



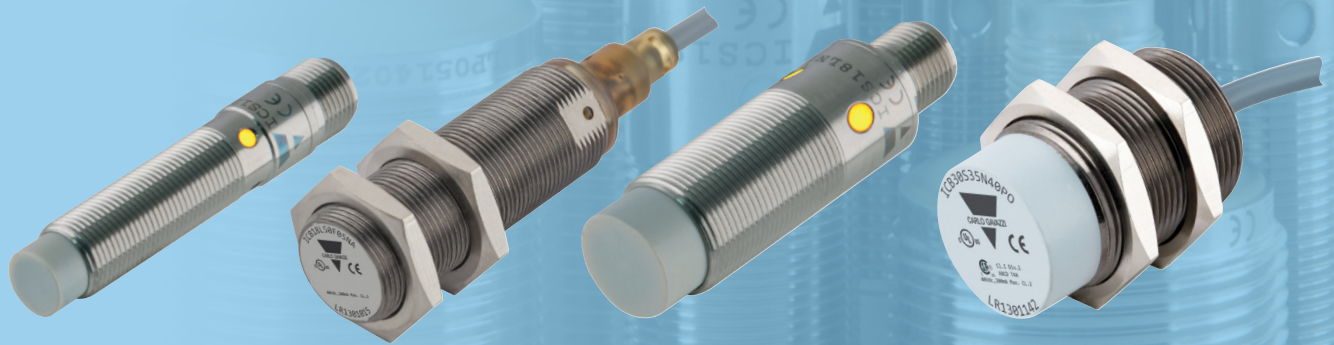
## Inductive sensors

# 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

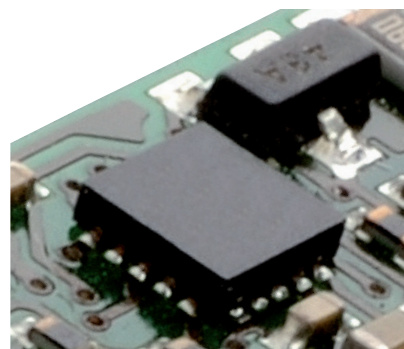
and the ability to prevent water and vapour access through the front cap or connector of the sensors. The ICS sensors are ECOLAB certified and rated to IP67, IP68 and IP69K standards.



### 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.



### 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.

Carlo Gavazzi is committed to providing the right solution to our OEM customers and their demanding application requirements. This means that we are ready to customize proximity sensors to meet these specific demands for almost any application.



# 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 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°C and +85°C (-40°F and +185°F).



# Inductive sensors

## Selection guide

### DC application

Diameter	M5	Ø 6.5	Ø 6.5
Sensing distance (S <sub>r</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
Dimensions (mm)	26.5 (cable) 40 (plug)	30	30
Thread (mm)	20.5 (cable) 21 (plug)	-	-
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 Flush	Standard Flush	Extended Flush	Standard Non-flush	Standard Non-flush
				
IA08 Short body	IA08 Long body	IA08 Short body	IA08 Short body	IA08 Long body
30 (cable) 45 (plug)	45 (cable) 70 (plug M1); 60 (plug M5)	30 (cable 2-wire) 35 (cable 3-wire) 50 (plug)	30 (cable) 45 (plug)	45 (cable) 70 (plug M1); 60 (plug M5)
30 (cable) 25 (plug)	45 (cable) 43 (plug M1); 40 (plug M5)	30 (cable 2-wire) 35 (cable 3-wire) 30 (plug)	27 (cable) 22 (plug)	42 (cable) 40 (plug M1); 37 (plug M5)
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
<b>IA08BSF02DO</b>				
<b>IA08BSF02DC</b>				
<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
Dimensions (mm)	30 (cable 2-wire) 35 (cable 3-wire) 50 (plug)	46.8 (cable) 50.2 (plug)	66.8 (cable) 70.2 (plug)
Thread (mm)	26 (cable 2-wire) 32 (cable 3-wire) 27 (plug)	30	50
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>		
2-wire	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		<b>ICB12S30F02NA</b>	<b>ICB12L50F02NA</b>
			NO+NC		<b>ICB12S30F02PA</b>	<b>ICB12L50F02PA</b>
	Plug	NPN	NO+NC		<b>ICB12S30F02NAM1</b>	<b>ICB12L50F02NAM1</b>
			NO+NC		<b>ICB12S30F02PAM1</b>	<b>ICB12L50F02PAM1</b>



## 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
64.8	66	46 (cable) 54.5 (plug)	66 (cable) 74.5 (plug)	50.8 (cable) 54.2 (plug)
38.7	50	30	50	30
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**

**ICB12S30N04NA**

**ICB12S30N04PA**

**ICB12S30N04NAM1**

**ICB12S30N04PAM1**

# Inductive sensors

## Selection guide

DC application			
Diameter	M12	M12	M12
Sensing distance ( $S_r$ )	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
Dimensions (mm)	70.8 (cable) 74.2 (plug)	64.8	50
Thread (mm)	50	32.5	30
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 <b>ICB12L50N04NA</b>	
		PNP	NO+NC <b>ICB12L50N04PA</b>	
	Plug	NPN	NO+NC <b>ICB12L50N04NAM1</b>	
		PNP	NO+NC <b>ICB12L50N04PAM1</b>	

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
70	50 (cable) 58.5 (plug)	70 (cable) 78.5 (plug)	54 (cable) 63.2 (plug)	25.4
50	30	50	38	23.4
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>E11204NPOPL</b>	<b>E11204NPOSS</b>	<b>E11204NPOSL</b>	<b>ICB12S23F04NO</b>	
	<b>E11204NPCSS</b>		<b>ICB12S23F04NC</b>	
<b>E11204PPOPL</b>	<b>E11204PPOSS</b>	<b>E11204PPOSL</b>	<b>ICB12S23F04PO</b>	
	<b>E11204PPCSS</b>	<b>E11204PPCSL</b>	<b>ICB12S23F04PC</b>	
	<b>E11204NPOSS-1</b>	<b>E11204NPOSL-1</b>		
	<b>E11204NPCSS-1</b>			
	<b>E11204PPOSS-1</b>	<b>E11204PPOSL-1</b>		
	<b>E11204PPCSS-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
Dimensions (mm)	46.8 (cable) 50.2 (plug)	66.8 (cable) 70.2 (plug)	64.8
Thread (mm)	30	50	38.7
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	<b>ICB12S30F04NA</b>	<b>ICB12L50F04NA</b>	
			PNP	NO+NC	<b>ICB12S30F04PA</b>	<b>ICB12L50F04PA</b>
	Plug	NPN	NO+NC	<b>ICB12S30F04NAM1</b>	<b>ICB12L50F04NAM1</b>	
			PNP	NO+NC	<b>ICB12S30F04PAM1</b>	<b>ICB12L50F04PAM1</b>

## DC application

M12	M12	M12	M12	M12
6 mm	6 mm	8 mm	8 mm	8 mm
Increased	Increased	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
47.8 (cable) 51.2 (plug)	67.8 (cable) 71.2 (plug)	29.4	50.8 (cable) 54.2 (plug)	70.8 (cable) 74.2 (plug)
30	50	23.4	30	50
Nickel-plated brass IP 67	Nickel-plated brass IP 67	Nickel-plated brass IP 67	Nickel-plated brass IP 67	Nickel-plated brass 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>
			<b>ICB12S30N08NA</b>	<b>ICB12L50N08NA</b>
			<b>ICB12S30N08PA</b>	<b>ICB12L50N08PA</b>
			<b>ICB12S30N08NAM1</b>	<b>ICB12L50N08NAM1</b>
			<b>ICB12S30N08PAM1</b>	<b>ICB12L50N08PAM1</b>

# Inductive sensors

## Selection guide

### DC application

Diameter	M12	M12	M12
Sensing distance (S <sub>r</sub> )	8 mm	8 mm	10 mm
Range	Extended	Extended	Increased
Mounting	Non-flush	Non-flush	Non-flush



Family	ICS12	IA12	ICB12
Housing	Long body	Short body	Short body
Dimensions (mm)	64.8	58 (cable) 67.2 (plug)	50.8 (cable) 54.2 (plug)
Thread (mm)	32.5	38	30
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
10 mm	5 mm	5 mm	5 mm
Increased	Standard	Standard	Standard
Non-flush	Flush	Flush	Flush



ICB12	ICB18	ICB18	ICS18
Long body	Short body	Long body	Long body
70.8 (cable) 74.2 (plug)	53 (cable) 54 (plug)	73.1 (cable) 74 (plug)	63
50	30	50	35
Nickel-plated brass IP 67	Nickel-plated brass IP 67	Nickel-plated brass IP 67	Stainless steel IP 67, IP68, IP69K
2 kHz	1.5 kHz	1.5 kHz	1.5 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 80°C (-40° to 176°F)
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, ECOLAB, cCSAus

<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>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>
	<b>ICB18S30F05NA</b>	<b>ICB18L50F05NA</b>	
	<b>ICB18S30F05PA</b>	<b>ICB18L50F05PA</b>	
	<b>ICB18S30F05NAM1</b>	<b>ICB18L50F05NAM1</b>	
	<b>ICB18S30F05PAM1</b>	<b>ICB18L50F05PAM1</b>	

# Inductive sensors

## Selection guide

### DC application

Diameter	M18	M18	M18
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
Dimensions (mm)	77	57 (cable) 55 (plug)	77 (cable) 75 (plug)
Thread (mm)	50	30	50
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			
	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
63 (cable) 64 (plug)	83.1 (cable) 84 (plug)	63	65 (cable) 63 (plug)	85 (cable) 83 (plug)
30	50	27	30	50
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>
<b>ICB18S30N08NA</b>	<b>ICB18L50N08NA</b>			
<b>ICB18S30N08PA</b>	<b>ICB18L50N08PA</b>			
<b>ICB18S30N08NAM1</b>	<b>ICB18L50N08NAM1</b>			
<b>ICB18S30N08PAM1</b>	<b>ICB18L50N08PAM1</b>			

# Inductive sensors

## Selection guide


DC application			
Diameter	<b>M18</b>	<b>M18</b>	<b>M18</b>
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
Dimensions (mm)	65 (cable) 63 (plug)	85 (cable) 83 (plug)	53 (cable) 54 (plug)
Thread (mm)	30	50	30
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					
	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			<b>ICB18S30F08NA</b>	
			PNP	NO+NC			<b>ICB18S30F08PA</b>	
		Plug	NPN	NO+NC				<b>ICB18S30F08NAM1</b>
			PNP	NO+NC				<b>ICB18S30F08PAM1</b>

DC application				
M18	M18	M18	M18	M18
8 mm	8 mm	8 mm	12 mm	12 mm
Extended	Extended	Extended	Increased	Increased
Flush	Flush	Flush	Quasi-flush	Quasi-flush
				
ICB18	ICS18	IA18	ICB18	ICB18
Long body	Long body	Short body	Short body	Long body
73.1 (cable) 74 (plug)	63	57 (cable) 55 (plug)	54 (cable) 55 (plug)	74.1 (cable) 75 (plug)
50	35	30	30	50
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
<b>IA18DSF08DO</b>				
<b>IA18DSF08DC</b>				
<b>IA18ASF08DOM1</b>				
<b>IA18ASF08DCM1</b>				
<b>ICB18L50F08NO</b>			<b>ICB18S30F12NO</b>	
<b>ICB18L50F08NC</b>			<b>ICB18S30F12NC</b>	
<b>ICB18L50F08PO</b>			<b>ICB18S30F12PO</b>	
<b>ICB18L50F08PC</b>			<b>ICB18S30F12PC</b>	
<b>ICB18L50F08NOM1</b>		<b>ICS18LF08NOM1-FB</b>	<b>ICB18S30F12NOM1</b>	
<b>ICB18L50F08NCM1</b>		<b>ICS18LF08NCM1-FB</b>	<b>ICB18S30F12NCM1</b>	
<b>ICB18L50F08POM1</b>		<b>ICS18LF08POM1-FB</b>	<b>ICB18S30F12POM1</b>	
<b>ICB18L50F08PCM1</b>		<b>ICS18LF08PCM1-FB</b>	<b>ICB18S30F12PCM1</b>	
<b>ICB18L50F08NA</b>				
<b>ICB18L50F08PA</b>				
<b>ICB18L50F08NAM1</b>				
<b>ICB18L50F08PAM1</b>				

# 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
Dimensions (mm)	63	63 (cable) 64 (plug)	83.1 (cable) 84 (plug)
Thread (mm)	27	30	50
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			
	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	<b>ICB18S30N14NA</b>	<b>ICB18L50N14NA</b>
			PNP	NO+NC	<b>ICB18S30N14PA</b>	<b>ICB18L50N14PA</b>
		Plug	NPN	NO+NC	<b>ICB18S30N14NAM1</b>	<b>ICB18L50N14NAM1</b>
			PNP	NO+NC	<b>ICB18S30N14PAM1</b>	<b>ICB18L50N14PAM1</b>

## 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
65 (cable) 63 (plug)	63 (cable) 64 (plug)	83.1 (cable) 84 (plug)	59 (cable) 55 (plug)	79 (cable) 75 (plug)
30	30	50	30	50
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**

**ICB30S30F10NA ICB30L50F10NA**

**ICB30S30F10PA ICB30L50F10A**

**ICB30S30F10NAM1 ICB30L50F10NAM1**

**ICB30S30F10PAM1 ICB30L50F10PAM1**

(\*) 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
Dimensions (mm)	47.5	67.5	79
Thread (mm)	30	50	50
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
59 (cable) 55.5 (plug)	79 (cable) 75.5 (plug)	71 (cable) 67 (plug)	91 (cable) 87 (plug)	59.5
30	50	30	50	30
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>
		<b>ICB30S30N15NA</b>	<b>ICB30L50N15NA</b>	
		<b>ICB30S30N15PA</b>	<b>ICB30L50N15PA</b>	
		<b>ICB30S30N15NAM1</b>	<b>ICB30L50N15NAM1</b>	
		<b>ICB30S30N15PAM1</b>	<b>ICB30L50N15PAM1</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 body	Long body
Dimensions (mm)	79.5	71	91
Thread (mm)	50	30	50
Material	Stainless steel	Thermoplastic polyester	Thermoplastic polyester
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>	
			NC		
	Plug	PNP	NO	<b>EI3015PPOPL</b>	
			NC		
	3-wire	Plug	NPN	NO	<b>ICS30LN15NOM1-FB</b>
				NC	<b>ICS30LN15NCM1-FB</b>
Plug		PNP	NO	<b>ICS30LN15POM1-FB</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	Standard	Extended	Extended	Extended
Non-flush	Non-flush	Flush	Flush	Flush



E130	E130	ICB30	ICB30	ICS30
Short body	Long body	Short body	Long body	Short body
71 (cable) 67.5 (plug)	91 (cable) 87.5 (plug)	59 (cable) 55 (plug)	79 (cable) 75 (plug)	47.5
30	50	30	50	30
Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67, IP68, IP69K
100 Hz	100 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

**EI3015NPOSS**

**EI3015NPOSL**

**ICB30S30F15NO**

**ICB30L50F15NO**

**EI3015NPCSS**

**EI3015NPCSL**

**ICB30S30F15NC**

**ICB30L50F15NC**

**EI3015PPOSS**

**EI3015PPOSL**

**ICB30S30F15PO**

**ICB30L50F15PO**

**EI3015PPCSS**

**ICB30S30F15PC**

**ICB30L50F15PC**

**EI3015NPOSS-1**

**ICB30S30F15NOM1**

**ICB30L50F15NOM1**

**ICS30SF15NOM1-FB**

**ICB30S30F15NCM1**

**ICB30L50F15NCM1**

**ICS30SF15NCM1-FB**

**EI3015PPOSS-1**

**EI3015PPOSL-1**

**ICB30S30F15POM1**

**ICB30L50F15POM1**

**ICS30SF15POM1-FB**

**ICB30S30F15PCM1**

**ICB30L50F15PCM1**

**ICS30SF15PCM1-FB**

**ICB30S30F15NA**

**ICB30L50F15NA**

**ICB30S30F15PA**

**ICB30L50F15PA**

**ICB30S30F15NAM1**

**ICB30L50F15NAM1**

**ICB30S30F15PAM1**

**ICB30L50F15PAM1**

(\*) 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	22 mm
Range	Extended	Extended	Extended
Mounting	Flush	Flush	Non-flush



Family	ICS30	IA30	ICB30
Housing	Long body	Short body	Short body
Dimensions (mm)	67.5	59 (cable) 55 (plug)	71 (cable) 67 (plug)
Thread (mm)	50	30	30
Material	Stainless steel	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67, IP68, IP69K	IP 67	IP 67
Operating frequency	1 kHz	400 Hz	1 kHz
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 36 V DC
Approvals/Marks	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	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>	
			NC	<b>ICB30S30N22NC</b>	
		PNP	NO	<b>ICB30S30N22PO</b>	
			NC	<b>ICB30S30N22PC</b>	
	Plug	NPN	NO	<b>ICS30LF15NOM1-FB</b>	<b>ICB30S30N22NOM1</b>
			NC	<b>ICS30LF15NCM1-FB</b>	<b>ICB30S30N22NCM1</b>
		PNP	NO	<b>ICS30LF15POM1-FB</b>	<b>ICB30S30N22POM1</b>
			NC	<b>ICS30LF15PCM1-FB</b>	<b>ICB30S30N22PCM1</b>
4-wire	Cable	NPN	NO+NC	<b>ICB30S30N22NA</b>	
		PNP	NO+NC	<b>ICB30S30N22PA</b>	
	Plug	NPN	NO+NC	<b>ICB30S30N22NAM1</b>	
		PNP	NO+NC	<b>ICB30S30N22PAM1</b>	

(\*) Operating temperature:  
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	Extended	Increased
Non-flush	Non-flush	Non-flush	Non-flush	Quasi-flush
				
ICB30	ICS30	ICS30	IA30	ICB30
Long body	Short body	Long body	Short body	Short body
91 (cable) 87 (plug)	59.5	79.5	71 (cable) 67 (plug)	35 (cable) 60 (plug)
50	30	50	30	35
Nickel-plated brass	Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass
IP 67	IP 67, IP68, IP69K	IP 67, IP68, IP69K	IP 67	IP 67
1 kHz	1 kHz	1 kHz	200 Hz	100 Hz
-25° to 70°C (-13° to 158°F) (*)	-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)
10 to 36 V DC	10 to 36 V DC	10 to 36 V DC	10 to 40 V DC	10 to 36 V DC
CE, cULus, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, cULus, ECOLAB, cCSAus	CE, UL, CSA	CE, cULus, cCSAus
<b>IA30DSN22DO</b>				
<b>IA30DSN22DC</b>				
<b>IA30ASN22DOM1</b>				
<b>IA30ASN22DCM1</b>				
<b>ICB30L50N22NO</b>		<b>ICB30S35F22NO</b>		
<b>ICB30L50N22NC</b>		<b>ICB30S35F22NC</b>		
<b>ICB30L50N22PO</b>		<b>ICB30S35F22PO</b>		
<b>ICB30L50N22PC</b>		<b>ICB30S35F22PC</b>		
<b>ICB30L50N22NOM1</b>	<b>ICS30SN22NOM1-FB</b>	<b>ICS30LN22NOM1-FB</b>	<b>ICB30S35F22NOM1</b>	
<b>ICB30L50N22NCM1</b>	<b>ICS30SN22NCM1-FB</b>	<b>ICS30LN22NCM1-FB</b>	<b>ICB30S35F22NCM1</b>	
<b>ICB30L50N22POM1</b>	<b>ICS30SN22POM1-FB</b>	<b>ICS30LN22POM1-FB</b>	<b>ICB30S35F22POM1</b>	
<b>ICB30L50N22PCM1</b>	<b>ICS30SN22PCM1-FB</b>	<b>ICS30LN22PCM1-FB</b>	<b>ICB30S35F22PCM1</b>	
<b>ICB30L50N22NA</b>				
<b>ICB30L50N22PA</b>				
<b>ICB30L50N22NAM1</b>				
<b>ICB30L50N22PAM1</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 ( $S_n$ )	22 mm	40 mm	40 mm
Range	Increased	Increased	Increased
Mounting	Quasi-flush	Non-flush	Non-flush



Family	ICB30	ICB30	ICB30
Housing	Long body	Short body	Long body
Dimensions (mm)	50 (cable) 75 (plug)	47 (cable) 72 (plug)	62 (cable) 87 (plug)
Thread (mm)	50	35	50
Material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	100 Hz	100 Hz	100 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 36 V DC	10 to 36 V DC	10 to 36 V DC
Approvals/Marks	CE, cULus, cCSAus	CE, cULus, cCSAus	CE, cULus, cCSAus

### References

2-wire	Cable		NO			
			NC			
2-wire	Plug		NO			
			NC			
3-wire	Cable	NPN	NO	<b>ICB30L50F22NO</b>	<b>ICB30S35N40NO</b>	<b>ICB30L50N40NO</b>
			NC	<b>ICB30L50F22NC</b>	<b>ICB30S35N40NC</b>	<b>ICB30L50N40NC</b>
	PNP		NO	<b>ICB30L50F22PO</b>	<b>ICB30S35N40PO</b>	<b>ICB30L50N40PO</b>
			NC	<b>ICB30L50F22PC</b>	<b>ICB30S35N40PC</b>	<b>ICB30L50N40PC</b>
	Plug	NPN	NO	<b>ICB30L50F22NOM1</b>	<b>ICB30S35N40NOM1</b>	<b>ICB30L50N40NOM1</b>
			NC	<b>ICB30L50F22NCM1</b>	<b>ICB30S35N40NCM1</b>	<b>ICB30L50N40NCM1</b>
PNP		NO	<b>ICB30L50F22POM1</b>	<b>ICB30S35N40POM1</b>	<b>ICB30L50N40POM1</b>	
		NC	<b>ICB30L50F22PCM1</b>	<b>ICB30S35N40PCM1</b>	<b>ICB30L50N40PCM1</b>	
4-wire	Cable	NPN	NO+NC			
		PNP	NO+NC			
	Plug	NPN	NO+NC			
		PNP	NO+NC			

AC application				
M12	M12	M18	M18	M18
2 mm	4 mm	5 mm	5 mm	5 mm
Standard	Standard	Standard	Standard	Standard
Flush	Non-flush	Flush	Flush	Flush
				
E112	E112	E118	E118	E118
Long body	Long body	Short body	Long body	Short body
66 (cable) 74.5 (plug)	70 (cable) 78.5 (plug)	57	77	57 (cable) 55 (plug)
50	50	30	50	30
Stainless steel	Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67
25 Hz	25 Hz	25 Hz	25 Hz	25 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)
20 to 265 V AC	20 to 265 V AC	20 to 250 V AC	20 to 250 V AC	20 to 265 V AC
CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
<b>E11202TBOSL</b>	<b>E11204TBOSL</b>	<b>E11805TBOPS</b>	<b>E11805TBOPL</b>	<b>E11805TBOSS</b>
<b>E11202TBCSL</b>	<b>E11204TBCSL</b>			<b>E11805TBCSS</b>
<b>E11202TBOSL-6</b>	<b>E11204TBOSL-6</b>			<b>E11805TBOSS-6</b>

# Inductive sensors







## Selection guide

AC application				
Diameter	<b>M18</b>	<b>M18</b>	<b>M18</b>	<b>M18</b>
Sensing distance ( $S_n$ )	5 mm	8 mm	8 mm	8 mm
Range	Standard	Standard	Standard	Standard
Mounting	Flush	Non-flush	Non-flush	Non-flush




Family	E118	E118	E118	E118
Housing	Long body	Long body	Short body	Long body
Dimensions (mm)	77 (cable) 75 (plug)	85 (cable) 83 (plug)	65 (cable) 63 (plug)	85 (cable) 83 (plug)
Thread (mm)	50	50	30	50
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 250 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						
2-wire	Cable	NO	<b>EI1805TBOSL</b>	<b>EI1808TBOPL</b>	<b>EI1808TBOSS</b>	<b>EI1808TBOSL</b>
		NC	<b>EI1805TBCSL</b>	<b>EI1808TBCPL</b>	<b>EI1808TBCSS</b>	<b>EI1808TBCSL</b>
	Plug	NO	<b>EI1805TBOSL-6</b>		<b>EI1808TBOSS-6</b>	<b>EI1808TBOSL-6</b>
		NC		<b>EI1808TBCPL-6</b>		<b>EI1808TBCSL-6</b>

<b>AC application</b>					
<b>M30</b>	<b>M30</b>	<b>M30</b>	<b>M30</b>	<b>M30</b>	<b>M30</b>
10 mm	10 mm	10 mm	15 mm	15 mm	15 mm
Standard	Standard	Standard	Standard	Standard	Standard
Flush	Flush	Flush	Non-flush	Non-flush	Non-flush
					
EI30	EI30	EI30	EI30	EI30	EI30
Long body	Short body	Long body	Long body	Short body	Long body
79	59	79 (cable) 75.5 (plug)	91	87.5 (cable) 67.5 (plug)	91 (cable) 71 (plug)
50	30	50	50	30	50
Thermopl. polyester	Stainless steel	Stainless steel	Thermopl. polyester	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
25 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 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)	-25° to 70°C (-13° to 158°F)
20 to 265 V AC	20 to 265 V AC	20 to 265 V AC	20 to 265 V AC	20 to 265 V AC	20 to 265 V AC
CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
<b>EI3010TBOPL</b>	<b>EI3010TBOSS</b> <b>EI3010TBCSS</b>	<b>EI3010TBOSL</b> <b>EI3010TBCSL</b> <b>EI3010TBOSL-6</b>	<b>EI3015TBOPL</b>	<b>EI3015TBOSS</b> <b>EI3015TBCSS</b> <b>EI3015TBOSS-6</b>	<b>EI3015TBOSL</b> <b>EI3015TBCSL</b> <b>EI3015TBOSL-6</b>






# Inductive sensors

## Selection guide

<b>NAMUR</b>				
Diameter	<b>M8 - Ø 6.5</b>	<b>M8</b>	<b>M12</b>	<b>M12</b>
Sensing distance (S <sub>n</sub> )	1 mm	2 mm	2 mm	2 mm
Range	Standard	Standard	Standard	Standard
Mounting	Flush	Non-flush	Flush	Flush
				
Family	EI08 - EI06	EI08	IA12	IA12
Housing	Short body	Short body	Short body	Long body
Dimensions (mm)	51	54	46 (cable) 54.5 (plug)	66 (cable) 74.5 (plug)
Thread (mm)	35	35	30	50
Material	Stainless steel	Stainless steel	Thermoplastic polyester	Thermoplastic polyester
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	2 kHz	1.5 kHz	1.4 kHz	1.4 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)	-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>				
Cable	<b>EI08(06)01NACS (*)</b>	<b>EI0802NACS</b>	<b>IA12CSF02UC</b>	<b>IA12CLF02UC</b>
Plug			<b>IA12CSF02UCM1</b>	<b>IA12CLF02UCM1</b>

(\*) **EI0801NACS = M8**  
**EI0601NACS = Ø 6.5**



<b>NAMUR</b>				
<b>M12</b>	<b>M12</b>	<b>M12</b>	<b>M12</b>	<b>M12</b>
2 mm	2 mm	4 mm	4 mm	4 mm
Standard Flush	Standard Flush	Standard Non-flush	Standard Non-flush	Standard Non-flush
				
IA12 Short body	IA12 Long body	IA12 Short body	IA12 Long body	IA12 Short body
46 (cable) 54.5 (plug)	66 (cable) 74.5 (plug)	50 (cable) 58.5 (plug)	70 (cable) 78.5 (plug)	50(cable) 58.5 (plug)
30	50	30	50	30
Stainless steel IP 67	Stainless steel IP 67	Thermoplastic polyester IP 67	Thermoplastic polyester IP 67	Stainless steel IP 67
1.4 kHz	1.4 kHz	1.2 kHz	1.2 kHz	1.2 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)
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
<b>IA12ESF02UC</b> <b>IA12ESF02UCM1</b>	<b>IA12ELF02UC</b> <b>IA12ELF02UCM1</b>	<b>IA12CSN04UC</b> <b>IA12CSN04UCM1</b>	<b>IA12CLN04UC</b> <b>IA12CLN04UCM1</b>	<b>IA12ESN04UC</b> <b>IA12ESN04UCM1</b>

# Inductive sensors






## Selection guide

<b>NAMUR</b>				
Diameter	<b>M12</b>	<b>M18</b>	<b>M18</b>	<b>M18</b>
Sensing distance ( $S_n$ )	4 mm	5 mm	5 mm	5 mm
Range	Standard	Standard	Standard	Standard
Mounting	Non-flush	Flush	Flush	Flush



Family	IA12	IA18	IA18	IA18
Housing	Long body	Short body	Long body	Short body
Dimensions (mm)	70 (cable) 78.5 (plug)	57 (cable) 55 (plug)	77 (cable) 75 (plug)	57 (cable) 55 (plug)
Thread (mm)	50	30	50	30
Material	Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	1.2 kHz	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)	-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>				
Cable	<b>IA12ELN04UC</b>	<b>IA18CSF05UC</b>	<b>IA18CLF05UC</b>	<b>IA18ESF05UC</b>
Plug	<b>IA12ELN04UCM1</b>	<b>IA18CSF05UCM1</b>	<b>IA18CLF05UCM1</b>	<b>IA18ESF05UCM1</b>

<b>NAMUR</b>				
<b>M18</b>	<b>M18</b>	<b>M18</b>	<b>M18</b>	<b>M18</b>
5 mm	8 mm	8 mm	8 mm	8 mm
Standard	Standard	Standard	Standard	Standard
Flush	Non-flush	Non-flush	Non-flush	Non-flush
				
IA18	IA18	IA18	IA18	IA18
Long body	Short body	Long body	Short body	Long body
77 (cable) 75 (plug)	65 (cable) 63 (plug)	85 (cable) 83 (plug)	65 (cable) 63 (plug)	85 (cable) 83 (plug)
50	30	50	30	50
Stainless steel	Thermoplastic polyester	Thermoplastic polyester	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67	IP 67
500 Hz	200 Hz	200 Hz	200 Hz	200 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)
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
<b>IA18ELF05UC</b>	<b>IA18CSN08UC</b>	<b>IA18CLN08UC</b>	<b>IA18ESN08UC</b>	<b>IA18ELN08UC</b>
<b>IA18ELF05UCM1</b>	<b>IA18CSN08UCM1</b>	<b>IA18CLN08UCM1</b>	<b>IA18ESN08UCM1</b>	<b>IA18ELN08UCM1</b>

# Inductive sensors





## Selection guide

<b>NAMUR</b>				
Diameter	<b>M30</b>	<b>M30</b>	<b>M30</b>	<b>M30</b>
Sensing distance ( $S_n$ )	10 mm	10 mm	10 mm	10 mm
Range	Standard	Standard	Standard	Standard
Mounting	Flush	Flush	Flush	Flush



Family	IA30	IA30	IA30	IA30
Housing	Short body	Long body	Short body	Long body
Dimensions (mm)	59 (cable) 55.5 (plug)	79 (cable) 75.5 (plug)	59 (cable) 55.5 (plug)	79 (cable) 75.5 (plug)
Thread (mm)	30	50	30	50
Material	Thermoplastic polyester	Thermoplastic polyester	Stainless steel	Stainless steel
Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating frequency	300 Hz	300 Hz	300 Hz	300 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	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>				
Cable	<b>IA30CSF10UC</b>	<b>IA30CLF10UC</b>	<b>IA30ESF10UC</b>	<b>IA30ELF10UC</b>
Plug	<b>IA30CSF10UCM1</b>	<b>IA30CLF10UCM1</b>	<b>IA30ESF10UCM1</b>	<b>IA30ELF10UCM1</b>

<b>NAMUR</b>			
<b>M30</b>	<b>M30</b>	<b>M30</b>	<b>M30</b>
15 mm	15 mm	15 mm	15 mm
Standard	Standard	Standard	Standard
Non-flush	Non-flush	Non-flush	Non-flush
			
IA30	IA30	IA30	IA30
Short body	Long body	Short body	Long body
71 (cable) 67.5 (plug)	91 (cable) 87.5 (plug)	71 (cable) 67.5 (plug)	91 (cable) 87.5 (plug)
30	50	30	50
Thermoplastic polyester	Thermoplastic polyester	Stainless steel	Stainless steel
IP 67	IP 67	IP 67	IP 67
100 Hz	100 Hz	100 Hz	100 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)
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
<b>IA30CSN15UC</b> <b>IA30CSN15UCM1</b>	<b>IA30CLN15UC</b> <b>IA30CLN15UCM1</b>	<b>IA30ESN15UC</b> <b>IA30ESN15UCM1</b>	<b>IA30ELN15UC</b> <b>IA30ELN15UCM1</b>

# Inductive sensors

## Selection guide

High temperature			
Diameter	M5	M8	M12
Sensing distance (S <sub>n</sub> )	0.8 mm	1 mm	2 mm
Range	Standard	Standard	Standard
Mounting	Flush	Flush	Flush



Family	IA05	IA08	IA12
Housing	Short body	Short body	Short body
Dimensions (mm)	30	45	40 (cable, 3-wire DC) 60 (plug, 3-wire DC) 25 (NAMUR)
Thread (mm)	25	40	40 (3-wire DC) 25 (NAMUR)
Material	Stainless steel	Stainless steel	Nickel-plated brass
Degree of protection	IP 67	IP 67	IP 67
Operating frequency	3 kHz	2 kHz	2 kHz
Operating temperature	-25° to 120°C (-13° to 248°F)	-25° to 120°C (-13° to 248°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 (**)
Approvals/Marks	CE	CE	CE

References						
3-wire DC	Cable	NPN	NO	<b>IA05BSF08NOHT-K</b>	<b>IA08BSF10NOHT-K</b>	
			NC		<b>IA12ASF02NCHT</b>	
	Plug	PNP	NO	<b>IA05BSF08POHT-K</b>	<b>IA08BSF10POHT-K</b>	<b>IA12ASF02POHT-K</b>
			NC			
NAMUR	Cable	NPN	NO			
			NC		<b>IA12ASF02POM1HT-K</b>	
		PNP	NO		<b>IA12ASF02POM1HT-K</b>	
			NC			
					<b>IA12ASF02UHT-K</b>	

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

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

## High temperature

M12	M18	M18	M30	M30
4 mm	5 mm	8 mm	10 mm	15 mm
Standard	Standard	Standard	Standard	Standard
Non- flush	Flush	Non- flush	Flush	Non- flush



IA12	IA18	IA18	IA30	IA30
Short body	Short body	Short body	Short body	Short body
40 (cable) 60 (plug)	40 (cable) 60 (plug)	40 (cable) 60 (plug)	40 (cable) 60 (plug)	40 (cable) 60 (plug)
34	40	32	40	28
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
1 kHz	1 kHz	500 Hz	500 Hz	300 Hz
-40° to 100°C (-40° to 212°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)	-40° to 100°C (-40° to 212°F)
10 to 30 V DC	10 to 30 V DC	10 to 30 V DC	10 to 30 V DC	10 to 30 V DC
CE	CE	CE	CE	CE

**IA12ASN04POHT-K   IA18ASF05POHT-K   IA18ASN08POHT-K   IA30ASF10POHT-K   IA30ASN15POHT-K**

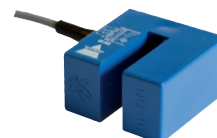
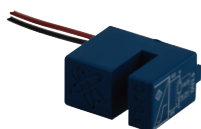
**IA12ASN04POM1HT-K   IA18ASF05POM1HT-K   IA18ASN08POM1HT-K   IA30ASF10POM1HT-K   IA30ASN15POM1HT-K**

# Inductive sensors

## Selection guide

### 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

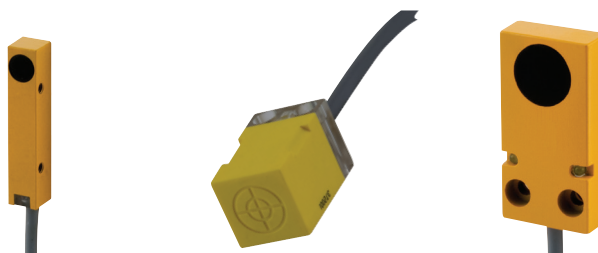
3-wire DC	NPN	NO	<b>DU6E</b>	<b>DU10E</b>
NAMUR	<b>DU3.5</b>	<b>DU5</b>	<b>DU6</b>	<b>DU10</b>

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



## 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) IP 67 (plug)	IP 67	IP 67
Operating frequency	1 kHz (cable) 2 kHz (plug)	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>		

# Inductive sensors

## Selection guide

### 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		
4-wire DC	Cable	NPN	<b>EI5510NPAP</b>	<b>EI5515NPAP</b>	
		PNP	<b>EI5510PPAP</b>	<b>EI5515PPAP</b>	
	Plug	NPN	<b>EI5510NPAP-1</b>	<b>EI5515NPAP-1</b>	
		PNP	<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)

## Accessories

IP67 cordset	<b>CONB1...(M12)</b> <b>CONB5...(M8)</b> <b>CONB.3NF-A...(3-wire)</b> <b>CONB.4NF-A...(4-wire)</b>	<b>CONB1...(M12)</b> <b>CONB5...(M8)</b> <b>CONB.3NF-S... (3-wire)</b> <b>CONB.4NF-S...(4-wire)</b>
Plug type	Angled	Straight



### References

Jacket		PVC	PUR	PVC	PUR
Cable length	2 m	<b>CONB13(4)NF-A2</b>	<b>CONB1(5)3(4)NF-A2P</b>	<b>CONB13(4)NF-S2</b>	<b>CONB1(5)3(4)NF-S2P</b>
	5 m	<b>CONB13(4)NF-A5</b>	<b>CONB1(5)3(4)NF-A5P</b>	<b>CONB13(4)NF-S5</b>	<b>CONB1(5)3(4)NF-S5P</b>
	10 m	<b>CONB13(4)NF-A10</b>	<b>CONB1(5)3(4)NF-A10P</b>	<b>CONB13(4)NF-S10</b>	<b>CONB1(5)3(4)NF-S10P</b>
	15 m	<b>CONB13(4)NF-A15</b>	<b>CONB1(5)3(4)NF-A15P</b>	<b>CONB13(4)NF-S15</b>	<b>CONB1(5)3(4)NF-S15P</b>

IP69K cordset	<b>CONB1...(M12)</b> <b>CONB5...(M8)</b>	<b>CONB1...(M12)</b> <b>CONB5...(M8)</b>
Plug type	Angled	Straight



### References

Jacket		PVC	PVC
Cable length	2 m	<b>CONB1(5)4NF-A2W</b>	<b>CONB1(5)4NF-S2W</b>
	5 m	<b>CONB1(5)4NF-A5W</b>	<b>CONB1(5)4NF-S5W</b>

Mounting bracket	<b>AMB..-A...</b>	<b>AMB..-S...</b>
Shape	Angled	Straight



### References

Material		Steel, galvanized	Stainless steel	Steel, galvanized	Stainless steel
Diameter	M8	<b>AMB8-A</b>		<b>AMB8-S</b>	
	M12	<b>AMB12-A</b>	<b>AMB12-A316L</b>	<b>AMB12-S</b>	<b>AMB12-S316L</b>
	M18	<b>AMB18-A</b>	<b>AMB12-A316L</b>	<b>AMB18-S</b>	<b>AMB12-S316L</b>
	M30	<b>AMB30-A</b>		<b>AMB30-S</b>	

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