wire)	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, UL (except for 2-wire), CSA	CE, cULus, cCSAus	CE, cULus, cCSAus

### References

2-wire	Cable	NO	<b>IA08BSN04DO</b>			
		NC	<b>IA08BSN04DC</b>			
	Plug	NO				
		NC				
3-wire	Cable	NPN	NO	<b>IA08BSN40NO</b>	<b>ICB12S30F02NO</b>	<b>ICB12L50F02NO</b>
			NC	<b>IA08BSN40NC</b>	<b>ICB12S30F02NC</b>	<b>ICB12L50F02NC</b>
		PNP	NO	<b>IA08BSN40PO</b>	<b>ICB12S30F02PO</b>	<b>ICB12L50F02PO</b>
			NC	<b>IA08BSN40PC</b>	<b>ICB12S30F02PC</b>	<b>ICB12L50F02PC</b>
	Plug	NPN	NO	<b>IA08BSN40NOM5</b>	<b>ICB12S30F02NOM1</b>	<b>ICB12L50F02NOM1</b>
			NC	<b>IA08BSN40NCM5</b>	<b>ICB12S30F02NCM1</b>	<b>ICB12L50F02NCM1</b>
		PNP	NO	<b>IA08BSN40POM5</b>	<b>ICB12S30F02POM1</b>	<b>ICB12L50F02POM1</b>
			NC	<b>IA08BSN40PCM5</b>	<b>ICB12S30F02PCM1</b>	<b>ICB12L50F02PCM1</b>
	4-wire	Cable	NPN	NO+NC		
			PNP	NO+NC		
		Plug	NPN	NO+NC		
			PNP	NO+NC		



## DC application

M12	M12	M12	M12	M12
2 mm	2 mm	2 mm	2 mm	4 mm
Standard	Standard	Standard	Standard	Standard
Flush	Flush	Flush	Flush	Non-flush



ICS12	EI12	EI12	EI12	ICB12
Long body	Long body	Short body	Long body	Short body
Stainless steel	Thermoplastic polyester	Stainless steel	Stainless steel	Nickel-plated brass
IP 67, IP68, IP69K	IP 67	IP 67	IP 67	IP 67
2 kHz	800 Hz	800 Hz	800 Hz	2 kHz
-40° to 80°C (-40° to 176°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)	-25° to 70°C (-13° to 158°F)
10 to 36 V DC	10 to 40 V DC	10 to 40 V DC	10 to 40 V DC	10 to 36 V DC
CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, cULus, cCSAus

**EI1202NPOPL**

**EI1202NPOSS**

**EI1202NPOSL**

**ICB12S30N04NO**

**EI1202NPCSS**

**ICB12S30N04NC**

**EI1202PPOPL**

**EI1202PPOSS**

**EI1202PPOSL**

**ICB12S30N04PO**

**EI1202PPCSS**

**EI1202PPCSL**

**ICB12S30N04PC**

**ICS12LF02NOM1-FB**

**EI1202NPOSS-1**

**EI1202NPOSL-1**

**ICB12S30N04NOM1**

**ICS12LF02NCM1-FB**

**EI1202NPCSS-1**

**ICB12S30N04NCM1**

**ICS12LF02POM1-FB**

**EI1202PPOSS-1**

**EI1202PPOSL-1**

**ICB12S30N04POM1**

**ICS12LF02PCM1-FB**

**EI1202PPCSS-1**

**ICB12S30N04PCM1**

# Inductive sensors






## Selection guide

DC application			
Diameter	M12	M12	M12
Sensing distance (S <sub>r</sub> )	4 mm	4 mm	4 mm
Range	Standard	Standard	Standard
Mounting	Non-flush	Non-flush	Non-flush



Family	ICB12	ICS12	EI12
Housing	Long body	Long body	Short body
Material	Nickel-plated brass	Stainless steel	Thermoplastic polyester
Degree of protection	IP 67	IP 67, IP68, IP69K	IP 67
Operating frequency	2 kHz	2 kHz	500 Hz
Operating temperature	-25° to 70°C (-13° to 158°F)	-40° to 80°C (-40° to 176°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 36 V DC	10 to 40 V DC
Approvals/Marks	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA

References					
2-wire	Cable		NO		
			NC		
2-wire	Plug		NO		
			NC		
3-wire	Cable	NPN	NO <b>ICB12L50N04NO</b>		
			NC <b>ICB12L50N04NC</b>		
	PNP	NO	<b>ICB12L50N04PO</b>	<b>EI1204PPOPS</b>	
		NC	<b>ICB12L50N04PC</b>		
	Plug	NPN	NO	<b>ICB12L50N04NOM1</b>	<b>ICS12LN04NOM1-FB</b>
			NC	<b>ICB12L50N04NCM1</b>	<b>ICS12LN04NCM1-FB</b>
PNP		NO	<b>ICB12L50N04POM1</b>	<b>ICS12LN04POM1-FB</b>	
		NC	<b>ICB12L50N04PCM1</b>	<b>ICS12LN04PCM1-FB</b>	
4-wire	Cable	NPN	NO+NC		
		PNP	NO+NC		
	Plug	NPN	NO+NC		
		PNP	NO+NC		

DC application				
M12	M12	M12	M12	M12
4 mm	4 mm	4 mm	4 mm	4 mm
Standard	Standard	Standard	Extended	Extended
Non-flush	Non-flush	Non-flush	Flush	Flush
				
E112	E112	E112	IA12	ICB12
Long body	Short body	Long body	Short body	Extra short body
Thermoplastic polyester	Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass
IP 67	IP 67	IP 67	IP 67	IP 67
500 Hz	500 Hz	500 Hz	1 kHz	2 kHz
-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)	-25° to 80°C (-13° to 176°F)
10 to 40 V DC	10 to 40 V DC	10 to 40 V DC	10 to 40 V DC	10 to 36 V DC
CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, cULus, cCSAus
<b>IA12DSF04DO</b>				
<b>IA12DSF04DC</b>				
<b>IA12ASF04DOM1</b>				
<b>IA12ASF04DCM1</b>				
<b>EI1204NPOPL</b>	<b>EI1204NPOSS</b>	<b>EI1204NPOSL</b>	<b>ICB12S23F04NO</b>	
	<b>EI1204NPCSS</b>		<b>ICB12S23F04NC</b>	
<b>EI1204PPOPL</b>	<b>EI1204PPOSS</b>	<b>EI1204PPOSL</b>	<b>ICB12S23F04PO</b>	
	<b>EI1204PPCSS</b>	<b>EI1204PPCSL</b>	<b>ICB12S23F04PC</b>	
	<b>EI1204NPOSS-1</b>	<b>EI1204NPOSL-1</b>		
	<b>EI1204NPCSS-1</b>			
	<b>EI1204PPOSS-1</b>	<b>EI1204PPOSL-1</b>		
	<b>EI1204PPCSS-1</b>			

# Inductive sensors

## Selection guide

### DC application

Diameter	M12	M12	M12
Sensing distance ( $S_n$ )	4 mm	4 mm	4 mm
Range	Extended	Extended	Extended
Mounting	Flush	Flush	Flush



Family	ICB12	ICB12	ICS12
Housing	Short body	Long body	Long body
Material	Nickel-plated brass	Nickel-plated brass	Stainless steel
Degree of protection	IP 67	IP 67	IP 67, IP68, IP69K
Operating frequency	2 kHz	2 kHz	2 kHz
Operating temperature	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)	-40° to 80°C (-40° to 176°F)
Rated operating voltage	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>ICB12S30F04NO</b>	<b>ICB12L50F04NO</b>	
			NC	<b>ICB12S30F04NC</b>	<b>ICB12L50F04NC</b>	
	PNP	NO	<b>ICB12S30F04PO</b>	<b>ICB12L50F04PO</b>		
		NC	<b>ICB12S30F04PC</b>	<b>ICB12L50F04PC</b>		
	Plug	NPN	NO	<b>ICB12S30F04NOM1</b>	<b>ICB12L50F04NOM1</b>	<b>ICS12LF04NOM1-FB</b>
			NC	<b>ICB12S30F04NCM1</b>	<b>ICB12L50F04NCM1</b>	<b>ICS12LF04NCM1-FB</b>
PNP		NO	<b>ICB12S30F04POM1</b>	<b>ICB12L50F04POM1</b>	<b>ICS12LF04POM1-FB</b>	
		NC	<b>ICB12S30F04PCM1</b>	<b>ICB12L50F04PCM1</b>	<b>ICS12LF04PCM1-FB</b>	
4-wire	Cable	NPN	NO+NC			
		PNP	NO+NC			
	Plug	NPN	NO+NC			
		PNP	NO+NC			

## DC application

M12	M12	M12	M12	M12
6 mm	6 mm	8 mm	8 mm	8 mm
Increasesd	Increasesd	Extended	Extended	Extended
Quasi-flush	Quasi-flush	Non-flush	Non-flush	Non-flush



ICB12	ICB12	ICB12	ICB12	ICB12
Short body	Long body	Extra short body	Short body	Long body
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
IP 67	IP 67	IP 67	IP 67	IP 67
2 kHz	2 kHz	2 kHz	2 kHz	2 kHz
-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)	-25° to 80°C (-13° to 176°F)	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)
10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus

<b>ICB12S30F06NO</b>	<b>ICB12L50F06NO</b>	<b>ICB12S23N08NO</b>	<b>ICB12S30N08NO</b>	<b>ICB12L50N08NO</b>
<b>ICB12S30F06NC</b>	<b>ICB12L50F06NC</b>	<b>ICB12S23N08NC</b>	<b>ICB12S30N08NC</b>	<b>ICB12L50N08NC</b>
<b>ICB12S30F06PO</b>	<b>ICB12L50F06PO</b>	<b>ICB12S23N08PO</b>	<b>ICB12S30N08PO</b>	<b>ICB12L50N08PO</b>
<b>ICB12S30F06PC</b>	<b>ICB12L50F06PC</b>	<b>ICB12S23N08PC</b>	<b>ICB12S30N08PC</b>	<b>ICB12L50N08PC</b>
<b>ICB12S30F06NOM1</b>	<b>ICB12L50F06NOM1</b>		<b>ICB12S30N08NOM1</b>	<b>ICB12L50N08NOM1</b>
<b>ICB12S30F06NCM1</b>	<b>ICB12L50F06NCM1</b>		<b>ICB12S30N08NCM1</b>	<b>ICB12L50N08NCM1</b>
<b>ICB12S30F06POM1</b>	<b>ICB12L50F06POM1</b>		<b>ICB12S30N08POM1</b>	<b>ICB12L50N08POM1</b>
<b>ICB12S30F06PCM1</b>	<b>ICB12L50F06PCM1</b>		<b>ICB12S30N08PCM1</b>	<b>ICB12L50N08PCM1</b>



# Inductive sensors

## Selection guide

DC application			
Diameter	<b>M12</b>	<b>M12</b>	<b>M12</b>
Sensing distance ( $S_r$ )	8 mm	8 mm	10 mm
Range	Extended	Extended	Increasesd
Mounting	Non-flush	Non-flush	Non-flush



Family	ICS12	IA12	ICB12
Housing	Long body	Short body	Short body
Material	Stainless steel	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67, IP68, IP69K	IP 67	IP 67
Operating frequency	2 kHz	800 Hz	2 kHz
Operating temperature	-40° to 80°C (-40° to 176°F)	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 40 V DC	10 to 36 V DC
Approvals/Marks	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, cULus, cCSAus

References					
2-wire	Cable	NO	<b>IA12DSN08DO</b>		
		NC	<b>IA12DSN08DC</b>		
	Plug	NO	<b>IA12ASN08DOM1</b>		
		NC	<b>IA12ASN08DCM1</b>		
3-wire	Cable	NPN	NO	<b>ICB12S30N10NO</b>	
			NC	<b>ICB12S30N10NC</b>	
		PNP	NO	<b>ICB12S30N10PO</b>	
			NC	<b>ICB12S30N10PC</b>	
	Plug	NPN	NO	<b>ICS12LN08NOM1-FB</b>	<b>ICB12S30N10NOM1</b>
			NC	<b>ICS12LN08NCM1-FB</b>	<b>ICB12S30N10NCM1</b>
		PNP	NO	<b>ICS12LN08POM1-FB</b>	<b>ICB12S30N10POM1</b>
			NC	<b>ICS12LN08PCM1-FB</b>	<b>ICB12S30N10PCM1</b>
4-wire	Cable	NPN	NO+NC		
		PNP	NO+NC		
	Plug	NPN	NO+NC		
		PNP	NO+NC		

## DC application

M12	M18	M18	M18	M18
10 mm	5 mm	5 mm	5 mm	5 mm
Increased Non-flush	Standard Flush	Standard Flush	Standard Flush	Standard Flush
				
ICB12	ICB18	ICB18	ICS18	EI18
Long body	Short body	Long body	Long body	Short body
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Stainless steel	Thermoplastic polyester
IP 67	IP 67	IP 67	IP 67, IP68, IP69K	IP 67
2 kHz	1.5 kHz	1.5 kHz	1.5 kHz	500 Hz
-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)	-40° to 80°C (-40° to 176°F)	-25° to 70°C (-13° to 158°F)
10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 40 V DC
CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA
<b>ICB12L50N10NO</b>	<b>ICB18S30F05NO</b>	<b>ICB18L50F05NO</b>		
<b>ICB12L50N10NC</b>	<b>ICB18S30F05NC</b>	<b>ICB18L50F05NC</b>		
<b>ICB12L50N10PO</b>	<b>ICB18S30F05PO</b>	<b>ICB18L50F05PO</b>		<b>EI1805PPOPS</b>
<b>ICB12L50N10PC</b>	<b>ICB18S30F05PC</b>	<b>ICB18L50F05PC</b>		
<b>ICB12L50N10NOM1</b>	<b>ICB18S30F05NOM1</b>	<b>ICB18L50F05NOM1</b>	<b>ICS18LF05NOM1-FB</b>	
<b>ICB12L50N10NCM1</b>	<b>ICB18S30F05NCM1</b>	<b>ICB18L50F05NCM1</b>	<b>ICS18LF05NCM1-FB</b>	
<b>ICB12L50N10POM1</b>	<b>ICB18S30F05POM1</b>	<b>ICB18L50F05POM1</b>	<b>ICS18LF05POM1-FB</b>	
<b>ICB12L50N10PCM1</b>	<b>ICB18S30F05PCM1</b>	<b>ICB18L50F05PCM1</b>	<b>ICS18LF05PCM1-FB</b>	

# Inductive sensors

## Selection guide

DC application			
Diameter	<b>M18</b>	<b>M18</b>	<b>M18</b>
Sensing distance ( $S_n$ )	5 mm	5 mm	5 mm
Range	Standard	Standard	Standard
Mounting	Flush	Flush	Flush




Family	EI18	EI18	EI18
Housing	Long body	Short body	Long body
Material	Thermoplastic polyester	Stainless steel	Stainless steel
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	500 Hz	500 Hz	500 Hz
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)
Rated operating voltage	10 to 40 V DC	10 to 40 V DC	10 to 40 V DC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>EI1805NPOPL</b>	<b>EI1805NPOSS</b>	<b>EI1805NPOSL</b>
			NC		<b>EI1805NPCSS</b>	<b>EI1805NPCSL</b>
	PNP	NO	<b>EI1805PPOPL</b>	<b>EI1805PPOSS</b>	<b>EI1805PPOS�</b>	
		NC		<b>EI1805PPCSS</b>	<b>EI1805PPCSL</b>	
	Plug	NPN	NO		<b>EI1805NPOSS-1</b>	<b>EI1805NPOSL-1</b>
			NC		<b>EI1805NPCSS-1</b>	
PNP	NO		<b>EI1805PPOSS-1</b>	<b>EI1805PPOS�-1</b>		
	NC		<b>EI1805PPCSS-1</b>	<b>EI1805PPCSL-1</b>		
4-wire	Cable	NPN	NO+NC			
		PNP	NO+NC			
	Plug	NPN	NO+NC			
		PNP	NO+NC			

## DC application

M18	M18	M18	M18	M18
8 mm	8 mm	8 mm	8 mm	8 mm
Standard	Standard	Standard	Standard	Standard
Non-flush	Non-flush	Non-flush	Non-flush	Non-flush
				
ICB18	ICB18	ICS18	EI18	EI18
Short body	Long body	Long body	Short body	Long body
Nickel-plated brass	Nickel-plated brass	Stainless steel	Thermoplastic polyester	Thermoplastic polyester
IP 67	IP 67	IP 67	IP 67	IP 67
1.5 kHz	1.5 kHz	1.5 kHz	400 Hz	400 Hz
-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)	-25° to 70°C (-13° to 158°F)
10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 40 V DC	10 to 40 V DC
CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, UL, CSA
<b>ICB18S30N08NO</b>	<b>ICB18L50N08NO</b>		<b>EI1808NPOPS</b>	<b>EI1808NPOPL</b>
<b>ICB18S30N08NC</b>	<b>ICB18L50N08NC</b>			
<b>ICB18S30N08PO</b>	<b>ICB18L50N08PO</b>		<b>EI1808PPOPS</b>	<b>EI1808PPOPL</b>
<b>ICB18S30N08PC</b>	<b>ICB18L50N08PC</b>			<b>EI1808PPCPL</b>
<b>ICB18S30N08NOM1</b>	<b>ICB18L50N08NOM1</b>	<b>ICS18LN08NOM1-FB</b>		
<b>ICB18S30N08NCM1</b>	<b>ICB18L50N08NCM1</b>	<b>ICS18LN08NCM1-FB</b>		
<b>ICB18S30N08POM1</b>	<b>ICB18L50N08POM1</b>	<b>ICS18LN08POM1-FB</b>	<b>EI1808PPOPS-1</b>	<b>EI1808PPOPL-1</b>
<b>ICB18S30N08PCM1</b>	<b>ICB18L50N08PCM1</b>	<b>ICS18LN08PCM1-FB</b>		<b>EI1808PPCPL-1</b>

# Inductive sensors

## Selection guide

### DC application

Diameter	M18	M18	M18
Sensing distance ( $S_n$ )	8 mm	8 mm	8 mm
Range	Standard	Standard	Extended
Mounting	Non-flush	Non-flush	Flush



Family	EI18	EI18	ICB18
Housing	Short body	Long body	Short body
Material	Stainless steel	Stainless steel	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	400 Hz	400 Hz	1.5 kHz
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)
Rated operating voltage	10 to 40 V DC	10 to 40 V DC	10 to 36 V DC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, cULus, cCSAus

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>EI1808NPOSS</b>	<b>EI1808NPOSL</b>	<b>ICB18S30F08NO</b>
			NC	<b>EI1808NPCSS</b>		<b>ICB18S30F08NC</b>
	PNP	NO	<b>EI1808PPOSS</b>	<b>EI1808PPOSL</b>	<b>ICB18S30F08PO</b>	
		NC	<b>EI1808PPCSS</b>	<b>EI1808PPCSL</b>	<b>ICB18S30F08PC</b>	
	Plug	NPN	NO	<b>EI1808NPOSS-1</b>	<b>EI1808NPOSL-1</b>	<b>ICB18S30F08NOM1</b>
			NC	<b>EI1808NPCSS-1</b>		<b>ICB18S30F08NCM1</b>
PNP	NO	<b>EI1808PPOSS-1</b>	<b>EI1808PPOSL-1</b>	<b>ICB18S30F08POM1</b>		
	NC	<b>EI1808PPCSS-1</b>	<b>EI1808PPCSL-1</b>	<b>ICB18S30F08PCM1</b>		
4-wire	Cable	NPN	NO+NC			
			PNP	NO+NC		
	Plug	NPN	NO+NC			
			PNP	NO+NC		



## DC application

M18	M18	M18	M18	M18
8 mm	8 mm	8 mm	12 mm	12 mm
Extended	Extended	Extended	Increasesd	Increasesd
Flush	Flush	Flush	Quasi-flush	Quasi-flush



ICB18	ICS18	IA18	ICB18	ICB18
Long body	Long body	Short body	Short body	Long body
Nickel-plated brass	Stainless steel	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
IP 67	IP 67, IP68, IP69K	IP 67	IP 67	IP 67
1.5 kHz	1.5 kHz	500 Hz	1.5 kHz	1.5 kHz
-25° to 70°C (-13° to 158°F)	-40° to 80°C (-40° to 176°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)
10 to 36 V DC	10 to 36 V DC	10 to 40 V DC	10 to 36 V DC	10 to 36 V DC
CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus

### IA18DSF08DO

### IA18DSF08DC

### IA18ASF08DOM1

### IA18ASF08DCM1

### ICB18L50F08NO

### ICB18L50F08NC

### ICB18L50F08PO

### ICB18L50F08PC

### ICB18L50F08NOM1 ICS18LF08NOM1-FB

### ICB18L50F08NCM1 ICS18LF08NCM1-FB

### ICB18L50F08POM1 ICS18LF08POM1-FB

### ICB18L50F08PCM1 ICS18LF08PCM1-FB

### ICB18S30F12NO

### ICB18S30F12NC

### ICB18S30F12PO

### ICB18S30F12PC

### ICB18S30F12NOM1 ICB18L50F12NOM1

### ICB18S30F12NCM1 ICB18L50F12NCM1

### ICB18S30F12POM1 ICB18L50F12POM1

### ICB18S30F12PCM1 ICB18L50F12PCM1

# Inductive sensors

## Selection guide

### DC application

Diameter	M18	M18	M18
Sensing distance ( $S_n$ )	12 mm	14 mm	14 mm
Range	Extended	Extended	Extended
Mounting	Non-flush	Non-flush	Non-flush



Family	ICS18	ICB18	ICB18
Housing	Long body	Short body	Long body
Material	Stainless steel	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67, IP68, IP69K	IP 67	IP 67
Operating frequency	1.5 kHz	1.5 kHz	1.5 kHz
Operating temperature	-40° to 80°C (-40° to 176°F)	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, cULus, ECOLAB, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>ICB18S30N14NO</b>	<b>ICB18L50N14NO</b>	
			NC	<b>ICB18S30N14NC</b>	<b>ICB18L50N14NC</b>	
	PNP	NO	<b>ICB18S30N14PO</b>	<b>ICB18L50N14PO</b>		
		NC	<b>ICB18S30N14PC</b>	<b>ICB18L50N14PC</b>		
	Plug	NPN	NO	<b>ICS18LN12NOM1-FB</b>	<b>ICB18S30N14NOM1</b>	<b>ICB18L50N14NOM1</b>
			NC	<b>ICS18LN12NCM1-FB</b>	<b>ICB18S30N14NCM1</b>	<b>ICB18L50N14NCM1</b>
PNP	NO	<b>ICS18LN12POM1-FB</b>	<b>ICB18S30N14POM1</b>	<b>ICB18L50N14POM1</b>		
	NC	<b>ICS18LN12PCM1-FB</b>	<b>ICB18S30N14PCM1</b>	<b>ICB18L50N14PCM1</b>		
4-wire	Cable	NPN	NO+NC			
			PNP	NO+NC		
	Plug	NPN	NO+NC			
			PNP	NO+NC		

## DC application

M18	M18	M18	M30	M30
14 mm	20 mm	20 mm	10 mm	10 mm
Extended	Increased	Increased	Standard	Standard
Non-flush	Non-flush	Non-flush	Flush	Flush



IA18	ICB18	ICB18	ICB30	ICB30
Short body	Short body	Long body	Short body	Long body
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
IP 67	IP 67	IP 67	IP 67	IP 67
400 Hz	1.5 kHz	1.5 kHz	1 kHz	1 kHz
-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) (*)	-25° to 70°C (-13° to 158°F) (*)
10 to 40 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus

### IA18DSN14DO

### IA18DSN14DC

### IA18ASN14DOM1

### IA18ASN14DCM1

**ICB18S30N20NO    ICB18L50N20NO    ICB30S30F10NO    ICB30L50F10NO**

**ICB18S30N20NC    ICB18L50N20NC    ICB30S30F10NC    ICB30L50F10NC**

**ICB18S30N20PO    ICB18L50N20PO    ICB30S30F10PO    ICB30L50F10PO**

**ICB18S30N20PC    ICB18L50N20PC    ICB30S30F10PC    ICB30L50F10PC**

**ICB18S30N20NOM1    ICB18L50N20NOM1    ICB30S30F10NOM1    ICB30L50F10NOM1**

**ICB18S30N20NCM1    ICB18L50N20NCM1    ICB30S30F10NCM1    ICB30L50F10NCM1**

**ICB18S30N20POM1    ICB18L50N20POM1    ICB30S30F10POM1    ICB30L50F10POM1**

**ICB18S30N20PCM1    ICB18L50N20PCM1    ICB30S30F10PCM1    ICB30L50F10PCM1**

(\*) Operating temperature:  
Plug version -40° to +70°C (-40° to +158°F)

# Inductive sensors

## Selection guide

DC application			
Diameter	M30	M30	M30
Sensing distance ( $S_n$ )	10 mm	10 mm	10 mm
Range	Standard	Standard	Standard
Mounting	Flush	Flush	Flush



Family	ICS30	ICS30	EI30
Housing	Short body	Long body	Long body
Material	Stainless steel	Stainless steel	Thermoplastic polyester
Degree of protection	IP 67, IP68, IP69K	IP 67, IP68, IP69K	IP 67
Operating frequency	1 kHz	1 kHz	300 Hz
Operating temperature	-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 36 V DC	10 to 40 V DC
Approvals/Marks	CE, cULus, ECOLAB, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA

References					
2-wire	Cable		NO		
			NC		
2-wire	Plug		NO		
			NC		
3-wire	Cable	NPN	NO		
			NC		
	PNP		NO		
			NC		
	Plug	NPN	NO	<b>ICS30SF10NOM1-FB</b>	<b>ICS30LF10NOM1-FB</b>
			NC	<b>ICS30SF10NCM1-FB</b>	<b>ICS30LF10NCM1-FB</b>
PNP			NO	<b>ICS30SF10POM1-FB</b>	<b>ICS30LF10POM1-FB</b>
			NC	<b>ICS30SF10PCM1-FB</b>	<b>ICS30LF10PCM1-FB</b>
4-wire	Cable	NPN	NO+NC		
		PNP	NO+NC		
	Plug	NPN	NO+NC		
		PNP	NO+NC		

## DC application

M30	M30	M30	M30	M30
10 mm	10 mm	15 mm	15 mm	15 mm
Standard	Standard	Standard	Standard	Standard
Flush	Flush	Non-flush	Non-flush	Non-flush



EI30	EI30	ICB30	ICB30	ICS30
Short body	Long body	Short body	Long body	Short body
Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67, IP68, IP69K
300 Hz	300 Hz	1 kHz	1 kHz	1 kHz
-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) (*)	-40° to 85°C (-40° to 185°F)
10 to 40 V DC	10 to 40 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
CE, UL, CSA	CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus

<b>EI3010NPOSS</b>	<b>EI3010NPOSL</b>	<b>ICB30S30N15NO</b>	<b>ICB30L50N15NO</b>	
<b>EI3010NPCSS</b>		<b>ICB30S30N15NC</b>	<b>ICB30L50N15NC</b>	
<b>EI3010PPOSS</b>	<b>EI3010PPOSL</b>	<b>ICB30S30N15PO</b>	<b>ICB30L50N15PO</b>	
<b>EI3010PPCSS</b>	<b>EI3010PPCSL</b>	<b>ICB30S30N15PC</b>	<b>ICB30L50N15PC</b>	
		<b>ICB30S30N15NOM1</b>	<b>ICB30L50N15NOM1</b>	<b>ICS30SN15NOM1-FB</b>
		<b>ICB30S30N15NCM1</b>	<b>ICB30L50N15NCM1</b>	<b>ICS30SN15NCM1-FB</b>
<b>EI3010PPOSS-1</b>	<b>EI3010PPOSL-1</b>	<b>ICB30S30N15POM1</b>	<b>ICB30L50N15POM1</b>	<b>ICS30SN15POM1-FB</b>
		<b>ICB30S30N15PCM1</b>	<b>ICB30L50N15PCM1</b>	<b>ICS30SN15PCM1-FB</b>

(\*) Operating temperature:  
Plug version -40° to +70°C (-40° to +158°F)



# Inductive sensors

## Selection guide

DC application			
Diameter	M30	M30	M30
Sensing distance ( $S_n$ )	15 mm	15 mm	15 mm
Range	Standard	Standard	Standard
Mounting	Non-flush	Non-flush	Non-flush



Family	ICS30	EI30	EI30
Housing	Long body	Short/Long body	Short body
Material	Stainless steel	Thermoplastic polyester	Stainless steel
Degree of protection	IP 67, IP68, IP69K	IP 67	IP 67
Operating frequency	1 kHz	100 Hz	100 Hz
Operating temperature	-40° to 85°C (-40° to 185°F)	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 40 V DC	10 to 40 V DC
Approvals/Marks	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, UL, CSA

References					
2-wire	Cable		NO		
			NC		
2-wire	Plug		NO		
			NC		
3-wire	Cable	NPN	NO	<b>EI3015NPOPS</b> (short)	<b>EI3015NPOSS</b>
			NC		<b>EI3015NPCSS</b>
	PNP	NO	<b>EI3015PPOPL</b> (long)	<b>EI3015PPOSS</b>	
		NC		<b>EI3015PPCSS</b>	
	Plug	NPN	NO	<b>ICS30LN15NOM1-FB</b>	<b>EI3015NPOSS-1</b>
			NC	<b>ICS30LN15NCM1-FB</b>	
	PNP	NO	<b>ICS30LN15POM1-FB</b>	<b>EI3015PPOSS-1</b>	
		NC	<b>ICS30LN15PCM1-FB</b>		
4-wire	Cable	NPN	NO+NC		
		PNP	NO+NC		
	Plug	NPN	NO+NC		
		PNP	NO+NC		

## DC application

M30	M30	M30	M30	M30
15 mm	15 mm	15 mm	15 mm	15 mm
Standard	Extended	Extended	Extended	Extended
Non-flush	Flush	Flush	Flush	Flush



EI30	ICB30	ICB30	ICS30	ICS30
Long body	Short body	Long body	Short body	Long body
Stainless steel	Nickel-plated brass	Nickel-plated brass	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67, IP68, IP69K	IP 67, IP68, IP69K
100 Hz	1 kHz	1 kHz	1 kHz	1 kHz
-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F) (*)	-25° to 70°C (-13° to 158°F) (*)	-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°F)
10 to 40 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 36 V DC
CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, cULus, ECOLAB, cCSAus

**EI3015NPOSL**

**ICB30S30F15NO**

**ICB30L50F15NO**

**EI3015NPCSL**

**ICB30S30F15NC**

**ICB30L50F15NC**

**EI3015PPOSL**

**ICB30S30F15PO**

**ICB30L50F15PO**

**ICB30S30F15PC**

**ICB30L50F15PC**

**ICB30S30F15NOM1**

**ICB30L50F15NOM1**

**ICS30SF15NOM1-FB**

**ICS30LF15NOM1-FB**

**ICB30S30F15NCM1**

**ICB30L50F15NCM1**

**ICS30SF15NCM1-FB**

**ICS30LF15NCM1-FB**

**EI3015PPOSL-1**

**ICB30S30F15POM1**

**ICB30L50F15POM1**

**ICS30SF15POM1-FB**

**ICS30LF15POM1-FB**

**ICB30S30F15PCM1**

**ICB30L50F15PCM1**

**ICS30SF15PCM1-FB**

**ICS30LF15PCM1-FB**

(\*) Operating temperature:  
Plug version -40° to +70°C (-40° to +158°F)

# Inductive sensors

## Selection guide

DC application			
Diameter	<b>M30</b>	<b>M30</b>	<b>M30</b>
Sensing distance ( $S_n$ )	15 mm	22 mm	22 mm
Range	Extended	Extended	Extended
Mounting	Flush	Non-flush	Non-flush



Family	IA30	ICB30	ICB30
Housing	Short body	Short body	Long body
Material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	400 Hz	1 kHz	1 kHz
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) (*)
Rated operating voltage	10 to 40 V DC	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus

### References

2-wire	Cable		NO	<b>IA30DSF15DO</b>		
			NC	<b>IA30DSF15DC</b>		
	Plug		NO	<b>IA30ASF15DOM1</b>		
			NC	<b>IA30ASF15DCM1</b>		
3-wire	Cable	NPN	NO	<b>ICB30S30N22NO</b>	<b>ICB30L50N22NO</b>	
			NC	<b>ICB30S30N22NC</b>	<b>ICB30L50N22NC</b>	
		PNP	NO	<b>ICB30S30N22PO</b>	<b>ICB30L50N22PO</b>	
			NC	<b>ICB30S30N22PC</b>	<b>ICB30L50N22PC</b>	
	Plug	NPN	NO	<b>ICB30S30N22NOM1</b>	<b>ICB30L50N22NOM1</b>	
			NC	<b>ICB30S30N22NCM1</b>	<b>ICB30L50N22NCM1</b>	
		PNP	NO	<b>ICB30S30N22POM1</b>	<b>ICB30L50N22POM1</b>	
			NC	<b>ICB30S30N22PCM1</b>	<b>ICB30L50N22PCM1</b>	
		4-wire	Cable	NPN	NO+NC	
				PNP	NO+NC	
Plug	NPN		NO+NC			
	PNP		NO+NC			

(\*) Operating temperature:

Cable version -25° to +70°C (-13° to +158°F)

Plug version -40° to +70°C (-40° to +158°F)

## DC application

M30	M30	M30	M30	M30
22 mm	22 mm	22 mm	22 mm	22 mm
Extended	Extended	Extended	Increased	Increased
Non-flush	Non-flush	Non-flush	Quasi-flush	Quasi-flush
				
ICS30	ICS30	IA30	ICB30	ICB30
Short body	Long body	Short body	Short body	Long body
Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
IP 67, IP68, IP69K	IP 67, IP68, IP69K	IP 67	IP 67	IP 67
1 kHz	1 kHz	200 Hz	100 Hz	100 Hz
-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°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)
10 to 36 V DC	10 to 36 V DC	10 to 40 V DC	10 to 36 V DC	10 to 36 V DC
CE, cULus, ECOLAB, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, cULus, cCSAus	CE, cULus, cCSAus
<b>IA30DSN22DO</b>				
<b>IA30DSN22DC</b>				
<b>IA30ASN22DOM1</b>				
<b>IA30ASN22DCM1</b>				
			<b>ICB30S35F22NO</b>	<b>ICB30L50F22NO</b>
			<b>ICB30S35F22NC</b>	<b>ICB30L50F22NC</b>
			<b>ICB30S35F22PO</b>	<b>ICB30L50F22PO</b>
			<b>ICB30S35F22PC</b>	<b>ICB30L50F22PC</b>
<b>ICS30SN22NOM1-FB</b>	<b>ICS30LN22NOM1-FB</b>	<b>ICB30S35F22NOM1</b>		<b>ICB30L50F22NOM1</b>
<b>ICS30SN22NCM1-FB</b>	<b>ICS30LN22NCM1-FB</b>	<b>ICB30S35F22NCM1</b>		<b>ICB30L50F22NCM1</b>
<b>ICS30SN22POM1-FB</b>	<b>ICS30LN22POM1-FB</b>	<b>ICB30S35F22POM1</b>		<b>ICB30L50F22POM1</b>
<b>ICS30SN22PCM1-FB</b>	<b>ICS30LN22PCM1-FB</b>	<b>ICB30S35F22PCM1</b>		<b>ICB30L50F22PCM1</b>

# Inductive sensors

## Selection guide

DC application		
Diameter	<b>M30</b>	<b>M30</b>
Sensing distance ( $S_n$ )	40 mm	40 mm
Range	Increased	Increased
Mounting	Non-flush	Non-flush



Family	ICB30	ICB30
Housing	Short body	Long body
Material	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67	IP 67
Operating frequency	100 Hz	100 Hz
Operating temperature	-25° to 70°C (-13° to 158°F)	-25° to 70°C (-13° to 158°F)
Rated operating voltage	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, cULus, cCSAus	CE, cULus, cCSAus

### References

2-wire	Cable		NO		
			NC		
2-wire	Plug		NO		
			NC		
3-wire	Cable	NPN	NO	<b>ICB30S35N40NO</b>	<b>ICB30L50N40NO</b>
			NC	<b>ICB30S35N40NC</b>	<b>ICB30L50N40NC</b>
		PNP	NO	<b>ICB30S35N40PO</b>	<b>ICB30L50N40PO</b>
			NC	<b>ICB30S35N40PC</b>	<b>ICB30L50N40PC</b>
	Plug	NPN	NO	<b>ICB30S35N40NOM1</b>	<b>ICB30L50N40NOM1</b>
			NC	<b>ICB30S35N40NCM1</b>	<b>ICB30L50N40NCM1</b>
		PNP	NO	<b>ICB30S35N40POM1</b>	<b>ICB30L50N40POM1</b>
			NC	<b>ICB30S35N40PCM1</b>	<b>ICB30L50N40PCM1</b>
4-wire	Cable	NPN	NO+NC		
		PNP	NO+NC		
	Plug	NPN	NO+NC		
		PNP	NO+NC		

## AC application

Diameter	M12	M18	M18	M18
Sensing distance (S <sub>n</sub> )	2 mm (flush) 4 mm (non-flush)	5 mm (flush) 8 mm (non-flush)	5 mm (flush) 8 mm (non-flush)	5 mm (flush) 8 mm (non-flush)
Range	Standard	Standard	Standard	Standard



Family	E112	E118	E118	E118
Housing	Long body	Short body	Long body	Short body
Material	Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	25 Hz	25 Hz	25 Hz	25 Hz
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)
Rated operating voltage	20 to 265 V AC	20 to 250 V AC	20 to 250 V AC	20 to 265 V AC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

### References

Mounting		Flush	Flush	Flush	Flush	
2-wire	Cable	NO	<b>E11202TBOSL</b>	<b>E11805TBOPS</b>	<b>E11805TBOPL</b>	<b>E11805TBOSS</b>
		NC	<b>E11202TBCSL</b>			<b>E11805TBCSS</b>
	Plug	NO	<b>E11202TBOSL-6</b>			<b>E11805TBOSS-6</b>
		NC				
Mounting		Non-flush	Non-flush	Non-flush	Non-flush	
2-wire	Cable	NO	<b>E11204TBOSL</b>		<b>E11808TBOPL</b>	<b>E11808TBOSS</b>
		NC	<b>E11204TBCSL</b>		<b>E11808TBCPL</b>	<b>E11808TBCSS</b>
	Plug	NO	<b>E11204TBOSL-6</b>			<b>E11808TBOSS-6</b>
		NC			<b>E11808TBCPL-6</b>	

# Inductive sensors

## Selection guide

### AC application





Diameter	M18	M30	M30	M30
Sensing distance (S <sub>n</sub> )	5 mm (flush) 8 mm (non-flush)	10 mm (flush) 15 mm (non-flush)	10 mm (flush) 15 mm (non-flush)	10 mm (flush) 15 mm (non-flush)
Range	Standard	Standard	Standard	Standard



Family	EI18	EI30	EI30	EI30
Housing	Long body	Long body	Short body	Long body
Material	Stainless steel	Thermoplastic polyester	Stainless steel	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	25 Hz	25 Hz	25 Hz	25 Hz
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)
Rated operating voltage	20 to 265 V AC	20 to 265 V AC	20 to 265 V AC	20 to 265 V AC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

### References

Mounting		Flush	Flush	Flush	Flush	
2-wire	Cable	NO	<b>EI1805TBOSL</b>	<b>EI3010TBOPL</b>	<b>EI3010TBOSS</b>	<b>EI3010TBOSL</b>
		NC	<b>EI1805TBCSL</b>		<b>EI3010TBCSS</b>	<b>EI3010TBCSL</b>
	Plug	NO	<b>EI1805TBOSL-6</b>			<b>EI3010TBOSL-6</b>
		NC				
Mounting		Non-flush	Non-flush	Non-flush	Non-flush	
2-wire	Cable	NO	<b>EI1808TBOSL</b>	<b>EI3015TBOPL</b>	<b>EI3015TBOSS</b>	<b>EI3015TBOSL</b>
		NC	<b>EI1808TBCSL</b>		<b>EI3015TBCSS</b>	<b>EI3015TBCSL</b>
	Plug	NO	<b>EI1808TBOSL-6</b>		<b>EI3015TBOSS-6</b>	<b>EI3015TBOSL-6</b>
		NC	<b>EI1808TBCSL-6</b>			


<b>Metal face</b>									
Diameter		<b>M8</b>		<b>M12</b>		<b>M18</b>		<b>M30</b>	
Sensing distance (S <sub>n</sub> )		1 mm (flush) 2 mm (non-flush)		2 mm (flush) 4 mm (non-flush)		5 mm (flush) 8 mm (non-flush)		10 mm (flush) 15 mm (non-flush)	
Range		Standard		Standard		Standard		Standard	
									
Family		IA08		IA12		IA18		IA30	
Housing		Short body		Short body		Short body		Short body	
Material		Stainless steel		Stainless steel		Stainless steel		Stainless steel	
Degree of protection		IP 67		IP 67		IP 67		IP 67	
Operating frequency		500 Hz		1 kHz (N) 2 kHz (F)		500 Hz (N plug) 1 kHz (N cable and F plug) 2 kHz (F cable)		1 kHz (N cable and N plug) 2 kHz (F cable and F, plug)	
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)	
Rated operating voltage		10 to 30 V DC		10 to 30 V DC		10 to 30 V DC		10 to 30 V DC	
Approvals/Marks		CE		CE		CE		CE	
<b>References</b>									
Mounting		Flush		Flush		Flush		Flush	
3-wire	Cable	NPN	NO	<b>IA08FSF01NO</b>	<b>IA12FSF02NO</b>	<b>IA18FSF05NO</b>	<b>IA30FSF10NO</b>		
		NC	<b>IA08FSF01NC</b>	<b>IA12FSF02NC</b>	<b>IA18FSF05NC</b>	<b>IA30FSF10NC</b>			
	PNP	NO	<b>IA08FSF01PO</b>	<b>IA12FSF02PO</b>	<b>IA18FSF05PO</b>	<b>IA30FSF10PO</b>			
		NC	<b>IA08FSF01PC</b>	<b>IA12FSF02PC</b>	<b>IA18FSF05PC</b>	<b>IA30FSF10PC</b>			
	Plug	NPN	NO	<b>IA08FSF01NOM5</b>	<b>IA12FSF02NOM1</b>	<b>IA18FSF05NOM1</b>	<b>IA30FSF10NOM1</b>		
		NC	<b>IA08FSF01NCM5</b>	<b>IA12FSF02NCM1</b>	<b>IA18FSF05NCM1</b>	<b>IA30FSF10NCM1</b>			
PNP	NO	<b>IA08FSF01POM5</b>	<b>IA12FSF02POM1</b>	<b>IA18FSF05POM1</b>	<b>IA30FSF10POM1</b>				
	NC	<b>IA08FSF01PCM5</b>	<b>IA12FSF02PCM1</b>	<b>IA18FSF05PCM1</b>	<b>IA30FSF10PCM1</b>				
Mounting		Non- flush		Non- flush		Non- flush		Non- flush	
3-wire	Cable	NPN	NO	<b>IA08FSN02NO</b>	<b>IA12FSN04NO</b>	<b>IA18FSN08NO</b>	<b>IA30FSN15NO</b>		
		NC	<b>IA08FSN02NC</b>	<b>IA12FSN04NC</b>	<b>IA18FSN08NC</b>	<b>IA30FSN15NC</b>			
	PNP	NO	<b>IA08FSN02PO</b>	<b>IA12FSN04PO</b>	<b>IA18FSN08PO</b>	<b>IA30FSN15PO</b>			
		NC	<b>IA08FSN02PC</b>	<b>IA12FSN04PC</b>	<b>IA18FSN08PC</b>	<b>IA30FSN15PC</b>			
	Plug	NPN	NO	<b>IA08FSN02NOM5</b>	<b>IA12FSN04NOM1</b>	<b>IA18FSN08NOM1</b>	<b>IA30FSN15NOM1</b>		
		NC	<b>IA08FSN02NCM5</b>	<b>IA12FSN04NCM1</b>	<b>IA18FSN08NCM1</b>	<b>IA30FSN15NCM1</b>			
PNP	NO	<b>IA08FSN02POM5</b>	<b>IA12FSN04POM1</b>	<b>IA18FSN08POM1</b>	<b>IA30FSN15POM1</b>				
	NC	<b>IA08FSN02PCM5</b>	<b>IA12FSN04PCM1</b>	<b>IA18FSN08PCM1</b>	<b>IA30FSN15PCM1</b>				

N = non-flush  
F = flush



# Inductive sensors

## Selection guide

Metal face								
Diameter	M8		M12		M18		M30	
Sensing distance (S <sub>n</sub> )	1 mm (flush) 2 mm (non-flush)		2 mm (flush) 4 mm (non-flush)		5 mm (flush) 8 mm (non-flush)		10 mm (flush) 15 mm (non-flush)	
Range	Standard		Standard		Standard		Standard	
								
Family	IA08		IA12		IA18		IA30	
Housing	Long body		Long body		Long body		Long body	
Material	Stainless steel		Stainless steel		Stainless steel		Stainless steel	
Degree of protection	IP 67		IP 67		IP 67		IP 67	
Operating frequency	500 Hz		1 kHz (N) 2 kHz (F)		500 Hz (N plug) 1 kHz (N cable and F plug) 2 kHz (F cable)		150 Hz (N cable) 300 Hz (F cable) 1 kHz (N plug) 2 kHz (F, plug)	
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)	
Rated operating voltage	10 to 30 V DC		10 to 30 V DC		10 to 30 V DC		10 to 30 V DC	
Approvals/Marks	CE		CE		CE		CE	
References								
Mounting	Flush		Flush		Flush		Flush	
3-wire	Cable	NPN	NO	<b>IA08FLF01NO</b>	<b>IA12FLF02NO</b>	<b>IA18FLF05NO</b>	<b>IA30FLF10NO</b>	
			NC	<b>IA08FLF01NC</b>	<b>IA12FLF02NC</b>	<b>IA18FLF05NC</b>	<b>IA30FLF10NC</b>	
		PNP	NO	<b>IA08FLF01PO</b>	<b>IA12FLF02PO</b>	<b>IA18FLF05PO</b>	<b>IA30FLF10PO</b>	
			NC	<b>IA08FLF01PC</b>	<b>IA12FLF02PC</b>	<b>IA18FLF05PC</b>	<b>IA30FLF10PC</b>	
	Plug	NPN	NO	<b>IA08FLF01NOM5</b>	<b>IA12FLF02NOM1</b>	<b>IA18FLF05NOM1</b>	<b>IA30FLF10NOM1</b>	
			NC	<b>IA08FLF01NCM5</b>	<b>IA12FLF02NCM1</b>	<b>IA18FLF05NCM1</b>	<b>IA30FLF10NCM1</b>	
		PNP	NO	<b>IA08FLF01POM5</b>	<b>IA12FLF02POM1</b>	<b>IA18FLF05POM1</b>	<b>IA30FLF10POM1</b>	
			NC	<b>IA08FLF01PCM5</b>	<b>IA12FLF02PCM1</b>	<b>IA18FLF05PCM1</b>	<b>IA30FLF10PCM1</b>	
Mounting	Non- flush		Non- flush		Non- flush		Non- flush	
3-wire	Cable	NPN	NO	<b>IA08FLN02NO</b>	<b>IA12FLN04NO</b>	<b>IA18FLN08NO</b>	<b>IA30FLN15NO</b>	
			NC	<b>IA08FLN02NC</b>	<b>IA12FLN04NC</b>	<b>IA18FLN08NC</b>	<b>IA30FLN15NC</b>	
		PNP	NO	<b>IA08FLN02PO</b>	<b>IA12FLN04PO</b>	<b>IA18FLN08PO</b>	<b>IA30FLN15PO</b>	
			NC	<b>IA08FLN02PC</b>	<b>IA12FLN04PC</b>	<b>IA18FLN08PC</b>	<b>IA30FLN15PC</b>	
	Plug	NPN	NO	<b>IA08FLN02NOM5</b>	<b>IA12FLN04NOM1</b>	<b>IA18FLN08NOM1</b>	<b>IA30FLN15NOM1</b>	
			NC	<b>IA08FLN02NCM5</b>	<b>IA12FLN04NCM1</b>	<b>IA18FLN08NCM1</b>	<b>IA30FLN15NCM1</b>	
		PNP	NO	<b>IA08FLN02POM5</b>	<b>IA12FLN04POM1</b>	<b>IA18FLN08POM1</b>	<b>IA30FLN15POM1</b>	
			NC	<b>IA08FLN02PCM5</b>	<b>IA12FLN04PCM1</b>	<b>IA18FLN08PCM1</b>	<b>IA30FLN15PCM1</b>	

N = non-flush  
F = flush

## NAMUR

Diameter	M8 - Ø 6.5	M12	M12	M12
Sensing distance (S <sub>n</sub> )	1 mm (flush) 2 mm (non-flush)	2 mm (flush) 4 mm (non-flush)	2 mm (flush) 4 mm (non-flush)	2 mm (flush) 4 mm (non-flush)
Range	Standard	Standard	Standard	Standard



Family	EIO8 - EIO6	IA12	IA12	IA12
Housing	Short body	Short body	Long body	Short body
Material	Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	2 kHz (flush) 1.5 kHz (non-flush)	1.4 kHz (flush) 1.2 kHz (non-flush)	1.4 kHz (flush) 1.2 kHz (non-flush)	1.4 kHz (flush) 1.2 kHz (non-flush)
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)
Rated operating voltage	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

### References

Mounting	Flush	Flush	Flush	Flush
Cable	<b>EIO8(06)01NACS (*)</b>	<b>IA12CSF02UC</b>	<b>IA12CLF02UC</b>	<b>IA12ESF02UC</b>
Plug		<b>IA12CSF02UCM1</b>	<b>IA12CLF02UCM1</b>	<b>IA12ESF02UCM1</b>
Mounting	Non-flush	Non-flush	Non-flush	Non-flush
Cable	<b>EIO802NACS</b>	<b>IA12CSN04UC</b>	<b>IA12CLN04UC</b>	<b>IA12ESN04UC</b>
Plug		<b>IA12CSN04UCM1</b>	<b>IA12CLN04UCM1</b>	<b>IA12ESN04UCM1</b>

(\*) **EIO801NACS = M8**  
**EIO601NACS = Ø 6.5**

# Inductive sensors

## Selection guide






<b>NAMUR</b>				
Diameter	<b>M12</b>	<b>M18</b>	<b>M18</b>	<b>M18</b>
Sensing distance ( $S_n$ )	2 mm (flush) 4 mm (non-flush)	5 mm (flush) 8 mm (non-flush)	5 mm (flush) 8 mm (non-flush)	5 mm (flush) 8 mm (non-flush)
Range	Standard	Standard	Standard	Standard



Family	IA12	IA18	IA18	IA18
Housing	Long body	Short body	Long body	Short body
Material	Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	1.4 kHz (flush) 1.2 kHz (non-flush)	500 Hz (flush) 200 Hz (non-flush)	500 Hz (flush) 200 Hz (non-flush)	500 Hz (flush) 200 Hz (non-flush)
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)
Rated operating voltage	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

<b>References</b>				
Mounting	Flush	Flush	Flush	Flush
Cable	<b>IA12ELF02UC</b>	<b>IA18CSF05UC</b>	<b>IA18CLF05UC</b>	<b>IA18ESF05UC</b>
Plug	<b>IA12ELF02UCM1</b>	<b>IA18CSF05UCM1</b>	<b>IA18CLF05UCM1</b>	<b>IA18ESF05UCM1</b>
Mounting	Non-flush	Non-flush	Non-flush	Non-flush
Cable	<b>IA12ELN04UC</b>	<b>IA18CSN08UC</b>	<b>IA18CLN08UC</b>	<b>IA18ESN08UC</b>
Plug	<b>IA12ELN04UCM1</b>	<b>IA18CSN08UCM1</b>	<b>IA18CLN08UCM1</b>	<b>IA18ESN08UCM1</b>

## NAMUR

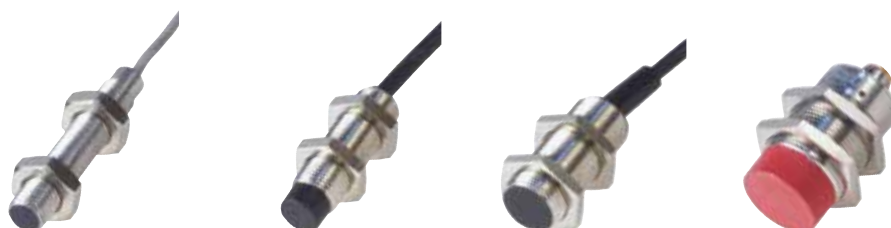
M18	M30	M30	M30	M30
5 mm (flush) 8 mm (non-flush)	10 mm (flush) 15 mm (non-flush)	10 mm (flush) 15 mm (non-flush)	10 mm (flush) 15 mm (non-flush)	10 mm (flush) 15 mm (non-flush)
Standard	Standard	Standard	Standard	Standard
				
IA18	IA30	IA30	IA30	IA30
Long body	Short body	Long body	Short body	Long body
Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67
500 Hz (flush) 200 Hz (non-flush)	300 Hz (flush) 100 Hz (non-flush)	300 Hz (flush) 100 Hz (non-flush)	300 Hz (flush) 100 Hz (non-flush)	300 Hz (flush) 100 Hz (non-flush)
-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)	-25° to 70°C (-13° to 158°F)
7 to 9 V DC	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC
CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Flush	Flush	Flush	Flush	Flush
<b>IA18ELF05UC</b>	<b>IA30CSF10UC</b>	<b>IA30CLF10UC</b>	<b>IA30ESF10UC</b>	<b>IA30ELF10UC</b>
<b>IA18ELF05UCM1</b>	<b>IA30CSF10UCM1</b>	<b>IA30CLF10UCM1</b>	<b>IA30ESF10UCM1</b>	<b>IA30ELF10UCM1</b>
Non-flush	Non-flush	Non-flush	Non-flush	Non-flush
<b>IA18ELN08UC</b>	<b>IA30CSN15UC</b>	<b>IA30CLN15UC</b>	<b>IA30ESN15UC</b>	<b>IA30ELN15UC</b>
<b>IA18ELN08UCM1</b>	<b>IA30CSN15UCM1</b>	<b>IA30CLN15UCM1</b>	<b>IA30ESN15UCM1</b>	<b>IA30ELN15UCM1</b>

# Inductive sensors

## Selection guide

### High temperature

Diameter	M5 (IA05) M8 (IA08)	M12	M18	M30
Sensing distance (S <sub>n</sub> )	0.8 mm (IA05) 1 mm (IA08)	2 mm (flush) 4 mm (non-flush)	5 mm (flush) 8 mm (non-flush)	10 mm (flush) 15 mm (non-flush)
Range	Standard	Standard	Standard	Standard



Family	IA05 / IA08	IA12	IA18	IA30
Housing	Short body	Short body	Short body	Short body
Material	Stainless steel	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	3 kHz (IA05) 2 kHz (IA08)	2 kHz (flush) 1 kHz (non-flush)	1 kHz (flush) 500 Hz (non-flush)	500 Hz (flush) 300 Hz (non-flush)
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)
Rated operating voltage	10 to 30 V DC	10 to 30 V DC (**)	10 to 30 V DC	10 to 30 V DC
Approvals/Marks	CE	CE	CE	CE

### References

Mounting		Flush	Flush	Flush	Flush
3-wire DC	Cable	NPN NC	<b>IA12ASF02NCHT</b>		
		NPN NO	<b>IA05BSF08NOHT-K</b> <b>IA08BSF10NOHT-K</b>		
	Plug	PNP NO	<b>IA12ASF02POHT-K</b>	<b>IA18ASF05POHT-K</b>	<b>IA30ASF10POHT-K</b>
		PNP NO	<b>IA12ASF02POM1HT-K</b>	<b>IA18ASF05POM1HT-K</b>	<b>IA30ASF10POM1HT-K</b>
NAMUR		<b>IA12ASF02UHT-K</b>			
Mounting		Non- flush	Non- flush	Non- flush	Non- flush
3-wire DC	Cable Plug	PNP NO	<b>IA12ASN04POHT-K</b>	<b>IA18ASN08POHT-K</b>	<b>IA30ASN15POHT-K</b>
		PNP NO	<b>IA12ASN04POM1HT-K</b>	<b>IA18ASN08POM1HT-K</b>	<b>IA30ASN15POM1HT-K</b>

(\*) Operating temperature:  
NAMUR version -25° to +120°C (-13° to +248°F)

(\*\*) Rated operating voltage:  
NAMUR version 8 V DC

## Slotted

Dimensions L x H x W (mm)	<b>15 x 19.2 x 10.2</b>	<b>15 x 19.2 x 10.2</b>	<b>30 x 28.6 x 16.4</b>	<b>45 x 44.5 x 25.6</b>
Slot size	3.5 mm	5 mm	6 mm	10 mm
Range	Standard	Standard	Standard	Standard



Family	DU3.5	DU5	DU6	DU10
Housing	Slot type	Slot type	Slot type	Slot type
Material	ABS	ABS	ABS	ABS
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	2 kHz	1.5 kHz	2 kHz	1 kHz
Operating temperature	-20° to 60°C (-4° to 140°F)	-20° to 60°C (-4° to 140°F)	-20° to 60°C (-4° to 140°F)	-20° to 60°C (-4° to 140°F)
Rated operating voltage (*)	7 to 9 V DC	7 to 9 V DC	7 to 9 V DC 21.6 to 26.4 V DC	7 to 9 V DC 21.6 to 26.4 V DC
Approvals/Marks	CE	CE	CE (only Namur)	CE (only Namur)

### References

3-wire DC	NPN	NO	<b>DU6E</b>	<b>DU10E</b>
NAMUR	<b>DU3.5</b>	<b>DU5</b>	<b>DU6</b>	<b>DU10</b>

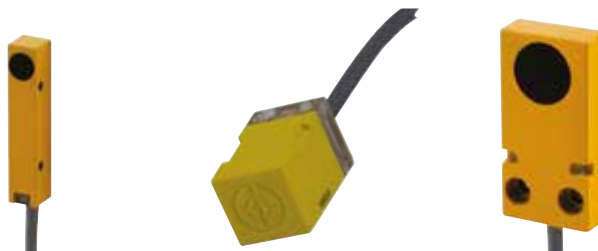
(\*) Rated operating voltage:  
7 to 9 V DC (Namur)  
21.6 to 26.4 V DC (3-wire DC)

# Inductive sensors

## Selection guide

### Flat pack

Dimensions (mm)	<b>8 x 8 x 40 (...-K)</b> <b>8 x 8 x 60 (...M5-K)</b>	<b>17.5 x 17 x 28.5</b>	<b>25 x 10 x 50</b>
Sensing distance (S <sub>n</sub> )	1.5 mm	4 mm	5 mm
Range	Standard	Standard	Standard
Mounting	Flush	Non-flush	Flush



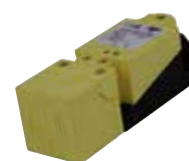
Family	IC08	IC17	ID25
Housing	Block shaped / square-section	Block shaped / rectangular-section	Block shaped / rectangular-section
Material	Nickel-plated brass	Plastic	Nickel-plated brass
Degree of protection	IP 65 (cable version) IP 67 (plug version)	IP 67	IP 67
Operating frequency	1 kHz (cable version) 2 kHz (plug version)	500 Hz	1 kHz
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)
Rated operating voltage	10 to 30 V DC	10 to 30 V DC	10 to 30 V DC
Approvals/Marks	CE	CE	CE

### References

3-wire DC	Cable	NPN	NO	<b>IC08ANC15NO-K</b>	<b>IC17CNC04NO-K</b>	<b>ID25ANC05NO-K</b>
		PNP		<b>IC08ANC15PO-K</b>	<b>IC17CNC04PO-K</b>	<b>ID25ANC05PO-K</b>
	Plug	NPN		<b>IC08ANC15NOM5-K</b>		
4-wire DC	Cable	NPN	NO + NC			<b>ID25ANC05NA-K</b>
		PNP				<b>ID25ANC05PA-K</b>

## Flat pack (EI55) / Rotable head (IC40)

Dimensions (mm)	<b>35 x 55 x 15</b>	<b>35 x 55 x 15</b>	<b>40 x 40 x 118</b>
Sensing distance (S <sub>n</sub> )	10 mm	15 mm	30 mm
Range	Standard	Standard	Standard
Mounting	Flush	Non-flush	Non-flush



Family	EI55	EI55	IC40
Housing	Flat-pack	Flat-pack	Rectangular section
Material	Polycarbonate	Polycarbonate	PBT
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	500 Hz	250 Hz	25 Hz (2-wire AC) 40 Hz (2-wire DC) 100 Hz (4-wire DC)
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)
Rated operating voltage (*)	10 to 40 V DC	10 to 40 V DC	20 to 250 V AC/DC 20 to 250 V AC 10 to 30 V DC
Approvals/Marks	CE, UL, CSA	CE, UL, CSA	CE

### References

2-wire AC/DC	Terminal block	MOSFET	NO	<b>IC40CNN30COT1</b>	
			NC	<b>IC40CNN30CCT1</b>	
2-wire AC	Terminal block	NPN	NO + NC	<b>IC40CNN30TAT1</b>	
			NO + NC	<b>IC40CNN30NAT1</b>	
			NO + NC	<b>IC40CNN30PAT1</b>	
			NO + NC	<b>IC40CNN30PAT1</b>	
4-wire DC	Cable	NPN	NO + NC	<b>EI5510NPAP</b>	<b>EI5515NPAP</b>
		PNP	NO + NC	<b>EI5510PPAP</b>	<b>EI5515PPAP</b>
	Plug	NPN	NO + NC	<b>EI5510NPAP-1</b>	<b>EI5515NPAP-1</b>
		PNP	NO + NC	<b>EI5510PPAP-1</b>	<b>EI5515PPAP-1</b>

(\*) Rated operating voltage IC40:  
20 to 250 V AC/DC (2-wire AC/DC)  
20 to 250 V AC (2-wire AC)  
10 to 30 V DC (4-wire DC)



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