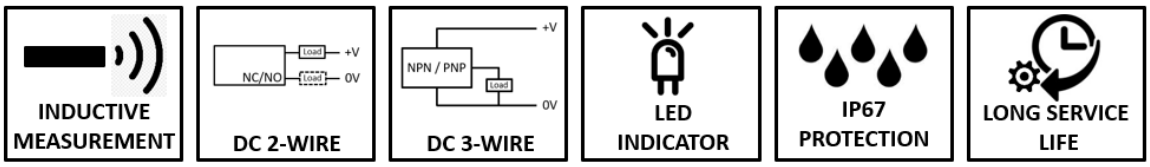
PROXIMITY SENSOR

IPS 200 Series

"Inductive Sensing, For Automation Industry"



- Non-contact detection of ferrous metal objects by inductive principle
- 17x17mm, 25x25mm and 30x30mm models
- DC 2-wire or 3-wire
- High sensivity, 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		IPS 217 17 x 17 mm	IPS 225 25 x 25 mm	IPS 230 30 x 30 mm
Sensing and Setting Distance	Sensing Distance (Sd)	0 … 8 mm	0 … 8 mm	0 … 15 mm
	Setting Distance	0 … 5.6 mm	0 … 5.6 mm	0 … 11 mm
Standard Sensing Target		25x25x1	25x25x1	45x45x1
Sensing Object		Ferrous metal		
Hystresis		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	2-wire	≤1 mA		
Switching capacity	3-wire	≤200 mA with overload and short-circuit protection		
	2-wire	1.5 … 200 mA with overload and short-circuit protection		
Voltage drop, closed state	3-wire	≤1,5 V		
	2-wire	≤3,5 V		
Internal Pull Up / Pull-Down Resistance	3-wire	22K		
Response Frequency (1)	3-wire	2 kHz		
	2-wire	1 kHz		
First-up delay	3-wire	20 ms		
	2-wire	20 ms		
Electrical Connection		3 x 0.14mm^2 PVC cable (Ø4,5 ± 0,10 mm) or M12 connector		
Status Indicator	If there is a target	Blue		
	If there is no target	Yellow		
Operating Temperature		IP67		
Storage Temperature		-20…+70°C		
Operating Temperature		-30…+70°C		
Material	Case	Plastic		
	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.

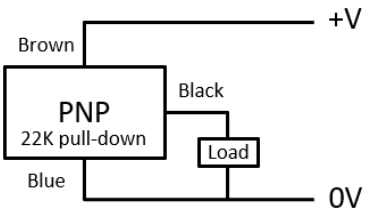
ELECTRICAL CONNECTION AND OUTPUT DIAGRAM

3-WIRE

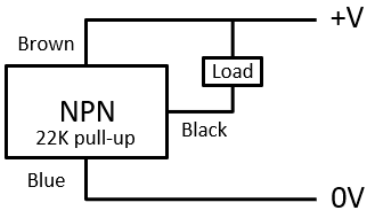
SIGNAL	M12 4 PIN MALE CONNECTOR		CABLE COLOR
	S95 (Standard)	S12	
+V	Pin 1	Pin 2	Brown
N/C	Pin 2	Pin 4	N/C
0V	Pin 3	Pin 1	Blue
Control output	Pin 4	Pin 3	Black

		NO (Normally Open)	NC (Normally Closed)
Sensing Target		Presence / Nothing	Presence / Nothing
Load Current		Presence / Nothing	Presence / 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

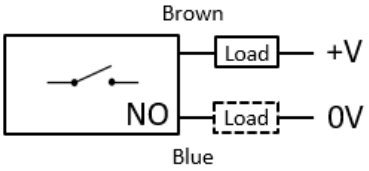


2-WIRE

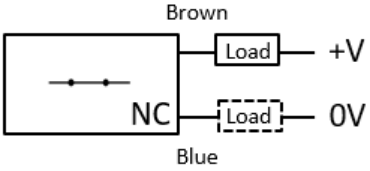
SIGNAL	M12 4 PIN MALE CONNECTOR			CABLE COLOR
	S250 (Standard)		S245	
	NO	NC	NO / NC	
+V	Pin 1	Pin 1	Pin 4	Brown
N/C	Pin 2	Pin 3	Pin 1	N/C
N/C	Pin 3	Pin 4	Pin 2	N/C
0V	Pin 4	Pin 2	Pin 3	Blue

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

2 WIRE - NO



2 WIRE - NC

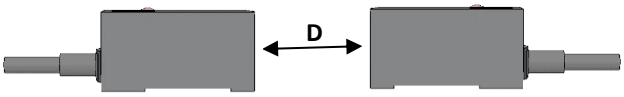


*The load can be connected to any direction.

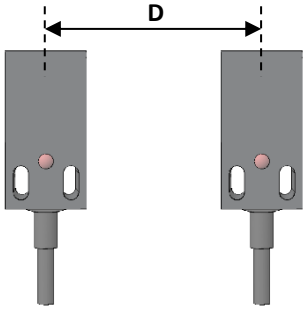
MOUNTING

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.



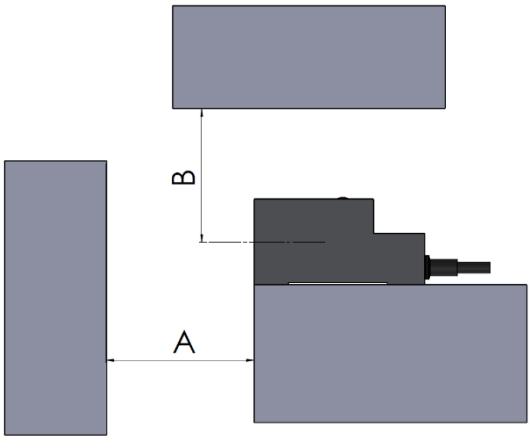
	Face to Face Mounting (mm)
17 x 17	D ≥ 48
25 x 25	D ≥ 48
30 x 30	D ≥ 90



	Parallel Mounting (mm)
17 x 17	D ≥ 54
25 x 25	D ≥ 54
30 x 30	D ≥ 90

Influence By Surrounding Metals

When mounting the sensors inside a metal panel, it must be ensured that the distances specified in the table below are maintained. Failure to maintain these distances may cause deterioration in the measurement performance of the sensor.

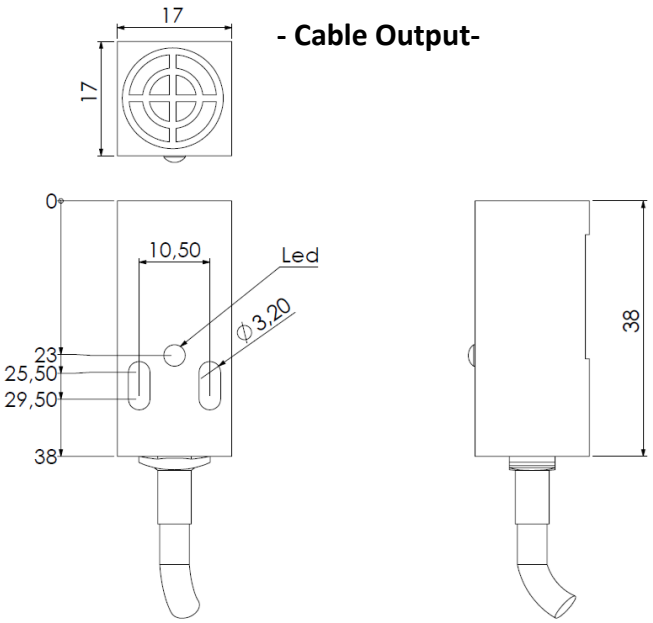


	Mounting against metal objects (mm)	
	A ≥	**B ≥**
17x17	20	20
25x25	20	23
30x30	40	30

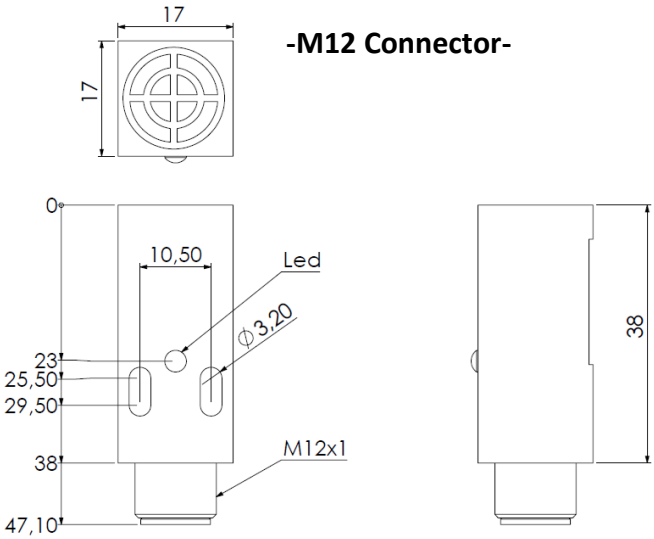
DIMENSIONS (mm)

IPS 217 (17x17)

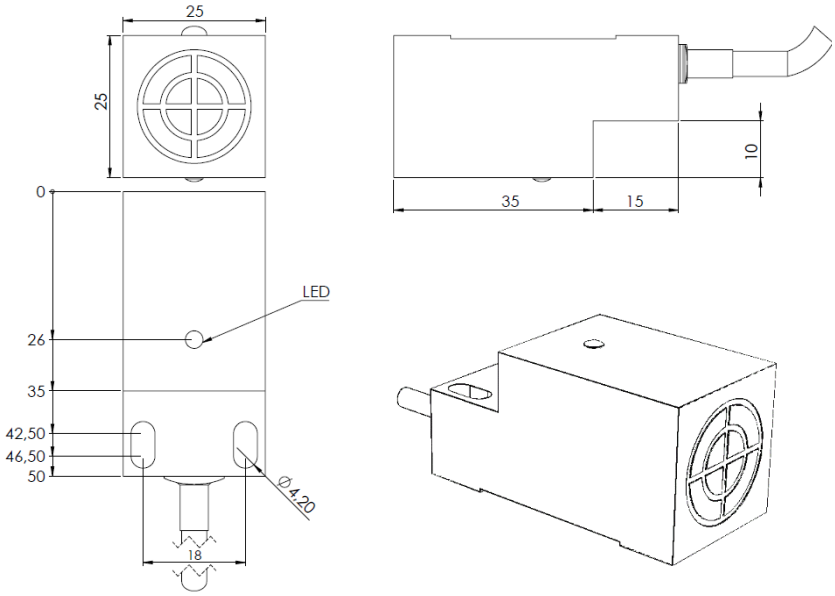
- Cable Output-



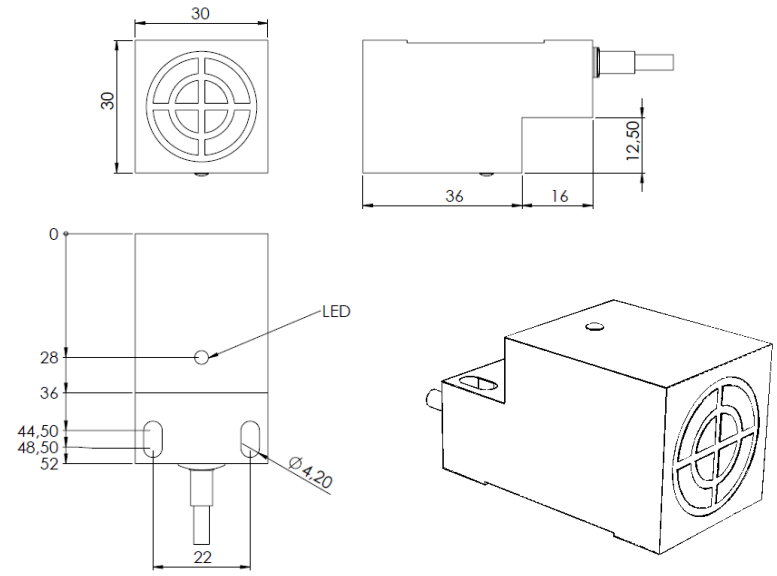
-M12 Connector-



IPS 225 (25x25)



IPS 230 (30x30)



ORDER CODE

Model

217 : 17x17 mm
225 : 25x25 mm
230 : 30x30 mm

Switching Function

NC : Normally Closed
NO : Normally Open

IPS 2XX	-	XXX	-	XX	-	XX

Output / Conn. type

2W : DC 2-wire
PNP : DC 3-wire PNP
NPN : DC 3-wire NPN

Electrical Connection

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

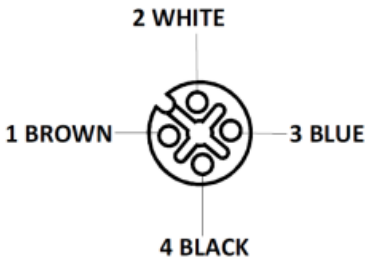
3-wire:
2M : 2m cable (std)
S95 : M12/4 pin male conn. (std)
S12 : M12/4 pin male conn.

***M12 connector option is only available on the IPS217 model. Ask for others.**

*Different cable lengths and connector types requested at the cable end are possible.

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	