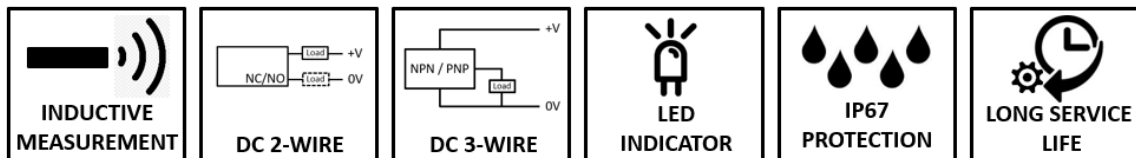


## IPS 100 Series

“Inductive Sensing, For Automation Industry”



- Non-contact detection of ferrous metal objects by inductive principle
- Ø8, Ø12, Ø18 or Ø30 mm models
- DC 2-wire or 3-wire
- Non-flush
- High sensitivity, fast feedback
- LED status indicator
- IP67 protection class
- Long service life

IPS series inductive proximity sensors are used to detect ferrous metal objects. These sensors basically contain oscillators for sensing. A magnetic field is created in front of the oscillator windings. When a metal object enters this magnetic field, the oscillations stop and detection takes place. Thus, the output is driven and NO (normally) or NC (normally closed) output signal is generated depending on the sensor type.

### APPLICATIONS

In the automation industry;

- Position monitoring of machine parts
- Counting metal objects


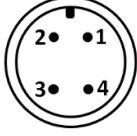

## TECHNICAL FEATURES


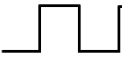







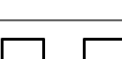
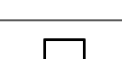
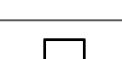


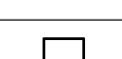
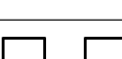


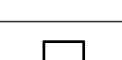

Model (Non-flush Type)		IPS 108 Ø8	IPS 112 Ø12	IPS 118 Ø18	IPS 130 Ø30
Sensing and Setting Distance	Sensing Distance (Sd)	0 ... 2 mm	0 ... 4 mm	0 ... 8 mm	0 ... 15 mm
	Setting Distance	0 ... 1.4 mm	0 ... 2.8 mm	0 ... 5.6 mm	0 ... 11 mm
Standard Sensing Target		8x8x1	12x12x1	25x25x1	45x45x1
Sensing Object		Ferrous metal			
Hysteresis		10% of Sensing distance (Sd) max.			
Supply Voltage		10...30 VDC (reverse polarity protection)			
Current Consumption	3-wire (PNP/NPN)	≤15 mA			
Leakage current, open state	2-wire	≤1 mA			
	3-wire	≤200 mA with overload and short-circuit protection			
Switching capacity	2-wire	1.5 ... 200 mA with overload and short-circuit protection			
	3-wire	≤1,5 V			
Voltage drop, closed state	2-wire	≤3,5 V			
	3-wire	22K			
Internal Pull Up / Pull-Down Resistance	3-wire	2 kHz			
	2-wire	1 kHz			
Response Frequency <sup>(1)</sup>	3-wire	20 ms			
	2-wire	20 ms			
Electrical Connection		3 x 0.14mm <sup>2</sup> PVC cable (Ø4,5 ± 0,10 mm) or M12 connector			
Status Indicator	If there is a target	Blue			
	If there is no target	Yellow			
Protection		IP67			
Operating Temperature		-20...+70°C			
Storage Temperature		-30...+70°C			
Material	Case	Nickel plated brass			
	Cable	PVC			

(1) The response frequency specified here is the average value. The standard detection target is used and the width is set to 2 times the standard detection target, and the distance is 1/2 of the detection distance.

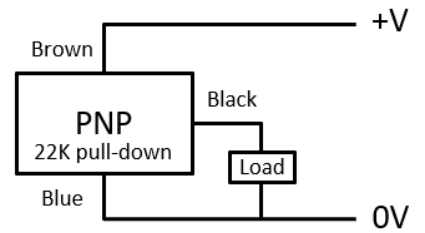
# ELECTRICAL CONNECTION AND OUTPUT DIAGRAM

## 3-WIRE

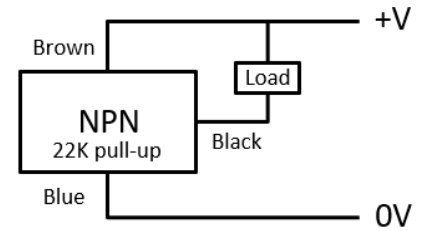
SIGNAL	M12 4 PIN MALE CONNECTOR		CABLE COLOR
			
	S95 (Standard)	S12	
+V	Pin 1	Pin 2	Brown
N/C	Pin 2	Pin 4	N/C
0V	Pin 3	Pin 1	Blue
Control output	Pin 4	Pin 3	Black

		NO (Normally Open)		NC (Normally Closed)	
Sensing Target	Presence			Presence	
	Nothing			Nothing	
Load Current	Presence			Presence	
	Nothing			Nothing	
Output Voltage	NPN Output	H L		H L	
	PNP Output	H L		H L	
Status Indicator (Blue)		ON OFF		ON OFF	
Status Indicator (Yellow)		ON OFF		ON OFF	


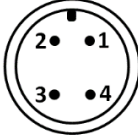

### PNP NO or NC

















### NPN NO or NC

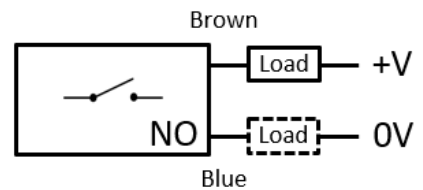


## 2-WIRE

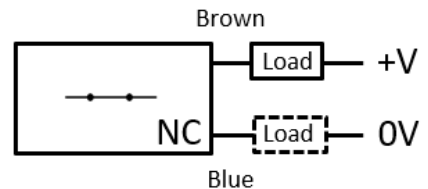
SIGNAL	M12 4 PIN MALE CONNECTOR			CABLE COLOR
				
	S250 (Standard)		S245	
	NO	NC	NO / NC	
+V	Pin 1	Pin 1	Pin 4	Brown
N/C	Pin 2	Pin 3	Pin 1	N/C
N/C	Pin 3	Pin 4	Pin 2	N/C
0V	Pin 4	Pin 2	Pin 3	Blue

		NO (Normally Open)		NC (Normally Closed)	
Sensing Target	Presence			Presence	
	Nothing			Nothing	
Load	Presence			Presence	
	Nothing			Nothing	
Status Indicator (Red)		ON OFF		ON OFF	

### 2 WIRE - NO



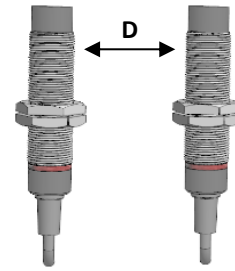
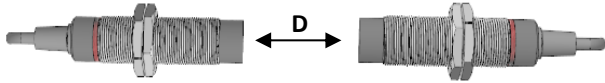
### 2 WIRE - NC



\*The load can be connected to any direction.

## Mutual-Interference

When multiple proximity sensors are mounted close together, it may cause malfunction due to mutual interference. Therefore, attention should be paid to the mounting of the sensors in accordance with the minimum distances specified in the tables below.

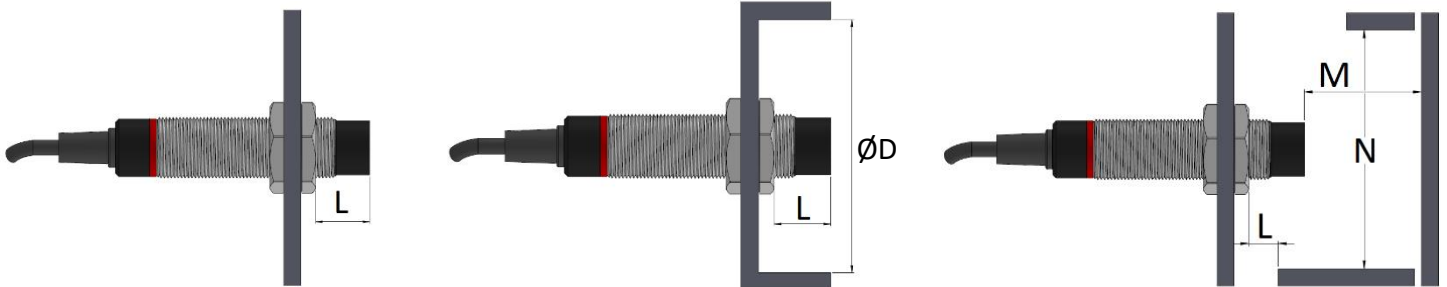


Face to Face Mounting (mm)	
Non-flush	
Ø8	$D \geq 12$
Ø12	$D \geq 24$
Ø18	$D \geq 48$
Ø30	$D \geq 90$

Parallel Mounting (mm)	
Non-flush	
Ø8	$D \geq 24$
Ø12	$D \geq 36$
Ø18	$D \geq 54$
Ø30	$D \geq 90$

## Influence By Surrounding Metals

When sensors are mounted on a metal panel, the sensor must be prevented from being affected by any metal object other than the target. Therefore, attention should be paid to the mounting of the sensors in accordance with the minimum distances specified in the tables below.

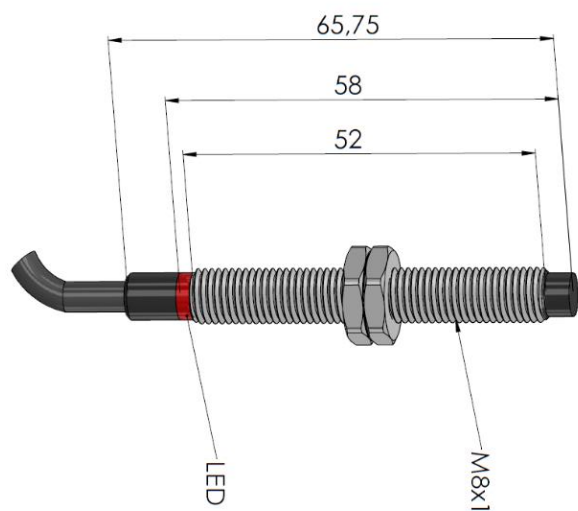


Mounting against metal objects (mm)				
	$L \geq$	$\varnothing D \geq$	$M \geq$	$N \geq$
Ø8	8	24	6	24
Ø12	11	36	12	36
Ø18	14	54	24	54
Ø30	15	90	45	90

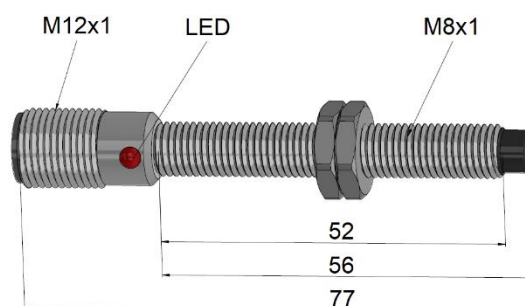
## DIMENSIONS (mm)

Ø8

-With Cable-

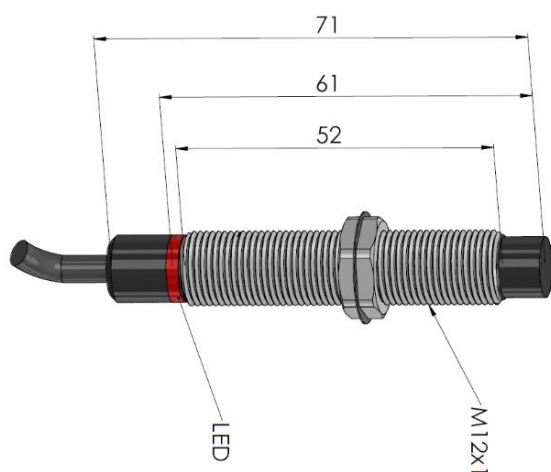


-With M12 Connector-

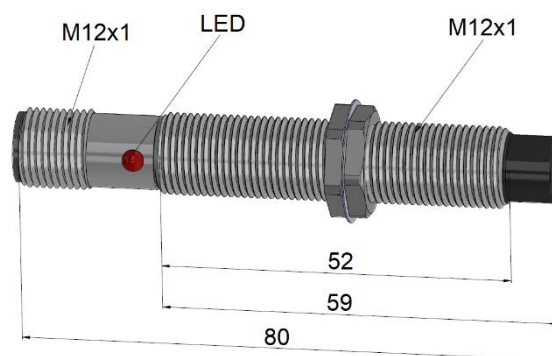


Ø12

-With Cable-

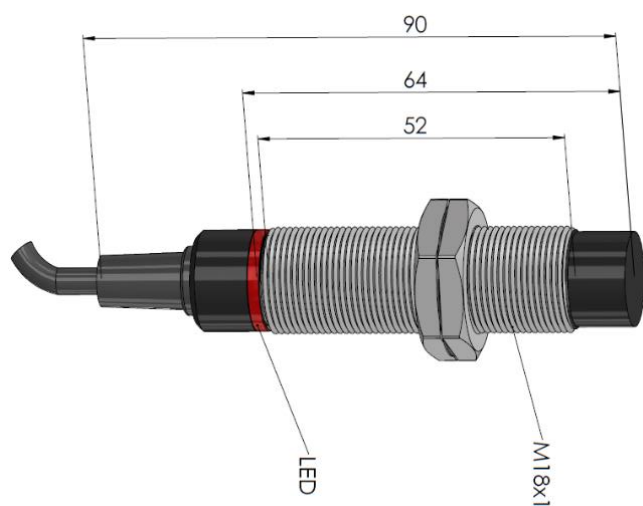


-With M12 Connector-

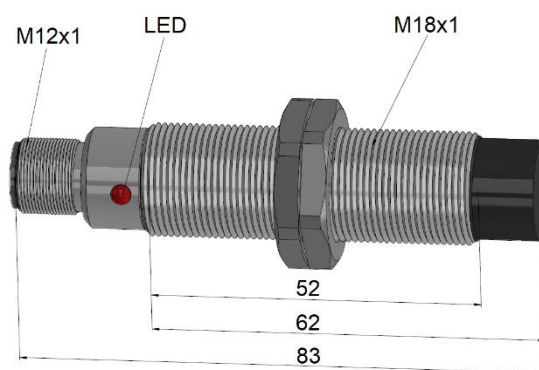


Ø18

-With Cable-

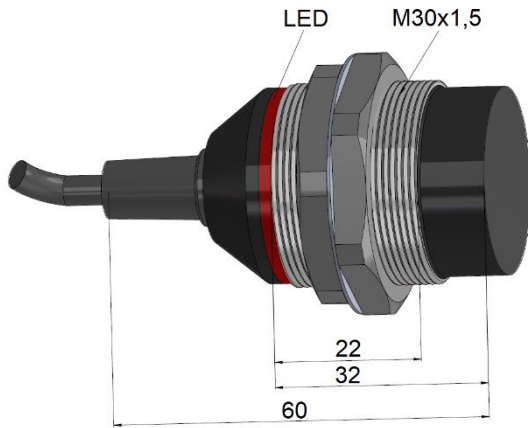


-With M12 Connector-

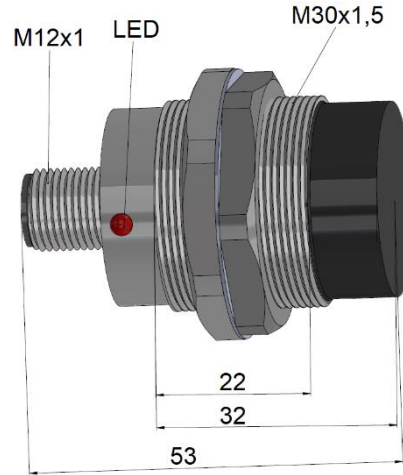


Ø30

**-With Cable-**



**-With M12 Connector-**



**ORDER CODE**

**Model**

108 : Ø8 mm  
112 : Ø12 mm  
118 : Ø18 mm  
130 : Ø30 mm

**Switching Function**

NC : Normally Closed  
NO : Normally Open

**Electrical Connection**

**2-wire:**

2M : 2m cable (std)  
S250 : M12/4 pin male conn. (std)  
S245 : M12/4 pin male conn.

**3-wire:**

2M : 2m cable (std)  
S95 : M12/4 pin male conn. (std)  
S12 : M12/4 pin male conn.

\*Optional others:  
Different cable lengths and connector types requested at the cable end are possible.

IPS 1XX	-	XXX	-	XX	-	XX	-	XX
<b>Output / Conn. type</b>				<b>Mounting Type</b>				
2W : DC 2-wire				NF : Non-Flush				
PNP : DC 3-wire PNP								
NPN : DC 3-wire NPN								

**Note:** If a mating connector is required for the product, it must be added separately to the order. Mating connector order codes are shown in the table below.

**OPTIONAL PRODUCTS**

Product	Order Code	Description	Pin Configuration
	ATC-M12-4P-F-A-5M-PUR	M12 4 pin female connector, 90° angle, 5 meters PUR cable	
	ATC-M12-4P-F-A-10M-PUR	M12 4 pin female connector, 90° angle, 10 meters PUR cable	
	ATC-M12-4P-F-A-5M-PVC	M12 4 pin female connector, 90° angle, 5 meters PVC cable	
	ATC-M12-4P-F-A-10M-PVC	M12 4 pin female connector, 90° angle, 10 meters PVC cable	
	ATC-M12-4P-F-S-5M-PUR	M12 4 pin female connector, straight, 5 meters PUR cable	
	ATC-M12-4P-F-S-10M-PUR	M12 4 pin female connector, straight, 10 meters PUR cable	
	ATC-M12-4P-F-S-5M-PVC	M12 4 pin female connector, straight, 5 meters PVC cable	
	ATC-M12-4P-F-S-10M-PVC	M12 4 pin female connector, straight, 10 meters PVC cable	

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