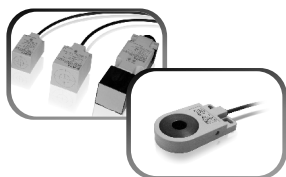


Ring Inductive Proximity Sensor



Features

- Adjustable sensitivity, high resolution, quick response
- Suitable for detecting broken line, parks blocked, small and fast moving parts
- Short circuit protection, load current protection and reversed polarity protection



Brief-introduction / C-01

CR6.5 –Cable / C-02

CR12 –Cable / C-03

CR16 –Cable / C-04



Characteristics

In ring sensors, sensing is made within the ring itself. The sensors is activated when a metallic object is introduced within it. They are particularly suitable for applications where detection of small metal objects such as screws, nuts, washers etc...is requested and also for break detection of continuous metal wires that pass through it.

Use with a delayed amplifiers

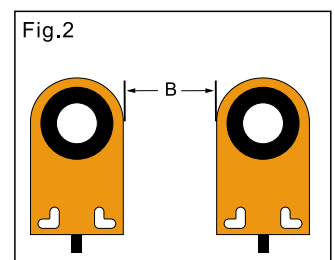
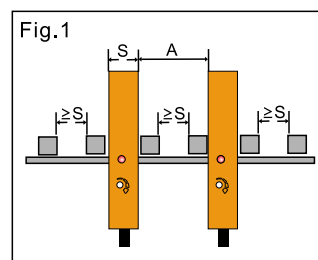
All types of ring sensor can work in combination with a delayed amplifier of the programmable ALTP series which ensures the sensing of small object in rapid movement.

Effects of metal in the close vicinity

If a moving metal part is close to the sensing area the functioning can be disturbed, In Order to avoid this, install the units some distance from metallic object, Ensure that this dose not interfere with the functioning.

Minimum distance between sensors

Model	6.5	12	16						
A(Fig.1)mm	30	30	30						
B(Fig.2)mm	10	10	10						



Use of sensor

A distance equal to the width of the sensor should be left between each object that passes through the sensor. If more than one sensor is to be installed in close vicinity, the minimum distance indicated between sensors should be observed.

Selection of ring sensor

Selection should be made based on the minimum hole diameter required. In this way the sensitivity adjustment can be made within normal parameters.

Model	Length mm	Diameter mm
6.5	2	1
12	2	1.2
16	3	1.2

Switching frequency

The switch frequency of inductive ring sensors depends on delayed im pulse time(when inserted)according to the formula:

$$\text{Switching frequency (Hz)} = \frac{1}{(T \text{ impulse} + 10) \text{ ms}}$$

Vice versa, switching frequency will be as per chart beside.

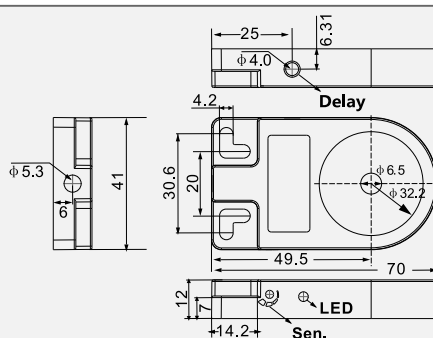
Model	Sw. Frequency hz(min.~max.)
6.5	600~1000
12	600~1000
16	600~1000

PICTURE



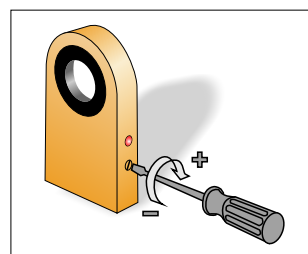
DC-4 wires N.O.+N.C.	IPSCR-N6.5NC-D4Y2
Sensing hole diameter	6.5mm
Min. detecting object	φ 1x2mm min.
Supply voltage	DC12...24V (10...30V DC)ripple(p-p):10% max.
High speed delay output	The output delay 100 ms
Consumption	<10mA
Load current	<150mA at DC:24V
Voltage drop(V_p)	<3V (Load current: 200mA)
Display	Red LED
Protection Circuit	Short circuit protection, reversed polarity protection and overload protection
Operating temperature	-25...+70°C(no condensation)
Anti-impact	500m/s ² (50G) X、Y、Z direction, each 10 times
Anti-vibration	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours
Protection	IP67
Connection	Cable: φ 4mm 2M
Housing material	PBT

Dimensional drawing



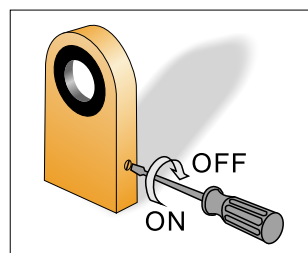
Sensitivity adjustment

After having followed the instructions regarding the choice of the most suitable unit it is recommended that the sensitivity adjustment be carried out when the sensor is installed in the final position taking into account how much metal mass is close by which could alter its functioning. The sensitivity increases turning the trimmer clockwise.



Delay on de-energization

All our inductive ring sensors, NPN and PNP amplified versions, are supplied with an ON-OFF switch to activate and deactivate delay on de-energization 100ms. This delay allows the sensor to detect small metallic objects passing rapidly through the sensitivity area of the ring.

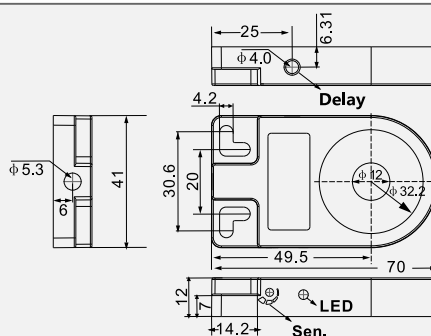


PICTURE



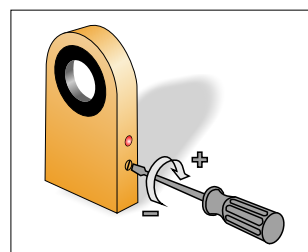
DC-4 wires N.O.+N.C.	IPSCR-N12NC-D4Y2
Sensing hole diameter	12mm
Min. detecting object	φ 1.2x2mm min.
Supply voltage	DC12...24V (10...30V DC)ripple(p-p):10% max.
High speed delay output	The output delay 100 ms
Consumption	<10mA
Load current	<150mA at DC:24V
Voltage drop(V_p)	<3V (Load current: 200mA)
Display	Red LED
Protection Circuit	Short circuit protection, reversed polarity protection and overload protection
Operating temperature	-25...+70°C(no condensation)
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Dimensional drawing



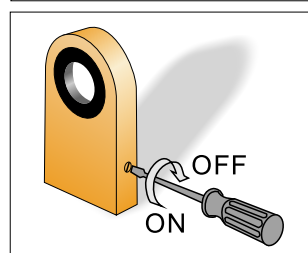
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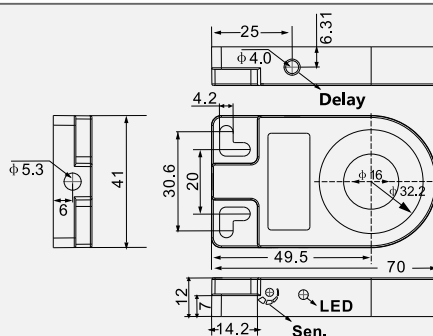


PICTURE



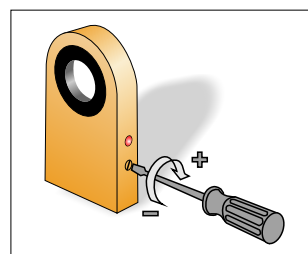
DC-4 wires N.O.+N.C.	IPSCR-N16NC-D4Y2
Sensing hole diameter	16mm
Min. detecting object	$\phi 1.2 \times 3\text{mm min.}$
Supply voltage	DC12...24V (10...30V DC) ripple(p-p):10% max.
High speed delay output	The output delay 100 ms
Consumption	<10mA
Load current	<150mA at DC:24V
Voltage drop(V_p)	<3V (Load current: 200mA)
Display	Red LED
Protection Circuit	Short circuit protection, reversed polarity protection and overload protection
Operating temperature	-25...+70°C(no condensation)
Anti-impact	500m/s ² (50G) X、Y、Z direction, each 10 times
Anti-vibration	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours
Protection	IP67
Connection	Cable: $\phi 4\text{mm}$ 2M
Housing material	PBT

Dimensional drawing



Sensitivity adjustment

After having followed the instructions regarding the choice of the most suitable unit it is recommended that the sensitivity adjustment be carried out when the sensor is installed in the final position taking into account how much metal mass is close by which could alter its functioning. The sensitivity increases turning the trimmer clockwise.



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