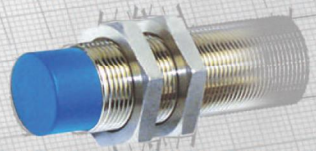


MAGNETIC SENSORS

The magnetic sensors range is basically made by two categories

DETECTION OF EXTERNAL MAGNETS

Very long sensing distance even with small sensors are possible. In order to choose properly the magnet see page C-12. In many cases the sensor is used to detect a magnet embedded inside other devices such as pneumatic cylinders, specifically made for this purpose.

There are two basic tecnologies : Reed contact or solid state.

Reed contact

This is the most cost effective solution. Being assembled with the same production process as for the inductive sensors, they join the advantages of a robust and sealed construction to the performance of a electromechanical device:
- no need of power suppy
- no voltage drop
- no minimum load requirement
- no limitations for series or parallel connection

It must be observed that eventhough the number of cycles of a Reed contact is very high, it is not infinite. They are hence not suitable for applications with high working frequencies or requiring fast response times. It is also highly recommended to avoid the application of eccessive mechanical stresses on the body of the sensor.

Working principle:

A Reed contact embedded inside the sensor detects the magnetic field and closes a contact able to directly drive the load. Versions with three wires or without LED don't have voltage drop across the contacts. On the two wire types with LED you must consider a little voltage drop, this may be important for the series connection of several sensors.

Amplified in d.c. or solid state output

They are much more sensitive than the Reed contacts, as shown in table at page C-12.
They have all the advantages of the solid state sensors :
- Unlimited number of cycles
- Very fast switching time
- High working frequencies
- High resistance against vibration and mechanical strenght of the housing

Working principle:

An electronic, solid state component detects the magnetic field and drives the amplifier stage, LED and short circuit protection stages.

DETECTION OF A FERROMAGNETIC TARGET

These sensors are able to detect only ferromagnetic objects. They are mainly used as selective sensors on working plants for aluminium, brass, copper, where pieces of metal would create unwanted signals using standard inductive sensors.

Working principle:

An electronic, solid state component, internally polarized by an embedded magnet, detects the magnetic field variation due to the influence of an external ferromagnetic object, driving the amplifier, LED and short circuit protection stages.

MAGNETIC SENSORS

BMS = activated by external magnet
DCH = activated by ferromagnetic target

Diameter of cylindrical sensors.
For other types, change the number with the following:

Z = rectangular plastic 16 x 28 x 10
W = rectangular plastic 19 x 28,5 x 10,5

BMS	Z	/	4	6	0	9	KS	-5	PUR

3 = with connector M12 x 1
6 = standard type cable output
9 = with connector M8 x 1
***** = male connector cabled on sensor (see pag. H-1)

0 = NO (normally open output)
1 = NC (normally closed output)
2 = NO + NC (complementary outputs)

0 = REED contact
2 = REED contact 2-wire with LED
8 = NPN static output
2 = NPN static output open collector
9 = PNP static output
1 = PNP static output open collector

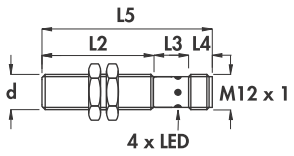
L = smooth body
J = degree of protection IP68
K = protection against short circuit and overload
S = LED output status
T = high temperatures version
P = high current REED contact

Cable length (if required different than standard 2m)

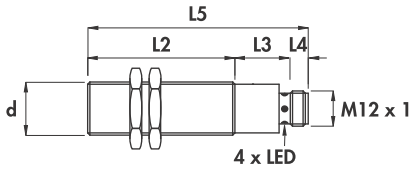
For Polyurethane cable add PUR

Amplified in d.c. 3 and 4-wire •
Detection of ferromagnetic targets •
Connector output M12 x 1 •

Housing I-14



Housing I-13



Diameter		M12 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		15	35

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

General Features:

These sensors are only able to detect ferromagnetic objects. They are mainly used as selective sensors on working plants for aluminium, brass, copper, where pieces of metal would create unwanted signals using standard inductive sensors.

Technical data:

- Supply voltage (U_B): 10 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 20 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20°÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis max (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10% with Fe37	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm			
I-14	•	-	43	15	8	66	6-8B-10	M12 x 1	1	200	3	**DCH12/4309KS**	**DCH12/43C9KS**	**DCH12/4329KS**
I-13	•	-	50	19	8	77	6-8B-10	M18 x 1	1	200	3	**DCH18/4309KS**	**DCH18/43C9KS**	**DCH18/4329KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCH12/4308KS)