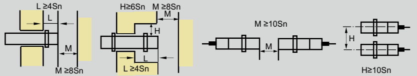
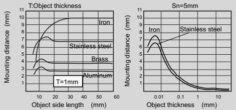
INSTALLATION

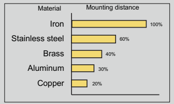
If used in an area surrounded by metal, Install the proximity Sensor as follows . (Sn = Sensing distance)



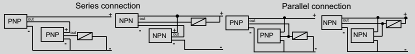
INDUCTIVE PROXIMITY APPLICATION DIRECTION

a. Set mounting distance roughly equal to 80% of Sn.
b. Set mounting distance roughly equal to 50% of Sn when sensor is used in high frequency or high speed circumstances.
c. Mounting distance will change depending on material (iron, stainless steel ,brass, copper and aluminum).



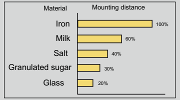


d.Ips series connection and parallel connection



CAPACITIVE PROXIMITY SENSOR MOUNTING DISTANCE SETTING

a. Capacitive proximity sensors can measure both metal and non metal objects such as iron, water, oil, glass, plastic....etc. The mounting distance varies with different objects because of different object conductivity, permittivity and water absorbtion. If the metal connects withground (GND) the maximum mounting distance can be obtained.
b. The mounting distance of Capacitive proximity sensors can be adjusted and the mounting distance must be adjusted before installing, instead of after.
For adjustment please refer to fig 3.
c. When operating the capacitive proximity sensor it should be far away from the high frequency electromagnetism inteference, for example, supersonic wave emitter, high frequency.



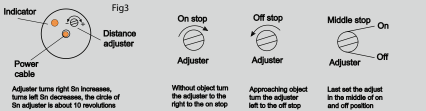


Fig3

Adjuster turns right Sn increases, turns left Sn decreases, the circle of Sn adjuster is about 10 revolutions

Without object turn the adjuster to the right to the on stop

Approaching object turn the adjuster left to the off stop

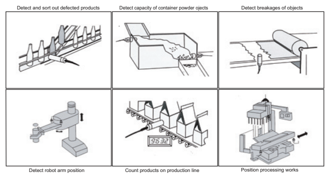
Last set the adjust in the middle of on and off position

How Inductive Sensors Work

Inductive proximity sensors generate a magnetic field from their detection face. Whenever an object moves into the sensor's field of detection, Eddy currents build up in the target and dampen the sensor's magnetic field. This effect triggers the sensor's output. Since a current in the target is needed for detection, inductive proximity sensors are uniquely suited for detection of all types of metals. Inductive proximity sensors come in two forms, shielded and unshielded. A shielded inductive proximity sensor can be embedded flush in its mounting material without affecting the sensor's field of detection. The unshielded inductive proximity sensor has the advantage of longer sensing distances, but the disadvantage of not being embeddable.

Applications where Inductive and Capacitive sensors can be used.

Please scan this Code with your QR enabled smart phone.



The Comus International group of companies consists of:

COMUS
Comus International
454 Allwood Road
Clifton
New Jersey 07012
U.S.A

Tel: (1)973 - 777 - 6900
Fax:(1)973 - 777 - 8405
email: info@comus-intl.com
Website: http://www.comus-intl.com
ISO 9001:2008
CERTIFICATE NO: 03-12314

ASSEMtech EUROPE
Assemtech Europe Limited
Unit 7, Rice Bridge Industrial Estate
Thorpe-le-Soken
Essex
England
CO16 0HL
Tel: +44 (0)1255 862236
Fax:+44 (0)1255 862014
email: sales@assemtech.co.uk
Website: http://www.assemtech.co.uk
ISO 9001:2008
CERTIFICATE NO: FM 21080

COMUS
Comus Belgium BVBA
Overhaamlaan 40
B-3700 Tongeren
Belgium

Tel: +32 (0)12 390400
Fax:+32 (0)12 235754
email: info@comus.be
Website: http://www.comus.be

COMUS
Comus Technologies BV
Jan Campertstraat 11
6416 SG Heerlen,
The Netherlands

Tel: +31 (0) 45 5439345
Fax: +31 (0) 45 5427216
email: jperez@comus-intl.com (USA, Canada)
G.Kemper@comus.be (Europe, Asia)

STG
Switching Technologies Gunther
B-9,B-10, & C-1 Special Economic Zone
(MEPZ)
Kadapperi
Tambaram
Chennai 600 045
India

COMUS
Comus Electronics and Technologies
India Private Limited
No 3. Kamaraj Nagar 2nd Street
Tambaram Sanatorium
Chennai 600045
India
Tel: +91 44 43219090
Fax: +91 44 22628198
email: P.Ramesh@stg-india.com
chudan@comus-intl.com
Website:http://www.comusindia.com

We also have a large network of worldwide agents. These can be found on any of our websites, or on our company profile brochure

Com/21/Nov11/Iss1/ML

Inductive & Capacitive Proximity Switches Plastic Series

Thankyou for choosing Comus International sensors. Before installing and operating the sensor(s), please take a moment to read this instruction leaflet carefully. For any questions, please contact our technical team.

1.FEATURES

- Inductive and Capacitive proximity sensors.
- Style: Plastic housed either prewired or with connection terminals.
  * Let us know if you need intructions for another proximity sensor type.
- Shielded or unshielded types
- DC 2-wire (10-30V DC), DC 3-wire(10-30V DC), DC 4-wire(10-30V DC),AC 2-wire (90-250 AC) type .
- Connection mode: 2/3/4 wire or 2/3/4 pin connector AC and DC versions.
- Mounting distance (shielded/unshielded): S17,S18(5mm), S20(8mm), S25(8mm), S30(15mm), S41(20mm) F36(15mm), F42(20mm), F47(20mm), F54(25mm), M30(10/15mm)
- LED operation indicator, easily identifiable.
- Overload, short circuity protection; against polarity reversal
- Protection rate: IP67 cable version IP65 terminal box version (IP68 ratings can be specially ordered)
- Housing material ABS Plastic.
- Standard 2 metre cable, special cables or connectors can be fitted.
- Standard sensing object: Inductive sensor: ferrous metals; Capacitive sensor: metal or non-metalic objects.
- Widely applied in the measuring, counting an RPM mechanisms in the automation and production line industries.

2.ORDERING CODE

P □ □ - □ □ □ - □ □ □

MODEL	
I	INDUCTIVE
C	CAPACITIVE

OUTPUT MODE	
A	AC
D	DC
N	NPN
P	PNP

APPEARANCE	
T	THREAD
S	SQUARE
F	PROTRUDING

THREAD DIMENSION	
5	M5 Cylinder
8	M8 Cylinder
12	M12 Cylinder
18	M18 Cylinder
30	M30 Cylinder

SQUARED DIMENSION	
17	17mm Square
18	18mm Square
20	20mm Square
30	30mm Square
40	40mm Square
41	41mm Square

PROTRUDING DIMENSION	
36	36mm Diameter
42	42mm Diameter
47	47mm Diameter
50	50mm Diameter
54	54mm Diameter
60	60mm Diameter
80	80mm Diameter
100	100mm Diameter
120	120mm Diameter

STYLE	
Blank	STANDARD
A	CUSTOMIZED 1
B	CUSTOMIZED 2

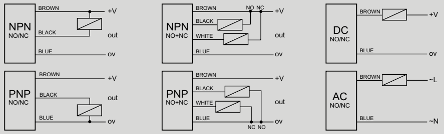
CONNECTOR	
0	WIRE
1	STRAIGHT
2	90° ANGLE
3	NONE

CONTACT	
0	NO
1	NC
2	NO+NC

DETECT DISTANCE	
1	XXmm Shielded
2	XXmm Unshielded

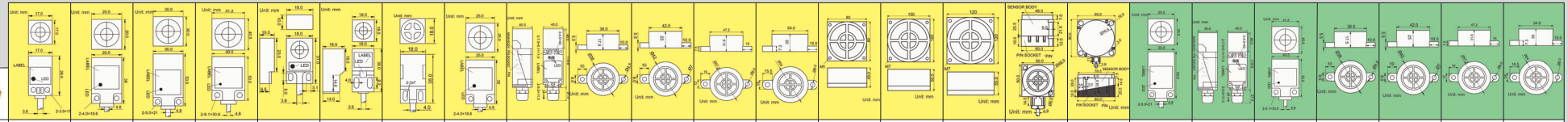
For special request sensors (i.e.appearance, function), please indicate when order.

3.CONNECTION



COMUS The Comus Group of Companies
COMUS The Comus Group of Companies
COMUS The Comus Group of Companies

Inductive & Capacitive Proximity Sensors
Plastic Housed
Series
Inductive
Capacitive



PNP	DC 3 Wires	NO	PIP-S17-001	PIP-S20-001	PIP-S30-001	PIP-S41-001	PIP-S18-001	PIP-S18A-001	PIP-S18A-002	PIP-S25-001	PIP-S40-001	PIP-F36-002	PIP-F42-002	PIP-F47-002	PIP-F54-002	PIP-F80-002	PIP-F100-002	PIP-F120-002	PIP-F50-002	PIP-F80B-002	PCP-S30-001	PCP-S40-001	PCP-S41-002	PCP-F36-002	PCP-F42-002	PCP-F47-002	PCP-F54-002
		NC	PIP-S17-011	PIP-S20-011	PIP-S30-011	PIP-S41-011	PIP-S18-011	PIP-S18A-011	PIP-S18A-012	PIP-S25-011	PIP-S40-011	PIP-F36-012	PIP-F42-012	PIP-F47-012	PIP-F54-012	PIP-F80-012	PIP-F100-012	PIP-F120-012	PIP-F50-012	PIP-F80B-012	PCP-S30-011	PCP-S40-011	PCP-S41-012	PCP-F36-012	PCP-F42-012	PCP-F47-012	PCP-F54-012
	DC 4 Wires	NO + NC	PIP-S17-021	PIP-S20-021	PIP-S30-021	PIP-S41-021				PIP-S25-021	PIP-S40-021	PIP-F36-022	PIP-F42-022	PIP-F47-022	PIP-F54-022	PIP-F80-022	PIP-F100-022	PIP-F120-022	PIP-F50-022	PIP-F80B-022	PCP-S30-021	PCP-S40-021	PCP-S41-022	PCP-F36-022	PCP-F42-022	PCP-F47-022	PCP-F54-022
NPN	DC 3 Wires	NO	PIN-S17-001	PIN-S20-001	PIN-S30-001	PIN-S41-001	PIN-S18-001	PIN-S18A-001	PIN-S18A-002	PIN-S25-001	PIN-S40-001	PIN-F36-002	PIN-F42-002	PIN-F47-002	PIN-F54-002	PIN-F80-002	PIN-F100-002	PIN-F120-002	PIN-F50-002	PIN-F80B-002	PCN-S30-001	PCN-S40-001	PCN-S41-002	PCN-F36-002	PCN-F42-002	PCN-F47-002	PCN-F54-002
		NC	PIN-S17-011	PIN-S20-011	PIN-S30-011	PIN-S41-011	PIN-S18-011	PIN-S18A-011	PIN-S18A-012	PIN-S25-011	PIN-S40-011	PIN-F36-012	PIN-F42-012	PIN-F47-012	PIN-F54-012	PIN-F80-012	PIN-F100-012	PIN-F120-012	PIN-F50-012	PIN-F80B-012	PCN-S30-011	PCN-S40-011	PCN-S41-012	PCN-F36-012	PCN-F42-012	PCN-F47-012	PCN-F54-012
	DC 4 Wires	NO + NC	PIN-S17-021	PIN-S20-021	PIN-S30-021	PIN-S41-021				PIN-S25-021	PIN-S40-021	PIN-F36-022	PIN-F42-022	PIN-F47-022	PIN-F54-022	PIN-F80-022	PIN-F100-022	PIN-F120-022	PIN-F50-022	PIN-F80B-022	PCN-S30-021	PCN-S40-021	PCN-S41-022	PCN-F36-022	PCN-F42-022	PCN-F47-022	PCN-F54-022
DC 2 Wires		NO	PID-S17-001	PID-S20-001	PID-S30-001	PID-S41-001	PID-S18-001	PID-S18A-001	PID-S18A-002	PID-S25-001	PID-S40-001	PID-F36-002	PID-F42-002	PID-F47-002	PID-F54-002	PID-F80-002	PID-F100-002	PID-F120-002	PID-F50-002	PID-F80B-002							
		NC	PID-S17-011	PID-S20-011	PID-S30-011	PID-S41-011	PID-S18-011	PID-S18A-011	PID-S18A-012	PID-S25-011	PID-S40-011	PID-F36-012	PID-F42-012	PID-F47-012	PID-F54-012	PID-F80-012	PID-F100-012	PID-F120-012	PID-F50-012	PID-F80B-012							
AC 2 Wires		NO	PIA-S17-001	PIA-S20-001	PIA-S30-001	PIA-S41-001				PIA-S25-001	PIA-S40-001		PIA-F42-002	PIA-F47-002	PIA-F54-002	PIA-F80-002	PIA-F100-002	PIA-F120-002	PIA-F50-002	PIA-F80B-002	PCA-S30-001	PCA-S40-001	PCA-S41-002		PCA-F42-002	PCA-F47-002	PCA-F54-002
		NC	PIA-S17-011	PIA-S20-011	PIA-S30-011	PIA-S41-011				PIA-S25-011	PIA-S40-011		PIA-F42-012	PIA-F47-012	PIA-F54-012	PIA-F80-012	PIA-F100-012	PIA-F120-012	PIA-F50-012	PIA-F80B-012	PCA-S30-011	PCA-S40-011	PCA-S41-012		PCA-F42-012	PCA-F47-012	PCA-F54-012
Installation			Shielded	Shielded	Shielded	Shielded	Shielded	Shielded	Unshielded	Shielded	Shielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded	Shielded	Shielded	Unshielded	Unshielded	Unshielded	Unshielded	Unshielded
Mounting Distance			5.0mm	8.0mm	15mm	20mm	5.0mm	5.0mm	5.0mm	8.0mm	25mm	15mm	20mm	20mm	25mm	40mm	50mm	60mm	25mm	36mm	15mm	15mm	20mm	15mm	20mm	20mm	25mm
Detecting Distance			0....4.5mm	0....7.2mm	0....13.5mm	0....18mm	0....4.5mm	0....4.5mm	0....4.5mm	0....7.2mm	0....7.2mm	0....13.5	0....18mm	0....18mm	0....22.5mm	0....36mm	0....45mm	0....54mm	0....22.5mm	0....36mm	0....13.5mm	0....12mm	0....18mm	0....13.5mm	0....18mm	0....18mm	0....22.5mm
Rated Voltage(DC/AC)			24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC	24V DC	24V DC	24V DC/220V AC	24V DC/220V AC	24V DC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC	24V DC	24V DC/220V AC	24V DC/220V AC	24V DC/220V AC
Supply Voltage(DC/AC)			10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V DC	10-30V DC	10-30V DC	10-30V / 90-250V	10-30V / 90-250V	10-30V DC	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V	10-30V DC	10-30V / 90-250V	10-30V / 90-250V	10-30V / 90-250V
Voltage Drop			< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	< 2V	<2V
Rated Insulation			>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ	>20MΩ
Max Load Current			200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA	200mA	200mA	200mA / 300mA	200mA / 300mA	200mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA / 300mA	200mA	200mA / 300mA	200mA / 300mA	200mA / 300mA
Off State Current			< 1mA	< 1mA	< 1mA	< 10mA	< 10mA	< 10mA	< 15mA	< 15mA	< 15mA	< 11mA	< 11mA	< 11mA	< 10mA	< 10mA	< 10mA	< 15mA	< 15mA	< 15mA	< 15mA	< 15mA	< 15mA	< 11mA	< 11mA	< 11mA	< 10mA
Leak Current			< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA	< 20μA
Polarity Protection			YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Short Circuit Protection			YES	YES	YES	YES	YES	YES	YES	YES	YES	3 wire only	3 wire only	3 wire only	3 wire only	3 wire only	3 wire only	3 wire only	3 wire only	3 wire only	YES	YES	YES	YES	YES	YES	YES
Load Capacity			< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF	< 1.0μF	< 1.0μF	< 1.0μF	< 1.0μF	< 1.0μF	< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF	< 1.0μF	< 1.0μF	< 1.0μF	< 1.0μF	< 1.0μF	< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF	< 0.5μF
Repeated Accuracy			< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%	< 5%
Temperature Range			-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C	-15....60°C
Frequency DC3/2 wire AC			500 / 250 / 25Hz	500 / 250 / 25Hz	300 / 150 / 25Hz	150 / 75 / 20Hz	500 / 250Hz	500 / 250Hz	500 / 250Hz	80 / 40 / 20Hz	150 / 75 / 20Hz	200 / 100Hz	150 / 75 / 20Hz	100 / 50 / 20Hz	100 / 50 / 20Hz	100 / 50 / 20Hz	50 / 25 / 15Hz	50 / 25 / 15Hz	100 / 50 / 20Hz	60 / 30 / 15Hz	30 / 10 / 10Hz	30 / 10 / 10Hz	30 / 10 / 10Hz	30 / 10Hz	30 / 10Hz	30 / 10Hz	30 / 10Hz
Function Indication			Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator	Red LED Indicator
IP Rating			67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	65	65	67	67	67	67	67	67	67
Housing Material			ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
Sensing Face Material			ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
Connection			Wires	Wires	Wires	Wires	Wires	Wires	Wires	Wires	Terminal box	Wires	Wires	Wires	Wires	Wires	Wires	Wires	Terminal box	Terminal box	Wires	Terminal box	Wires	Wires	Wires	Wires	Wires
No of Wire / Gauge			12x0.15mm	12x0.15mm	16x0.15mm	16x0.15mm	12x0.15mm	12x0.15mm	12x0.15mm	16x0.15mm	12x0.15mm	16x0.15mm	16x0.15mm	16x0.15mm	16x0.15mm	16x0.15mm	16x0.15mm	16x0.15mm	/	/	16x0.15mm	/	12x0.16mm	12x0.16mm	12x0.16mm	12x0.16mm	12x0.16mm
Standard Length of Cable			2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	/	/	2m	/	2m	2m	2m	2m	2m
Plug in Connector			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Approvals			CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE