



## **ICF - Full metal inductive sensors**

# **Sensors**

# ICF

## Full metal inductive sensor

The ICF inductive sensors family is a robust solution for daily indoor and outdoor operations to ensure accurate and reliable detection of metal object even in harsh conditions.

Thanks to the one-piece stainless-steel housing, is particularly suitable in applications where high mechanical resistance to impacts, vibrations and resistance to aggressive cleaning processes using chemical agents are required.

The on-board IO-Link communication offers many output combinations such as customized sensing distance and advanced sensing modes. Moreover, provides specific cyclic process data to monitor the quality of the detection, allowing timely and predictable scheduling of maintenance to prevent machine downtime.



## The highest impact resistance

### Main features

- M12, M18 and M30 rugged one-piece stainless-steel AISI 304 housings available with 2m high-grade PUR cable or M12-plug
- Maximum electrical and mechanical flexibility with flush or non-flush versions and configurable output: PNP, NPN, Push-Pull, NO, NC
- High switching distances from 4 to 22 mm to allow a safe installation on the machine

### Predictable maintenance:

- Proximity alarm, when the target is too close to the sensing face
- Low margin alarm, when the target is between 81% and 100% of the sensing distance
- Activation level, gives a rough indication of the target position
- Temperature monitoring, setting over or under-run temperature alarms

### Extreme performance

- Full metal face resistant up to 260 bar pressure for M12, 200 bar for M18 and 100 bar for M30
- IK10 mechanical shock resistance (EN 50102), 1 J impact resistance (EN 60068-2-75)
- 25 g vibration resistance, 100 g shock resistance and 40 g continuous shock resistance
- Extended operating temperature range from -40°C to +85°C; Resistant up to 100°C for 15' cleaning process
- IP67, IP68 and IP69K protection degree to avoid any water and moisture penetration during high pressure and high temperature washing cycles

### LEDs function

- The visual adjustment indicator helps to ensure a safe detection of the target during the installation on the machine
- "Find my sensor" can be activated via IO-Link, to easily identify and locate the sensor

## Applications

### Food & Beverage



### Agriculture



### Machine Tool



### Metal working



### Pharmaceutical



### Mobile equipment



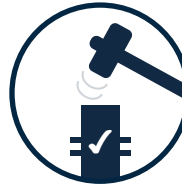
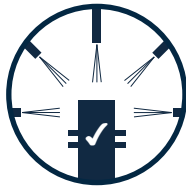
# EXTREME MECHANICAL RESISTANCE

100 g shock  
40 g continuous  
shock resistance

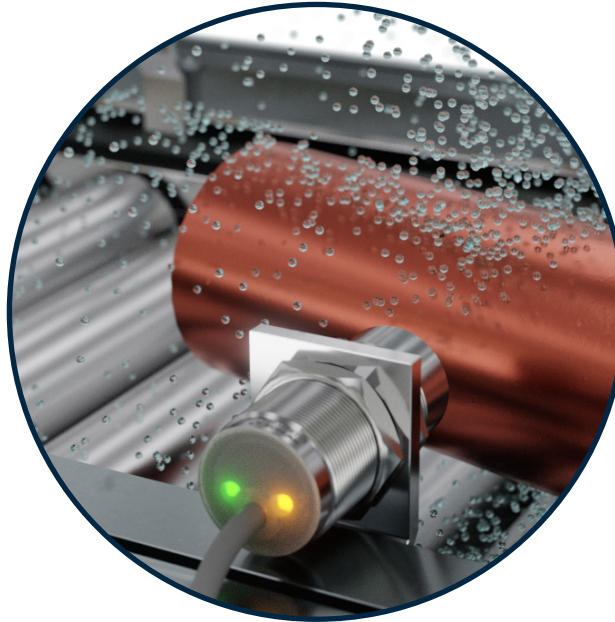


-40°C to +85°C  
extended temperature  
range

IP68, IP69K  
protection degree



IK10  
mechanical shock  
resistance



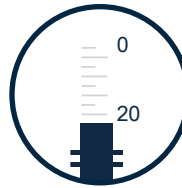
**ECOLAB**<sup>®</sup>  
**IO-Link**

Proximity alarm  
target <15% Sn



Low margin alarm  
target >81% Sn

Temperature alarm  
over or under-run



Activation level  
0-20 range

# MACHINE CONDITION MONITORING

## Type selection

### ICF12 (3-wire DC)

Housing dimension	M12	
Material	Stainless steel AISI 304 housing	
Rated operational voltage	10 to 30 VDC	
Switching frequency	≤ 500Hz	
Max rated operating distance, Sn	4 mm	8 mm
Installation type	Flush	Non-flush
2m PUR cable	<b>ICF12L45F04B2IO</b>	<b>ICF12L45N08B2IO</b>
M12 - Plug	<b>ICF12L45F04M1IO</b>	<b>ICF12L45N08M1IO</b>

### ICF18 (3-wire DC)

Housing dimension	M18	
Material	Stainless steel AISI 304 housing	
Rated operational voltage	10 to 30 VDC	
Switching frequency	≤ 300Hz	
Max rated operating distance, Sn	8 mm	14 mm
Installation type	Flush	Non-flush
2m PUR cable	<b>ICF18L45F08B2IO</b>	<b>ICF18L45N14B2IO</b>
M12 - Plug	<b>ICF18L45F08M1IO</b>	<b>ICF18L45N14M1IO</b>

### ICF30 (3-wire DC)

Housing dimension	M30	
Material	Stainless steel AISI 304 housing	
Rated operational voltage	10 to 30 VDC	
Switching frequency	≤ 150Hz	
Max rated operating distance, Sn	15 mm	22 mm
Installation type	Flush	Non-flush
2m PUR cable	<b>ICF30L45F15B2IO</b>	<b>ICF30L45N22B2IO</b>
M12 - Plug	<b>ICF30L45F15M1IO</b>	<b>ICF30L45N22M1IO</b>



#### Information:

Rated operating distance can be set to 33%, 50%, 75% or 100% of the maximum sensing distance. Electrical outputs can be configured as PNP/NPN/Push-pull, normally open or normally closed.

## OUR SALES NETWORK IN EUROPE

### AUSTRIA

Carlo Gavazzi GmbH  
Ketzerergasse 374,  
A-1230 Wien  
Tel: +43 1 888 4112  
Fax: +43 1 889 10 53  
office@carlogavazzi.at

### BELGIUM

Carlo Gavazzi NV/SA  
Mechelsesteenweg 311,  
B-1800 Vilvoorde  
Tel: +32 2 257 4120  
sales@carlogavazzi.be

### DENMARK

Carlo Gavazzi Handel A/S  
Over Hadstenvej 40,  
DK-8370 Hadsten  
Tel: +45 89 60 6100  
Fax: +45 86 98 15 30  
handel@gavazzi.dk

### FINLAND

Carlo Gavazzi OY AB  
Ahventie, 4 B  
FI-02170 Espoo  
Tel: +358 9 756 2000  
myynti@gavazzi.fi

### FRANCE

Carlo Gavazzi Sarl  
Zac de Paris Nord II, 69, rue de la Belle Etoile,  
F-95956 Roissy CDG Cedex  
Tel: +33 1 49 38 98 60  
Fax: +33 1 48 63 27 43  
french.team@carlogavazzi.fr

### GERMANY

Carlo Gavazzi GmbH  
Pfnorstr. 10-14  
D-64293 Darmstadt  
Tel: +49 6151 81000  
Fax: +49 6151 81 00 40  
info@gavazzi.de

### GREAT BRITAIN

Carlo Gavazzi UK Ltd  
4.4 Frimley Business Park,  
Frimley, Camberley, Surrey GU16 7SG  
Tel: +44 1 276 854 110  
Fax: +44 1 276 682 140  
sales@carlogavazzi.co.uk

### ITALY

Carlo Gavazzi SpA  
Via Milano 13,  
I-20045 Lainate  
Tel: +39 02 931 761  
Fax: +39 02 931 763 01  
info@gavazziacbu.it

### NETHERLANDS

Carlo Gavazzi BV  
Wijkermeerweg 23,  
NL-1948 NT Beverwijk  
Tel: +31 251 22 9345  
Fax: +31 251 22 60 55  
info@carlogavazzi.nl

### NORWAY

Carlo Gavazzi AS  
Melkeveien 13,  
N-3919 Parsgrunn  
Tel: +47 35 93 0800  
Fax: +47 35 93 08 01  
post@gavazzi.no

### PORTUGAL

Carlo Gavazzi Lda  
Rua dos Jerónimos 38-B,  
P-1400-212 Lisboa  
Tel: +351 21 361 7060  
Fax: +351 21 362 13 73  
carlogavazzi@carlogavazzi.pt

### SPAIN

Carlo Gavazzi SA  
Avda. Iparraguirre, 80-82,  
E-48940 Leioa (Bizkaia)  
Tel: +34 94 480 4037  
Fax: +34 94 431 6081  
gavazzi@gavazzi.es

### SWEDEN

Carlo Gavazzi AB  
V:a Kyrkogatan 1,  
S-652 24 Karlstad  
Tel: +46 54 85 1125  
Fax: +46 54 85 11 77  
info@carlogavazzi.se

### SWITZERLAND

Carlo Gavazzi AG  
Verkauf Schweiz/Vente Suisse  
Sumpfstrasse 3,  
CH-6312 Steinhausen  
Tel: +41 41 747 4535  
Fax: +41 41 740 45 40  
info@carlogavazzi.ch

## OUR SALES NETWORK IN THE AMERICAS

### USA

Carlo Gavazzi Inc.  
750 Hastings Lane,  
Buffalo Grove, IL 60089, USA  
Tel: +1 847 465 6100  
Fax: +1 847 465 7373  
sales@carlogavazzi.com

### CANADA

Carlo Gavazzi Inc.  
2660 Meadowvale Boulevard,  
Mississauga, ON L5N 6M6, Canada  
Tel: +1 905 542 0979  
Fax: +1 905 542 22 48  
gavazzi@carlogavazzi.com

### MEXICO

Carlo Gavazzi Mexico S.A. de C.V.  
Circuito Puericultores 22, Ciudad Satelite  
Naucalpan de Juarez, Edo Mex. CP 53100  
Mexico  
Tel: +52 55 5373 7042  
Fax: +52 55 5373 7042  
mexicosales@carlogavazzi.com

### BRAZIL

Carlo Gavazzi Automação Ltda.  
Av. Francisco Matarazzo, 1752  
Conj 2108 - Barra Funda - São Paulo/SP  
Tel: +55 11 3052 0832  
Fax: +55 11 3057 1753  
info@carlogavazzi.com.br

## OUR SALES NETWORK IN ASIA AND PACIFIC

### SINGAPORE

Carlo Gavazzi Automation Singapore Pte. Ltd.  
61 Tai Seng Avenue #05-06  
Print Media Hub @ Paya Lebar iPark  
Singapore 534167  
Tel: +65 67 466 990  
Fax: +65 67 461 980  
info@carlogavazzi.com.sg

### MALAYSIA

Carlo Gavazzi Automation (M) SDN. BHD.  
D12-06-G, Block D12,  
Pusat Perdagangan Dana 1,  
Jalan PJU 1A/46, 47301 Petaling Jaya,  
Selangor, Malaysia.  
Tel: +60 3 7842 7299  
Fax: +60 3 7842 7399  
sales@gavazzi-asia.com

### CHINA

Carlo Gavazzi Automation  
(China) Co. Ltd.  
Unit 2308, 23/F.,  
News Building, Block 1, 1002  
Middle Shennan Zhong Road,  
Shenzhen, China  
Tel: +86 755 83699500  
Fax: +86 755 83699300  
sales@carlogavazzi.cn

### HONG KONG

Carlo Gavazzi Automation  
Hong Kong Ltd.  
Unit No. 16 on 25<sup>th</sup> Floor, One Midtown,  
No. 11 Hoi Shing Road, Tsuen Wan,  
New Territories, Hong Kong  
Tel: +852 26261332 / 26261333  
Fax: +852 26261316

### TAIWAN

Branch of Carlo Gavazzi Automation  
Singapore Pte. Ltd.  
12F-3, No. 530 Yingcai Rd,  
West Dist, Taichung City 403518,  
Taiwan, China  
Tel: +886 4 2258 4001  
Fax: +886 4 2258 4002

## OUR COMPETENCE CENTRES AND PRODUCTION SITES

### DENMARK

Carlo Gavazzi Industri A/S  
Hadsten

### MALTA

Carlo Gavazzi Ltd  
Zejtun

### ITALY

Carlo Gavazzi Controls SpA  
Belluno

### LITHUANIA

Uab Carlo Gavazzi Industri Kaunas  
Kaunas

### CHINA

Carlo Gavazzi Automation (Kunshan) Co., Ltd.  
Kunshan

## HEADQUARTERS

Carlo Gavazzi Automation SpA  
Via Milano, 13  
I-20045 - Lainate (MI) - ITALY  
Tel: +39 02 931 761  
info@gavazziautomation.com

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www.gavazziautomation.com