

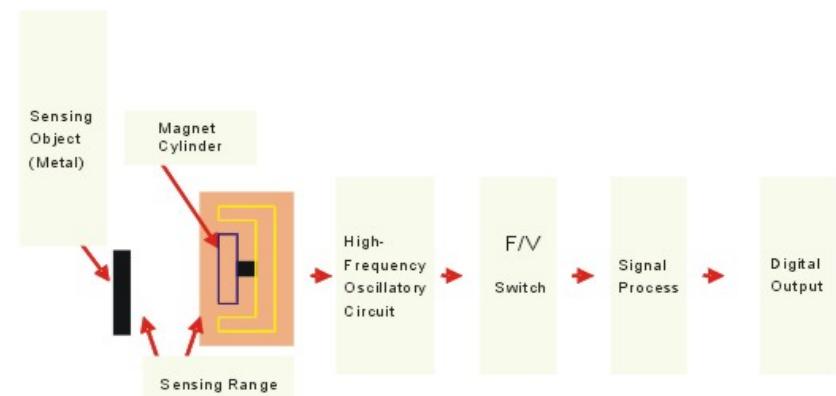
Features

- IC smart inductive proximity sensor. Through an orientation mode, user can set the sensing range and the warning point discretionarily
- Sensing objects: Metals
- Output: NPN, PNP, AC, DC, N/O, N/C
- Display: LED
- Electric Protection: Overload, short-circuit, reverse polarity
- Protection Classification: IP67
- Certification: CE and RoHS
- A variety of size and of outputs, easy installation, user-friendly handling
- Operating temperature: -25~80(°C) Resistance to high temperature: -25~100(°C)

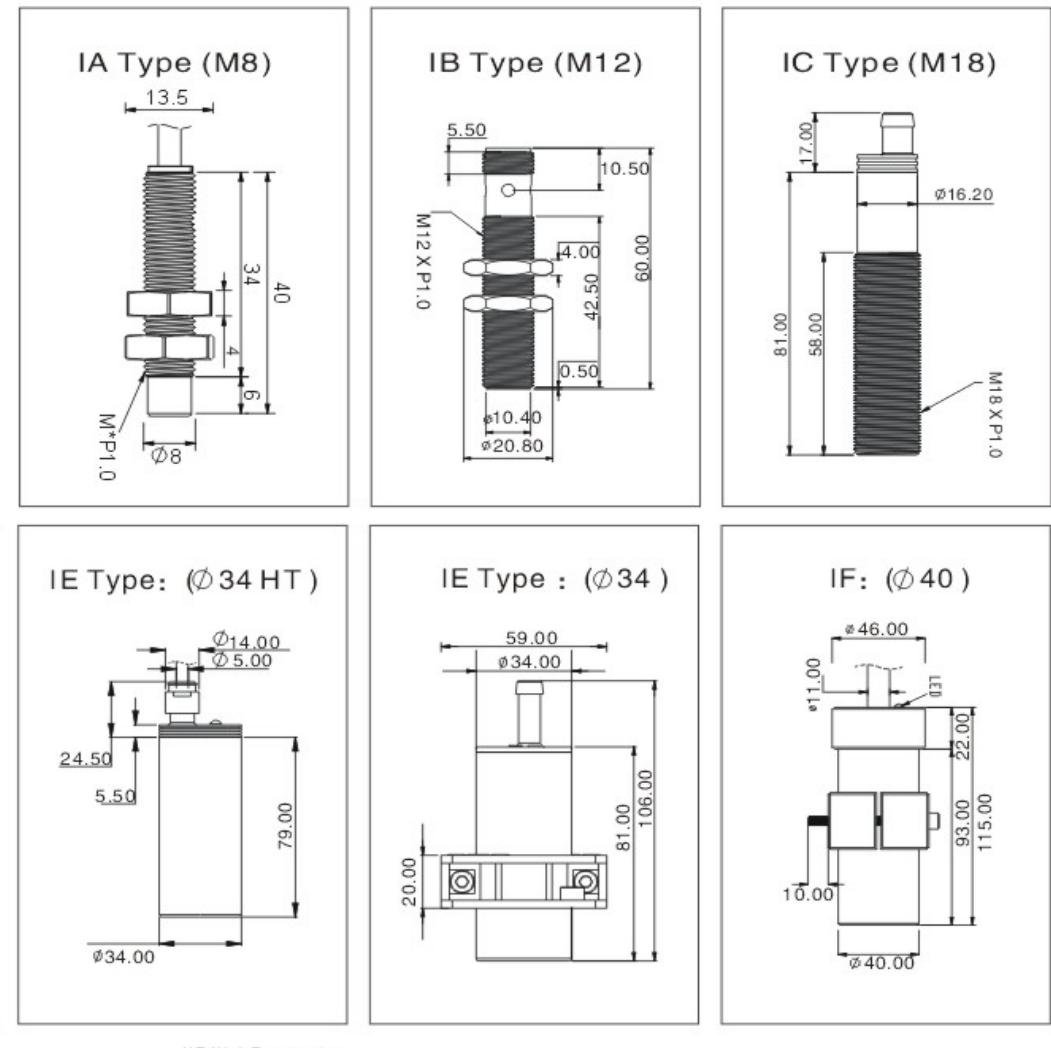
Operating Principle

Inductive proximity sensors include coils and electromagnets, and these two components are combined to the inductive part of a LC tuned circuit which activates the oscillator. Coils and electromagnets generate a low frequency electromagnetic field (EMF), and it is radiated from the sensing surface of the sensor. When a conductive object such as metals enters EMF, the eddy current starts to be transmitted inside the conductor. By absorbing the energy from EMF, this eddy current is increasing to the degree which is too large to be outputted by an amplifier so that the oscillator stop working and EMF disappears. It has been a well-known eddy current oscillator in the past.

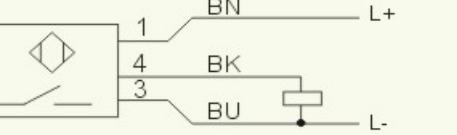
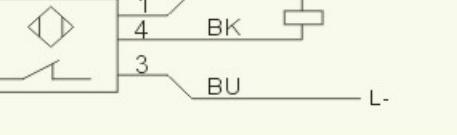
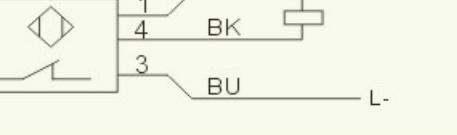
Inductive proximity sensors are a sort of position sensors and composed of LC high-frequency oscillator and amplified resistor. When the metals approach the oscillatory sensing interface, it can generate an electric magnet field and an eddy current appearing inside the objects. This current retroacts to the proximity sensor and weaken the oscillation amplitude as to change the parameters of internal circuit in order to detect whether any metal approaches and to control the output of switches. The sensing objects for inductive proximity sensors should be all metals or conductive materials.

Operation Procedure of Inductive Proximity Sensors**Application**

Inductive Proximity Sensors are usually applied to sense metals or conductive materials. Sensing range is determined by size of the sensors objects. The value of energy is determined by the size of the coils inside the sensors. The bigger sensors equip bigger coils which can possibly offer and are possible to offer the longer sensing range. Therefore, this is better to choose an adequate sensor in size to match the sensing range needed, and it can avoid any unstable condition happened.

Dimensions (mm)

Wiring

Electric Design	Connection	Color of Wire	Mode of Connection
2-Wire	PVC Cable / 2 m; 2 x 0.34 mm ² /td>5	BN BU	 
	M12 Socket	WH ② BU ③ BK ④	
3-Wire	PVC Cable / 2 m; 3 x 0.34 mm ² /td>5	BN BU BK	Wire connection for PNP output   Wire connection for NPN output  
	M12 Socket	WH ② BU ③ BK ④	

Socket

Type	Socket Part NO .					
I	C	02	I	5	C	12
L	C: Cable	Length 02: 2m 05: 5m 10: 10m	Connector I: Straight L: Angle	Core 4: 4 5: 5	Material R: PUR C: PVC	Socket Size 12: M12

Order Type IA: M8 IB: M12 IC: M18 ID: M30 IE: Ø34 IF: Ø40

Order NO.	Housing Material	Supply Voltage (v)	Sensing Range	Electric Design	Status	Output	Load Current (mA)	Length (mm)	Connection	HT
IA0001	brass	10..36	1mm f	2-Wire	NO/NC	DC PNP/NPN	200	40	2M,PVC	-
IA0002	brass	10..36	1mm f	2-Wire	NO	DC PNP/NPN	200	40	2M,PVC	-
IA0003	brass	10..36	1mm f	2-Wire	NC	DC PNP/NPN	200	40	2M,PVC	-
IA0004	brass	10..36	2mm nf	2-Wire	NO/NC	DC PNP/NPN	200	40	2M,PVC	-
IA0005	brass	10..36	2mm nf	2-Wire	NO	DC PNP/NPN	200	40	2M,PVC	-
IA0006	brass	10..36	2mm nf	2-Wire	NC	DC PNP/NPN	200	40	2M,PVC	-
IA0007	brass	10..36	1mm f	3-Wire	NO	DC PNP	200	40	2M,PVC	-
IA0008	brass	10..36	1mm f	3-Wire	NO	DC NPN	200	40	2M,PVC	-
IA0009	brass	10..36	1mm f	3-Wire	NC	DC PNP	200	40	2M,PVC	-
IA0010	brass	10..36	1mm f	3-Wire	NC	DC NPN	200	40	2M,PVC	-
IA0011	brass	10..36	2mm nf	3-Wire	NO	DC PNP	200	40	2M,PVC	-
IA0012	brass	10..36	2mm nf	3-Wire	NO	DC NPN	200	40	2M,PVC	-
IA0013	brass	10..36	1mm f	3-Wire	NO	DC PNP	200	40	5M,PVC	-
IA0014	brass	10..36	2mm nf	3-Wire	NC	DC PNP	200	40	2M,PVC	-
IA0015	brass	10..36	2mm nf	3-Wire	NC	DC NPN	200	40	2M,PVC	-
IA0030	brass	10..36	1mm f	2-Wire	NO/NC	DC PNP/NPN	200	60	M12,Socket	-
IA0031	brass	10..36	1mm f	2-Wire	NO	DC PNP/NPN	200	60	M12,Socket	-
IA0032	brass	10..36	1mm f	2-Wire	NC	DC PNP/NPN	200	60	M12,Socket	-
IA0033	brass	10..36	2mm nf	2-Wire	NO/NC	DC PNP/NPN	200	60	M12,Socket	-
IA0034	brass	10..36	2mm nf	2-Wire	NO	DC PNP/NPN	200	60	M12,Socket	-

HT-High Temperature

Proximity Sensors

Inductive

Order NO.	Housing Material	Supply Voltage (v)	Sensing Range	Electric Design	Status	Output	Load Current (mA)	Length (mm)	Connection	HT
IA0035	brass	10..36	2mm nf	2-Wire	NC	DC PNP/NPN	200	60	M12,Socket	-
IA0036	brass	10..36	1mm f	3-Wire	NO	DC PNP	200	60	M12,Socket	-
IA0037	brass	10..36	1mm f	3-Wire	NO	DC NPN	200	60	M12,Socket	-
IA0038	brass	10..36	1mm f	3-Wire	NC	DC PNP	200	60	M12,Socket	-
IA0039	brass	10..36	1mm f	3-Wire	NC	DC NPN	200	60	M12,Socket	-
IA0040	brass	10..36	2mm nf	3-Wire	NO	DC PNP	200	60	M12,Socket	-
IA0041	brass	10..36	2mm nf	3-Wire	NO	DC NPN	200	60	M12,Socket	-
IA0042	brass	10..36	2mm nf	3-Wire	NC	DC PNP	200	60	M12,Socket	-
IA0043	brass	10..36	2mm nf	3-Wire	NC	DC NPN	200	60	M12,Socket	-
IA0044	brass	10..36	1mm f	2-Wire	NO/NC	DC PNP/NPN	200	40	2M,PUR	-
IB0001	brass	10..36	2mm f	2-Wire	NO/NC	DC PNP/NPN	250	50	2M,PVC	-
IB0002	brass	10..36	2mm f	2-Wire	NO	DC PNP/NPN	250	50	2M,PVC	-
IB0003	brass	10..36	2mm f	2-Wire	NC	DC PNP/NPN	250	50	2M,PVC	-
IB0004	brass	10..36	4mm nf	2-Wire	NO/NC	DC PNP/NPN	250	50	2M,PVC	-
IB0005	brass	10..36	4mm nf	2-Wire	NO	DC PNP/NPN	250	50	2M,PVC	-
IB0006	brass	10..36	4mm nf	2-Wire	NC	DC PNP/NPN	250	50	2M,PVC	-
IB0007	brass	10..36	2mm f	3-Wire	NO	DC PNP	250	50	2M,PVC	-
IB0008	brass	10..36	2mm f	3-Wire	NO	DC NPN	250	50	2M,PVC	-
IB0009	brass	10..36	2mm f	3-Wire	NC	DC PNP	250	50	2M,PVC	-
IB0010	brass	10..36	2mm f	3-Wire	NC	DC NPN	250	50	2M,PVC	-
IB0011	brass	10..36	4mm nf	3-Wire	NO	DC PNP	250	50	2M,PVC	-
IB0012	brass	10..36	4mm nf	3-Wire	NO	DC NPN	250	50	2M,PVC	-
IB0013	brass	10..36	4mm nf	3-Wire	NC	DC PNP	250	50	2M,PVC	-
IB0014	brass	10..36	4mm nf	3-Wire	NC	DC NPN	250	50	2M,PVC	-
IB0015	brass	10..36	2mm f	2-Wire	NO/NC	DC PNP/NPN	250	60	M12,Socket	-
IB0016	brass	10..36	2mm f	2-Wire	NO	DC PNP/NPN	250	60	M12,Socket	-
IB0017	brass	10..36	2mm f	2-Wire	NC	DC PNP/NPN	250	60	M12,Socket	-
IB0018	brass	10..36	4mm nf	2-Wire	NO/NC	DC PNP/NPN	250	60	M12,Socket	-
IB0019	brass	10..36	4mm nf	2-Wire	NO	DC PNP/NPN	250	60	M12,Socket	-

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Order NO.	Housing Material	Supply Voltage (v)	Sensing Range	Electric Design	Status	Output	Load Current (mA)	Length (mm)	Connection	HT
IB0020	brass	10..36	4mm nf	2-Wire	NC	DC PNP/NPN	250	60	M12,Socket	-
IB0021	brass	10..36	2mm f	3-Wire	NC	DC PNP	250	60	M12,Socket	-
IB0022	brass	10..36	2mm f	3-Wire	NC	DC NPN	250	60	M12,Socket	-
IB0023	brass	10..36	4mm nf	3-Wire	NC	DC PNP	250	60	M12,Socket	-
IB0024	brass	10..36	4mm nf	3-Wire	NC	DC NPN	250	60	M12,Socket	-
IB0035	brass	10..36	2mm f	3-Wire	NO	DC PNP	250	60	M12,Socket	-
IB0036	brass	10..36	2mm f	3-Wire	NO	DC NPN	250	60	M12,Socket	-
IB0039	brass	10..36	4mm nf	3-Wire	NO	DC PNP	250	60	M12,Socket	-
IB0040	brass	10..36	4mm nf	3-Wire	NO	DC NPN	250	60	M12,Socket	-
IB0041	brass	10..36	4mm f	3-Wire	NO	DC PNP	250	40	3M,PVC	-
IB0042	brass	10..36	4mm f	3-Wire	NO	DC NPN	250	40	3M,PVC	-
IB0043	brass	10..36	4mm f	3-Wire	NC	DC PNP	250	40	3M,PVC	-
IB0044	brass	10..36	4mm f	3-Wire	NC	DC NPN	250	40	3M,PVC	-
IB0045	brass	10..36	6mm nf	3-Wire	NO	DC PNP	250	40	2M,PVC	-
IB0046	brass	10..36	6mm nf	3-Wire	NO	DC NPN	250	40	2M,PVC	-
IB0047	brass	10..36	6mm nf	3-Wire	NC	DC PNP	250	40	2M,PVC	-
IB0048	brass	10..36	6mm nf	3-Wire	NC	DC NPN	250	40	2M,PVC	-
IB0049	brass	10..36	6mm nf	2-Wire	NO	DC PNP/NPN	250	40	2M,PVC	-
IC0001	PBT+GF	10..36	5mm f	3-Wire	NO	DC PNP	250	80	2M,PVC	-
IC0002	PBT+GF	10..36	5mm f	3-Wire	NO	DC NPN	250	80	2M,PVC	-
IC0003	PBT+GF	10..36	5mm f	3-Wire	NC	DC PNP	250	80	2M,PVC	-
IC0004	PBT+GF	10..36	5mm f	3-Wire	NC	DC NPN	250	80	2M,PVC	-
IC0005	PBT+GF	10..36	10mm nf	3-Wire	NO	DC PNP	250	80	2M,PVC	-
IC0006	PBT+GF	10..36	10mm nf	3-Wire	NO	DC NPN	250	80	2M,PVC	-
IC0007	PBT+GF	10..36	10mm nf	3-Wire	NC	DC PNP	250	80	2M,PVC	-
IC0008	PBT+GF	10..36	10mm nf	3-Wire	NC	DC NPN	250	80	2M,PVC	-
IC0009	PBT+GF	10..36	5mm f	3-Wire	NO	DC PNP	250	90	M12,Socket	-
IC0010	PBT+GF	10..36	5mm f	3-Wire	NO	DC NPN	250	90	M12,Socket	-
IC0011	PBT+GF	10..36	5mm f	3-Wire	NC	DC PNP	250	90	M12,Socket	-

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Proximity Sensors

Inductive

Order NO.	Housing Material	Supply Voltage (v)	Sensing Range	Electric Design	Status	Output	Load Current (mA)	Length (mm)	Connection	HT
IC0012	PBT+GF	10..36	5mm f	3-Wire	NC	DC NPN	250	90	M12,Socket	-
IC0013	PBT+GF	10..36	10mm nf	3-Wire	NO	DC PNP	250	90	M12,Socket	-
IC0014	PBT+GF	10..36	10mm nf	3-Wire	NO	DC NPN	250	90	M12,Socket	-
IC0015	PBT+GF	10..36	10mm nf	3-Wire	NC	DC PNP	250	90	M12,Socket	-
IC0016	PBT+GF	10..36	10mm nf	3-Wire	NC	DC NPN	250	90	M12,Socket	-
IC0017	PBT+GF	20..250	5mm f	2-Wire	NO	AC/DC	250	80	2M,PVC	-
IC0018	PBT+GF	20..250	5mm f	2-Wire	NC	AC/DC	250	80	2M,PVC	-
IC0019	PBT+GF	20..250	10mm nf	2-Wire	NO	AC/DC	250	80	2M,PVC	-
IC0020	PBT+GF	20..250	10mm nf	2-Wire	NC	AC/DC	250	80	2M,PVC	-
IC0021	brass	10..36	7mm f	2-Wire	NO	DC PNP/NPN	250	43	2M,PVC	-
IC0022	brass	10..36	7mm f	2-Wire	NC	DC PNP/NPN	250	43	2M,PVC	-
IC0023	PBT+GF	20..250	10mm nf	2-Wire	NO	AC/DC	250	80	6M,PVC	-
ID0001	brass	10..36	10mm f	3-Wire	NO	DC PNP	250	50	2M,PVC	-
ID0002	brass	10..36	10mm f	3-Wire	NO	DC NPN	250	50	2M,PVC	-
ID0003	brass	10..36	10mm f	3-Wire	NC	DC PNP	250	50	2M,PVC	-
ID0004	brass	10..36	10mm f	3-Wire	NC	DC NPN	250	50	2M,PVC	-
ID0005	brass	10..36	15mm nf	3-Wire	NO	DC PNP	250	50	2M,PVC	-
ID0006	brass	10..36	15mm nf	3-Wire	NO	DC NPN	250	50	2M,PVC	-
ID0007	brass	10..36	15mm nf	3-Wire	NC	DC PNP	250	50	2M,PVC	-
ID0008	brass	10..36	15mm nf	3-Wire	NC	DC NPN	250	50	2M,PVC	-
ID0009	brass	10..36	10mm f	3-Wire	NC	DC PNP	250	60	M12,Socket	-
ID0010	brass	10..36	10mm f	3-Wire	NC	DC NPN	250	60	M12,Socket	-
ID0011	brass	10..36	15mm nf	3-Wire	NC	DC PNP	250	60	M12,Socket	-
ID0012	brass	10..36	15mm nf	3-Wire	NC	DC NPN	250	60	M12,Socket	-
ID0013	brass	20..250	10mm f	2-Wire	NO	AC/DC	250	50	2M,PVC	-
ID0014	brass	20..250	10mm f	2-Wire	NC	AC/DC	250	50	2M,PVC	-
ID0015	brass	20..250	15mm nf	2-Wire	NO	AC/DC	250	50	2M,PVC	-
ID0016	brass	20..250	15mm nf	2-Wire	NC	AC/DC	250	50	2M,PVC	-
ID0017	PBT+GF	10..36	15mm nf	2-Wire	NO/NC	DC PNP/NPN	250	80	2M,PVC	-

Order NO.	Housing Material	Supply Voltage (v)	Sensing Range	Electric Design	Status	Output	Load Current (mA)	Length (mm)	Connection	HT
ID0018	PBT+GF	20..250	15mm nf	2-Wire	NO	AC/DC	250	80	2M,PVC	-
ID0019	PBT+GF	20..250	15mm nf	2-Wire	NC	AC/DC	250	80	2M,PVC	-
ID0020	brass	10..36	20mm nf	2-Wire	NO/NC	DC PNP/NPN	250	60	M12,Socket	●
ID0021	brass	10..36	15mm f	3-Wire	NO	DC PNP	250	60	M12,Socket	-
ID0035	brass	10..36	10mmf	3-Wire	NO	DC PNP	250	60	M12,Socket	-
ID0036	brass	10..36	10mmf	3-Wire	NO	DC NPN	250	60	M12,Socket	-
ID0039	brass	10..36	15mm nf	3-Wire	NO	DC PNP	250	60	M12,Socket	-
ID0040	brass	10..36	15mm nf	3-Wire	NO	DC NPN	250	60	M12,Socket	-
ID0041	brass	20..250	15mm nf	2-Wire	NO	AC/DC	250	93.2	5M,PUR	●
ID0042	brass	20..250	12mmf	2-Wire	NO	AC/DC	250	93.2	2M,PUR	●
IE0001	PBT+GF	10..36	22mm nf	3-Wire	NO	DC PNP	350	80	2M,PVC	-
IE0002	PBT+GF	10..36	22mm nf	3-Wire	NO	DC NPN	350	80	2M,PVC	-
IE0003	PBT+GF	10..36	22mm nf	3-Wire	NC	DC PNP	350	80	2M,PVC	-
IE0004	PBT+GF	10..36	22mm nf	3-Wire	NC	DC NPN	350	80	2M,PVC	-
IE0005	PBT+GF	10..36	22mm nf	3-Wire	NO	DC PNP	350	80	M12,Socket	-
IE0006	PBT+GF	10..36	22mm nf	3-Wire	NO	DC NPN	350	80	M12,Socket	-
IE0007	PBT+GF	10..36	22mm nf	3-Wire	NC	DC PNP	350	80	M12,Socket	-
IE0008	PBT+GF	10..36	22mm nf	3-Wire	NC	DC NPN	350	80	M12,Socket	-
IE0009	PBT+GF	20..250	22mm nf	2-Wire	NO	AC/DC	350	80	2M,PVC	-
IE0010	PBT+GF	20..250	22mm nf	2-Wire	NC	AC/DC	350	80	2M,PVC	-
IE0011	PBT+GF	20..250	22mm nf	2-Wire	NO	AC/DC	350	80	5M,PUR	●
IE0012	PBT+GF	20..250	22mm nf	2-Wire	NC	AC/DC	350	80	5M,PUR	●
IE0013	PBT+GF	20..250	22mm nf	2-Wire	NO	AC/DC	350	80	6M,PVC	-
IF0001	Nylon	20..250	22mm nf	2-Wire	NO	AC/DC	350	115	6M,PUR	-

HT-High Temperature

Made in China

HT-High Temperature

