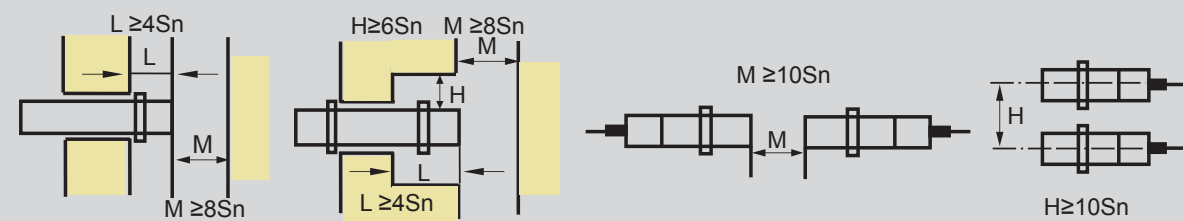


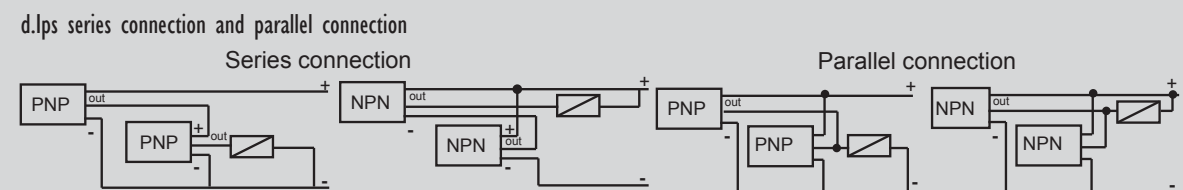
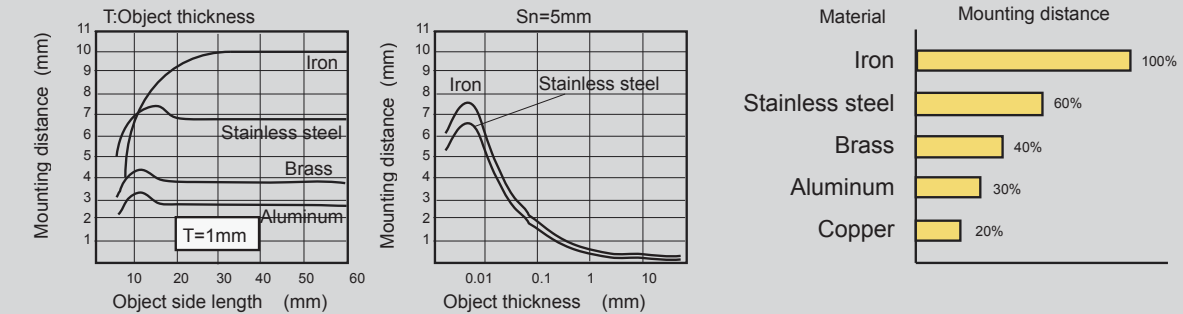
4. INSTALLATION

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



5. 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).



The Comus International group of companies consists of:



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



Comus 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@comuseurope.co.uk
Website: http://www.comuseurope.co.uk



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 Technology BV
Jan Camperstraat 11
6416 SG Heerlen
The Netherlands

Tel: +31(0)45-54.39.345
Fax: +31(0)45-54.27.216
email: info@comus-intl.com
Website: http://www.dry-reeds.com



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



Comus Electronics and Technologies
India Private Limited
2nd Floor, 31/33, Anjagam Nagar, 2nd
Street, Ashok Nagar, Jaferkhanpet,
Chennai 600083
Tamil Nadu, India
Tel: +(91)-(44)-42023510
Fax: +(91)-(44)-22628198
email: info@comus-intl.com
Website: http://www.comusindia.com

Inductive Proximity Sensors Threaded Series

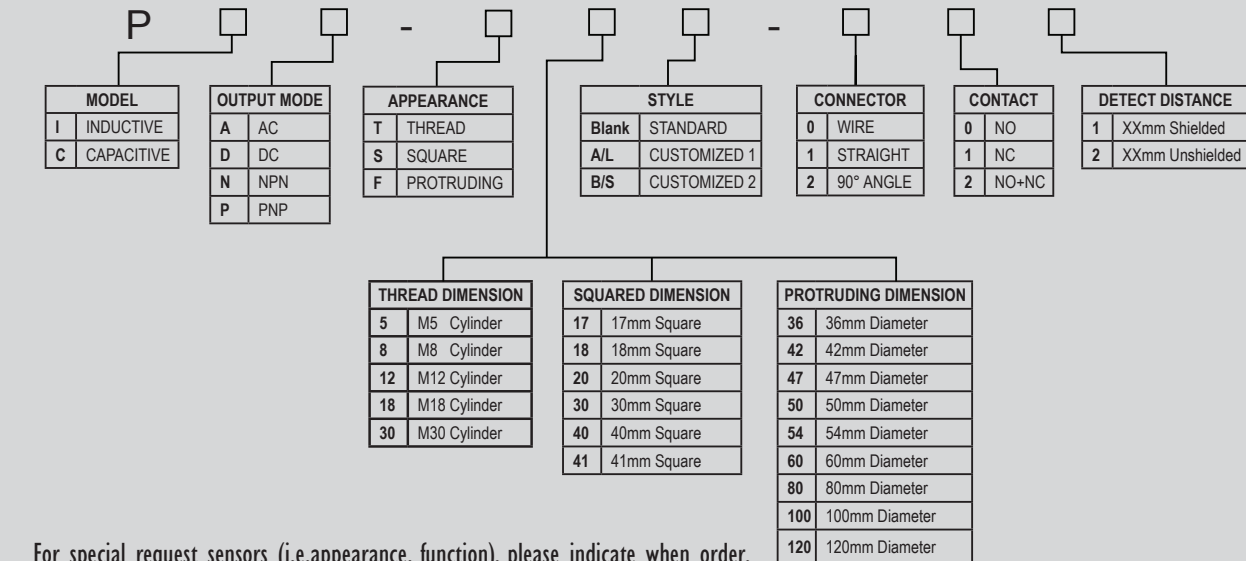


Thankyou for choosing Comus International sensors. Before installing and operating the sensor(s), please take a moment to read this instruction leaflet carefully. For any questions, please contact our sales team.

1. FEATURES

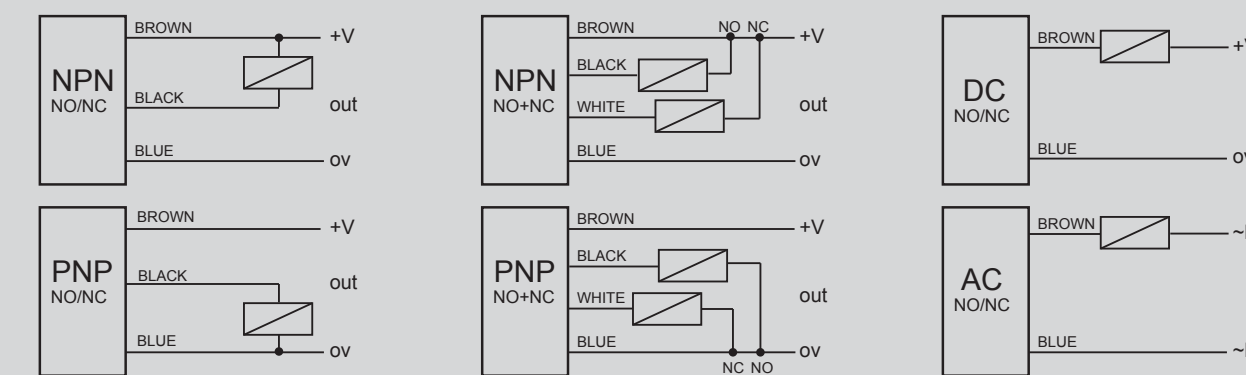
- Inductive and Capacitive proximity sensors.
- Style: cylinder (threaded) is available for M5, M8, M12, M18, and M30.
- * Let us know if you need instructions for another proximity sensor type.
- Shielded or unshielded types
- DC 2-wire (10-30V DC), DC 3-wire(10-30V DC), DC 4-wire(10-30V DC),AC 2-wire (90-250 AC) type .
- Connection mode: 2/3/4 wire or 2/3/4 pin connector
- Mounting distance (shielded/unshielded):
M5(1mm), M8(1/2mm), M12(2/4mm), M18(5/8mm), M30(10/15mm)
- LED operation indicator, easily identifiable.
- Overload, short circuit protection; against polarity reversal
- Protection rate: IP67 (IP8 ratings can be specially ordered)
- Housing: Brass, chrome plated, resistant to oil, water acid, and alkalines etc.
Brass nickle plated or ABS for M12, M18 and M30
- Standard sensing object: Inductive sensor: ferrous metals; Capacitive sensor: metal or non-metalic objects.
- Widely applied in measuring, Counting, Rpm measuring in mechanisms, chemical, paper manufacture, light industry, etc

2. ORDERING CODE

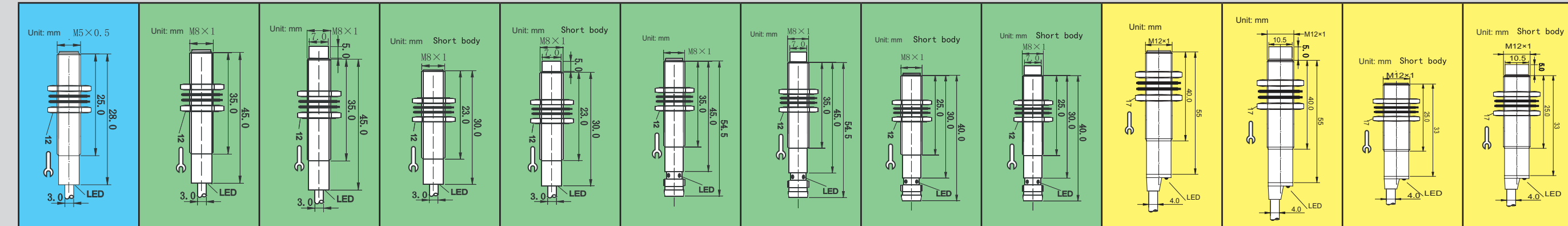


For special request sensors (i.e.appearance, function), please indicate when order.

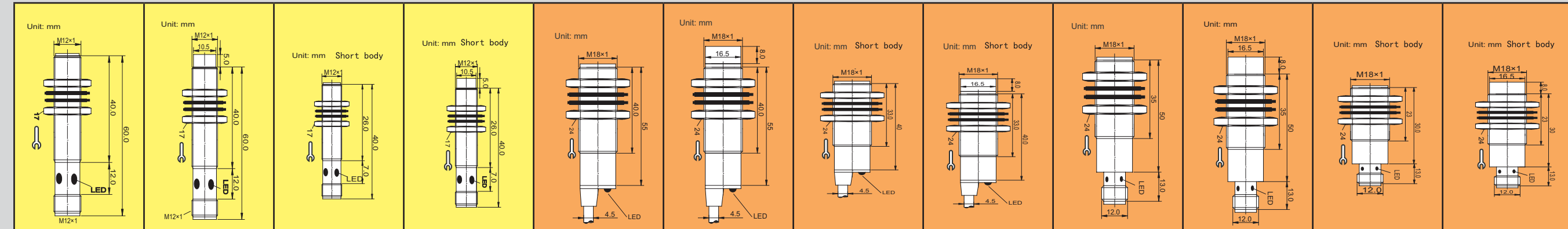
3. CONNECTION



**PROXIMITY
INDUCTIVE
SENSORS
THREADED
SERIES**



**PROXIMITY
INDUCTIVE
SENSORS
THREADED
SERIES**



PNP	DC 3 wires	NO	PIP-TSS-001	PIP-T8L-001	PIP-T8L-002	PIP-T8S-001	PIP-T8S-002	PIP-T8L-1(2)01	PIP-T8L-1(2)02	PIP-T8S-1(2)01	PIP-T8S-1(2)02	PIP-T12L-001	PIP-T12L-002	PIP-T12S-001	PIP-T12S-002
		NC	PIP-TSS-011	PIP-T8L-011	PIP-T8L-012	PIP-T8S-011	PIP-T8S-012	PIP-T8L-1(2)11	PIP-T8L-1(2)12	PIP-T8S-1(2)11	PIP-T8S-1(2)12	PIP-T12L-011	PIP-T12L-012	PIP-T12S-011	PIP-T12S-012
NPN	DC 3 wires	NO	PIN-TSS-001	PIN-T8L-001	PIN-T8L-002	PIN-T8S-001	PIN-T8S-002	PIN-T8L-1(2)01	PIN-T8L-1(2)02	PIN-T8S-1(2)01	PIN-T8S-1(2)02	PIN-T12L-001	PIN-T12L-002	PIN-T12S-001	PIN-T12S-002
		NC	PIN-TSS-011	PIN-T8L-011	PIN-T8L-012	PIN-T8S-011	PIN-T8S-012	PIN-T8L-1(2)11	PIN-T8L-1(2)12	PIN-T8S-1(2)11	PIN-T8S-1(2)12	PIN-T12L-011	PIN-T12L-012	PIN-T12S-011	PIN-T12S-012
	DC 4 wires	NO+NC													
	DC 2 wires	NO		PID-T8L-001	PID-T8L-002			PID-T8L-1(2)01	PID-T8L-1(2)02			PID-T12L-001	PID-T12L-002		
		NC		PID-T8L-011	PID-T8L-012			PID-T8L-1(2)11	PID-T8L-1(2)12			PID-T12L-011	PID-T12L-012		
	AC 2 wires	NO										PIA-T12L-001	PIA-T12L-002		
		NC										PIA-T12L-011	PIA-T12L-012		

PNP	DC 3 wires	NO	PIP-T12L-1(2)01	PIP-T12L-1(2)02	PIP-T12S-1(2)01	PIP-T12S-1(2)02	PIP-T18L-001	PIP-T18L-002	PIP-T18S-001	PIP-T18S-002	PIP-T18L-1(2)01	PIP-T18L-1(2)02	PIP-T18S-1(2)01	PIP-T18S-1(2)02
		NC	PIP-T12L-1(2)11	PIP-T12L-1(2)12	PIP-T12S-1(2)11	PIP-T12S-1(2)12	PIP-T18L-011	PIP-T18L-012	PIP-T18S-011	PIP-T18S-012	PIP-T18L-1(2)11	PIP-T18L-1(2)12	PIP-T18S-1(2)11	PIP-T18S-1(2)12
NPN	DC 3 wires	NO	PIN-T12L-1(2)01	PIN-T12L-1(2)02	PIN-T12S-1(2)01	PIN-T12S-1(2)02	PIN-T18L-001	PIN-T18L-002	PIN-T18S-001	PIN-T18S-002	PIN-T18L-1(2)01	PIN-T18L-1(2)02	PIN-T18S-1(2)01	PIN-T18S-1(2)02
		NC	PIN-T12L-1(2)11	PIN-T12L-1(2)12	PIN-T12S-1(2)11	PIN-T12S-1(2)12	PIN-T18L-011	PIN-T18L-012	PIN-T18S-011	PIN-T18S-012	PIN-T18L-1(2)11	PIN-T18L-1(2)12	PIN-T18S-1(2)11	PIN-T18S-1(2)12
	DC 4 wires	NO+NC												
	DC 2 wires	NO	PID-T12L-1(2)01	PID-T12L-1(2)02			PID-T18L-001	PID-T18L-002			PID-T18L-1(2)01	PID-T18L-1(2)02		
		NC	PID-T12L-1(2)11	PID-T12L-1(2)12			PID-T18L-011	PID-T18L-012			PID-T18L-1(2)11	PID-T18L-1(2)12		
	AC 2 wires	NO					PIA-T18L-001	PIA-T18L-002			PIA-T18L-1(2)01	PIA-T18L-1(2)02		
		NC					PIA-T18L-011	PIA-T18L-012			PIA-T18L-1(2)11	PIA-T18L-1(2)12		

Dimension	M5 - Short housing	M8 - Long housing	M8 - Long housing	M8 - Short housing	M8 - Short housing	M8 - Long housing	M8 - Long housing	M8 - Short housing	M8 - Short housing	M12 - Long housing	M12 - Long housing	M12 - Short housing	M12 - Short housing
Installation	shielded	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded
Connection	wire	wire	wire	wire	wire	connector	connector	connector	connector	wire	wire	wire	wire
Mounting Distance Sn	1.0mm	1.0mm	2.0mm	1.0mm	2.0mm	1.0mm	2.0mm	1.0mm	2.0mm	2.0mm	4.0mm	2.0mm	4.0mm
Detect Distance Sa	0...0.8mm	0...0.9mm	0...1.8mm	0...0.9mm	0...1.8mm	0...0.9mm	0...1.8mm	0...0.9mm	0...1.8mm	0...1.8mm	0...3.6mm	0...1.8mm	0...3.6mm
Rated operational voltage(DC/AC)	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC/220VAC	24VDC/220VAC	24VDC	24VDC
Supply voltage(DC/AC)	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10...30VDC	10-30VDC/90-250VAC	10-30VDC/90-250VAC	10-30VDC	10-30VDC
Voltage drop	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V
Rated insulation voltage	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ
Load current capacity(DC/AC)	100mA	200mA	200mA	100mA	100mA	200mA/300mA	200mA	100mA	100mA	200mA/300mA	200mA/300mA	100mA	100mA
Off-State current(NPN/PNP)	≤15mA	≤11mA	≤11mA	≤11mA	≤10mA	≤10mA	≤10mA	≤15mA	≤15mA	≤11mA	≤11mA	≤10mA	≤10mA
Leak current	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA
Against polarity reversal	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Short circuit protected	NO	YES	YES	YES	YES	YES	YES	YES	YES	3wires:YES/2wires:NO	3wires:YES/2wires:NO	YES	YES
Load capacity	≤1 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF	≤1 μF	≤1 μF	≤1 μF	≤1 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF
Repeated accuracy	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%
Ambient temperature range	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Frequency(DC 3/2wires/ AC 2wires)	2000Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	1.5K~2K Hz	800/400/25Hz	800/400/25Hz	800/400Hz	800/400Hz
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
IP ratings	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67
Housing material	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass
Material of sensing face	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
No. of wires x gauge / Connector	9x0.12mm	9x0.12mm	9x0.12mm	9x0.12mm	9x0.12mm	Straight/90°connector	Straight/90°connector	Straight/90°connector	Straight/90°connector	12x0.12mm	12x0.12mm	12x0.12mm	12x0.12mm
Standard length of cable	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m
Approvals	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE

Dimension	M12 - Long housing	M12 - Long housing	M12 - Short housing	M12 - Short housing	M18 - Long housing	M18 - Long housing	M18 - Short housing	M18 - Short housing	M18 - Long housing	M18 - Long housing	M18 - Short housing	M18 - Short housing
Installation	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded	shielded	unshielded
Connection	connector	connector	connector	connector	wire	wire	wire	wire	connector	connector	connector	connector
Mounting Distance Sn	2.0mm	4.0mm	2.0mm	4.0mm	5.0mm	8.0mm	5.0mm	8.0mm	5.0mm	8.0mm	5.0mm	8.0mm
Detect Distance Sa	0...1.8mm	0...3.6mm	0...1.8mm	0...3.6mm	0...4.5mm	0...6.4mm	0...4.5mm	0...6.4mm	0...4.0mm	0...6.4mm	0...4.0mm	0...6.4mm
Rated operational voltage(DC/AC)	24VDC/220VAC	24VDC/220VAC	24VDC	24VDC	24VDC/220VAC	24VDC/220VAC	24VDC	24VDC	24VDC/220VAC	24VDC/220VAC	24VDC	24VDC
Supply voltage(DC/AC)	10-30VDC/90-250VAC	10-30VDC/90-250VAC	10-30VDC	10-30VDC	10-30VDC/90-250VAC	10-30VDC/90-250VAC	10-30VDC	10-30VDC	10-30VDC/90-250VAC	10-30VDC/90-250VAC	10-30VDC	10-30VDC
Voltage drop	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V	≤2V
Rated insulation voltage	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ	≥20MΩ
Load current capacity(DC/AC)	200mA/300mA	200mA/300mA	100mA	100mA	200mA/300mA	200mA/300mA	200mA	200mA	200mA/300mA	200mA/300mA	200mA	200mA
Off-State current(NPN/PNP)	≤10mA	≤10mA	≤15mA	≤15mA	≤11mA	≤11mA	≤11mA	≤10mA	≤10mA	≤11mA	≤10mA	≤15mA
Leak current	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA	≤20 μA
Against polarity reversal	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Short circuit protected	3wires:YES/2wires:NO	3wires:YES/2wires:NO	YES	YES	3wires:YES/2wires:NO	3wires:YES/2wires:NO	YES	YES	3wires:YES/2wires:NO	3wires:YES/2wires:NO	YES	YES
Load capacity	≤1 μF	≤1 μF	≤1 μF	≤1 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF	≤0.5 μF	≤1 μF	≤1 μF	≤1 μF	≤1 μF
Repeated accuracy	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%	≤5%
Ambient temperature range	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Frequency(DC 3/2wires/ AC 2wires)	800/400/25Hz	800/400/25Hz	800/400Hz	800/400Hz	700/400/25Hz	700/400/25Hz	700/400Hz	700/400Hz	700/400/25Hz	700/400/25Hz	700/400Hz	700/400Hz
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
IP ratings	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67
Housing material	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass	Nickle plated brass
Material of sensing face	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
No. of wires x gauge / Connector	Straight/90°connector	Straight/90°connector	Straight/90°connector	Straight/90°connector	12x0.16mm	12x0.16mm	12x0.16mm	12x0.16mm	Straight/90°connector	Straight/90°connector	Straight/90°connector	Straight/90°connector
Standard length of cable	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m
Approvals	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE

Cylinder Threaded M30 also available
DC 2 wire (5V DC) also available