

STANDARD INDUCTIVE PROXIMITY SENSOR



INSTRUCTION SHEET

Thank you for selecting INNO for your requirement.

This sheet describes the procedure and precautions required for installing and operating the product.

Kindly read this sheet before operating or installing the product. Store the sheet for future reference.

CAUTION FOR SAFETY

- ① Please keep this sheet for review before use of unit.
- ① Please observe the following:

⚠ WARNING
Serious injury may occur if instructions are not followed

⚠ CAUTION
Product failure or injury can occur if instructions are not followed

⚠ WARNING

- This is not a safety product and is not to be used with machinery that requires use of safety control.
- Do not disassemble or modify this unit. It may lead to electric shock/ fire.

Do not connect sensor to AC power supply.
RISK OF EXPLOSION!



⚠ CAUTION

- This unit shall not be used outdoors.
- Do not use this unit in places where there is flammable or explosive gas.
- Please observe the rated specifications in Instruction Sheet.
- Do not use this unit beyond rated power and do not supply AC power at DC power type.
- Please check the polarity of power and wrong wiring.
- Do not use this unit in places where there is vibration or impact.
- Do not use water or oil based detergent for cleaning the unit.
- Do not use excessive force to tighten the unit to the mounting plate and do not hammer the unit.
- Please process it as industrial waste and dispose responsibly.

For more information visit www.inno.sg

SPECIFICATIONS

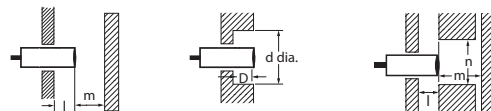
*For details on Customized/ Special Models contact Seller

Size		M8	M12	M18	M30	
*Model	Flush	NPN - NO	PQ_-M8F-1.5NO_-	PQ_-M12F-2NO_-	PQ_-M18F-5NO_-	PQ_-M30F-10NO_-
		NPN - NC	PQ_-M8F-1.5NC_-	PQ_-M12F-2NC_-	PQ_-M18F-5NC_-	PQ_-M30F-10NC_-
		PNP - NO	PQ_-M8F-1.5PO_-	PQ_-M12F-2PO_-	PQ_-M18F-5PO_-	PQ_-M30F-10PO_-
		PNP - NC	PQ_-M8F-1.5PC_-	PQ_-M12F-2PC_-	PQ_-M18F-5PC_-	PQ_-M30F-10PC_-
	Non-Flush	NPN - NO	PQ_-M8N-2NO_-	PQ_-M12N-4NO_-	PQ_-M18N-8NO_-	PQ_-M30N-15NO_-
		NPN - NC	PQ_-M8N-2NC_-	PQ_-M12N-4NC_-	PQ_-M18N-8NC_-	PQ_-M30N-15NC_-
		PNP - NO	PQ_-M8N-2PO_-	PQ_-M12N-4PO_-	PQ_-M18N-8PO_-	PQ_-M30N-15PO_-
		PNP - NC	PQ_-M8N-2PC_-	PQ_-M12N-4PC_-	PQ_-M18N-8PC_-	PQ_-M30N-15PC_-
Sensing Distance	Flush	1.5mm	2mm	5mm	10mm	
	Non-Flush	2mm	4mm	8mm	15mm	
Standard Sensing Target		Iron, Ø8x1mm	Iron, Ø12x1mm	Iron, Ø18x1mm	Iron, Ø30x1mm	
Hysteresis		± 15%				
Response Frequency/Tim	Flush	2000 Hz/ 0.1ms	2000 Hz/ 0.1ms	1000 Hz/ 0.2ms	300 Hz/ 0.5ms	
	Non-Flush	2000 Hz/ 0.1ms	1000 Hz/ 0.2ms	500 Hz/ 0.5ms	150 Hz/ 1ms	
Supply Voltage		10-30VDC (ripple included)				
Current Consumption		< 10mA				
Connection		PQ_- - - - - 2M - 2 meter pre-wired; PQ_- - - - - M8C - M8 Connector; PQ_- - - - - M12C - M12 Connector				
Output	Type	NPN or PNP - NO/ NC depending on the model				
	Switching Capacity	200mA; Overload trip: 220mA				
	Leakage Current	< 0.01mA				
	Voltage Drop	< 1.5VDC				
Indication		Operation: Yellow LED (Cable type)/ 4 Yellow LED (Connector type)				
Protection Circuits		Reverse power supply polarity; reversed output polarity; Short circuit; Overload protection				
Dielectric Strength		1000 VAC, 50/60 Hz for 1 minute between current carry parts and case				
Voltage Influence		± 5% max. of sensing distance (ref. sensing distance taken at 24VDC)				
Temperature Influence		± 10% max. of sensing distance (ref. sensing distance taken at 25°C)				
Vibration Resistance		10 - 55Hz, 1mm for 2 hours in X, Y, Z directions (destruction)				
Shock Resistance		50 G (10 times) in X, Y, Z direction for 3 times (destruction)				
Ambient Temperature		Operation: -25° ~ 70° C; Storage: -30° ~ 80° C (non-freezing; non-condensing)				
Ambient Humidity		Operation: 40 ~ 85% RH; Storage: 35 ~ 95% RH (non- condensing)				
Protection Class		IP-67				
Weight	Standard Length	Prewired	approx. 40g	approx. 60g	approx. 130g	approx. 182g
		Connector	approx. 15g	approx. 25g	approx. 52g	approx. 120g
	Long Body	Prewired	approx. 53g	approx. 65g	approx. 150g	approx. 215g
		Connector	approx. 18g	approx. 30g	approx. 95g	approx. 185g
Cable		2M, 2.9Ø 3*0.15	2M, 4Ø 3*0.25	2M, 5Ø 3*0.34	2M, 5Ø 3*0.34	
Material		Head: POM/ PBT; Tube: Nickel plated Brass (SS for M8); Nuts: Chrome plated Copper Alloy; Washer: Zinc-plated Iron				
Tightening Torque		10 Nm (max.)	15 Nm (max.)	40 Nm (max.)		

MOUNTING AND ADJUSTMENTS

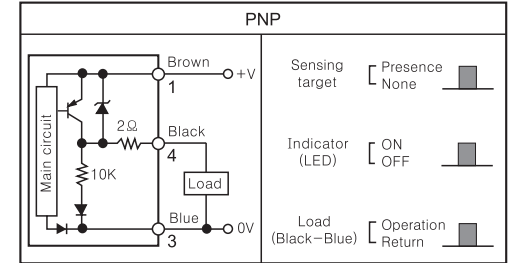
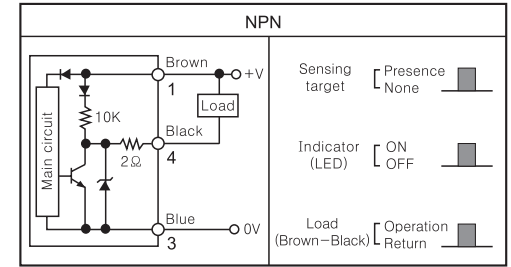
• Mounting metal influence

When the proximity sensor is embedded in metal, make sure that the clearances given below are maintained.



Size	Material	l	d	D	m	n
M8	Flush	0	8	0	4.5	12
	Non-flush	6	24	6	8	24
M12	Flush	0	12	0	8	40
	Non-flush	16	70	16	8	70
M18	Flush	0	18	0	20	60
	Non-flush	16	80	16	20	80
M30	Flush	0	30	0	40	90
	Non-flush	30	100	30	90	110

CONTROL OUTPUT DIAGRAM



Note: 1, 3, 4 are the Pin numbers for the M12 Connector Models

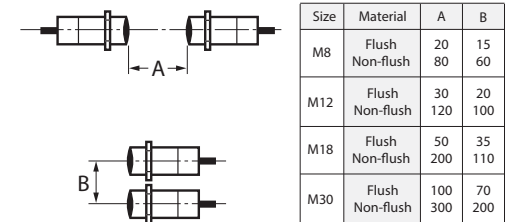
⚠ CAUTION

If an inductive load or load with a higher than 200mA current consumption is connected, it may cause the load short-circuit protection circuit to operate, resulting in operating errors.

MOUNTING AND ADJUSTMENTS (Contd.)

• Mutual Interference

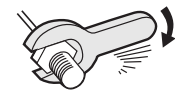
When installing sensors face-to-face or side-by-side, ensure that a minimum distance as given in the table below is maintained.



• Tightening Torque

Do not tighten the nut with excessive force. Self washed nut, use of a washer is appreciated but not essential.

Size	Torque
M8	10 Nm
M12	15 Nm
M18	40 Nm
M30	40 Nm



Represented by:

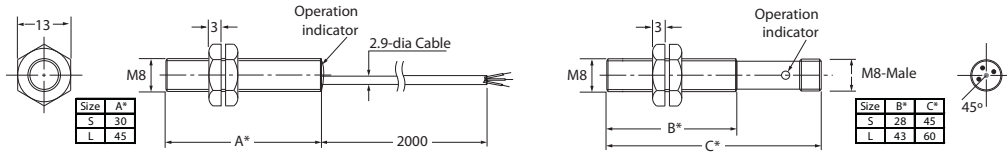
Intech Systems Chennai Pvt. Ltd.
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Email: info@intechchennai.com

DIMENSIONS

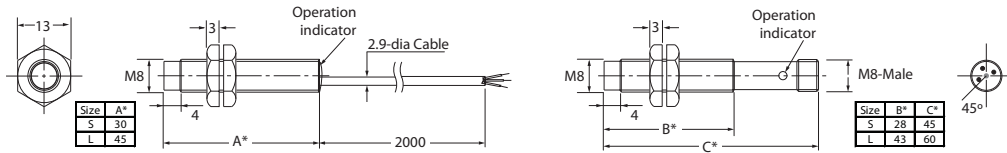
S - Standard Length; L - Long Body

All units are in mm

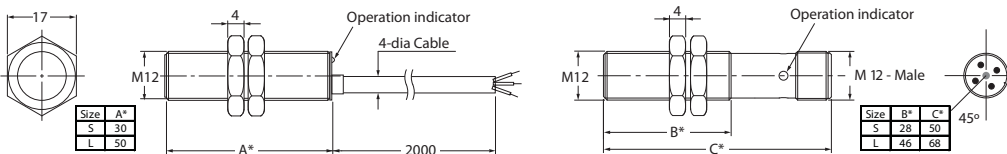
• PQ--M8F-1.5 _ _



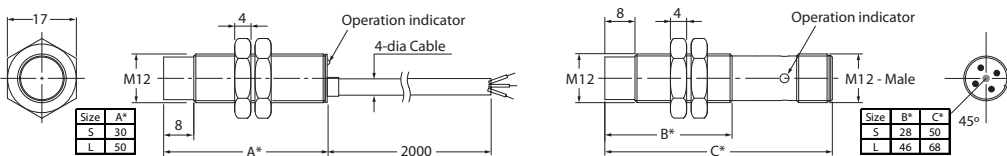
• PQ--M8N-2 _ _



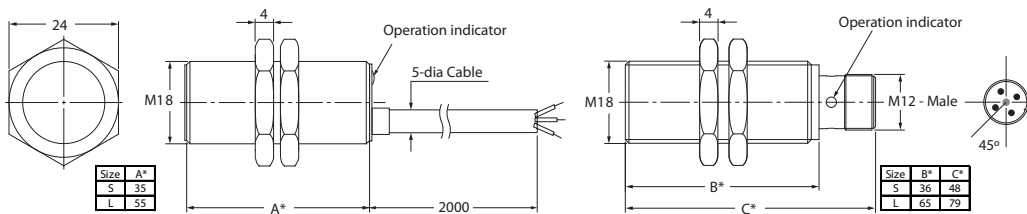
• PQ--M12F-2 _ _



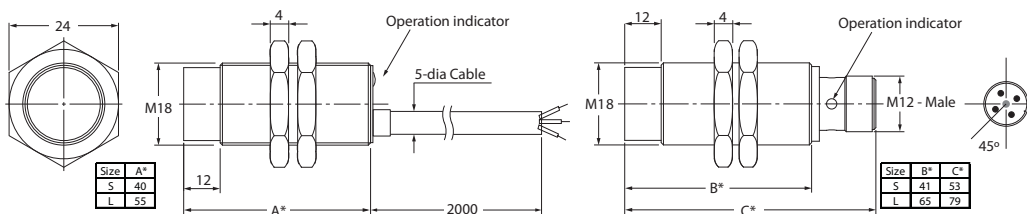
• PQ--M12N-4 _ _



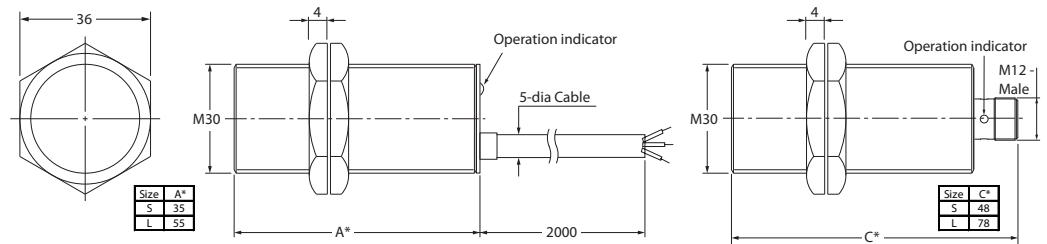
• PQ--M18F-5 _ _



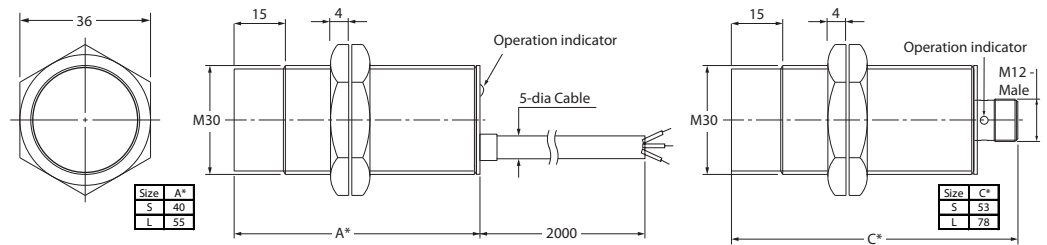
• PQ--M18N-8 _ _



• PQ--M30F-10 _ _

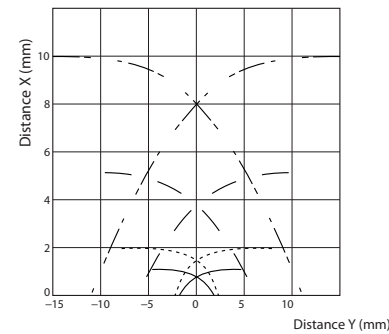


• PQ--M30N-15 _ _



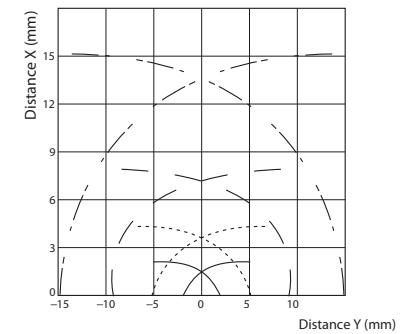
OPERATIONAL RANGE

• Flush Type



PQ--M8F-1.5 _ _
 PQ--M12F-2 _ _
 PQ--M18F-5 _ _
 PQ--M30F-10 _ _

• Non-Flush Type

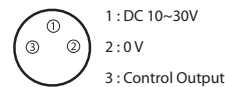


PQ--M8N-2 _ _
 PQ--M12N-4 _ _
 PQ--M18N-8 _ _
 PQ--M30N-15 _ _

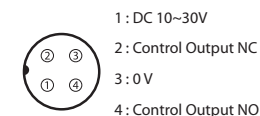
Note: Operational Range testing carried out at room temperature using standard Test Object.

CONNECTOR TYPE

◆ M8 Connector



◆ M12 Connector



Represented by:

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