



PQS-T-615

# PQS-T

## TRIPLE SENSING SS 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.

### ⚠ CAUTION

- This unit shall not be used outdoors.
- Do not use this unit in places where there is flammable or explosive gas.
- Do not use in high humidity areas.
- 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 in places with spatter, false detection possible.
- Do not use excessive force to tighten the unit to the mounting plate and do not hammer the unit.
- Do not use unit without proper grounding in areas with high static discharge.
- Please process it as industrial waste and dispose responsibly.

For more information visit [www.inno.sg](http://www.inno.sg)

### SPECIFICATIONS

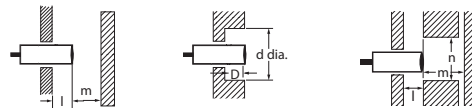
\*For details on Customized/ Special Models contact Seller

| Size                    |                    | M8  | M12              | M18               | M30               |
|-------------------------|--------------------|---|------------------|-------------------|-------------------|
| *Model                  | NPN - NO           | PQS-TL-M8F-3NO_   | PQS-TL-M12F-6NO_ | PQS-TL-M18F-12NO_ | PQS-TL-M30F-22NO_ |
|                         | PNP - NO           | PQS-TL-M8F-3PO_   | PQS-TL-M12F-6PO_ | PQS-TL-M18F-12PO_ | PQS-TL-M30F-22PO_ |
| Sensing Distance        |                    | 3mm   | 6mm              | 12mm              | 22mm              |
| Standard Sensing Target |                    | Iron, Ø10x1mm   | Iron, Ø15x1mm    | Iron, Ø22x1mm     | Iron, Ø22x1mm     |
| Hysteresis              |                    | ± 15%   |                  |                   |                   |
| Response Frequency/Time |                    | 1000 Hz/ 0.2ms  | 800 Hz/ 0.2ms    | 300 Hz/ 0.5ms     | 150 Hz/ 0.5ms     |
| Supply Voltage          |                    | 10-30VDC (ripple included)  |                  |                   |                   |
| Current Consumption     |                    | < 10mA  |                  |                   |                   |
| Connection              |                    | PQS-T-_-_-_-_-2M - 2 meter pre-wired; PQS-T-_-_-_-_-M8C - M8 Connector;<br>PQS-T-_-_-_-_-M12C - M12 Connector |                  |                   |                   |
| Output                  | Type               | NPN or PNP - NO 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     |                    | reversed 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                  | Prewired           | approx. 53g   | approx. 70g      | approx. 150g      | approx. 185g      |
|                         | Connector          | approx. 18g   | approx. 35g      | approx. 100g      | approx. 190g      |
| Material                |                    | Unibody SS303 with 0.175mm head thickness   |                  |                   |                   |
| Tightening Torque       |                    | 10 Nm (max.)  | 15 Nm (max.)     | 40 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 | -  | 0   | 4.5 | 12 |
| M12  | Flush    | 0 | -  | 0   | 12  | 18 |
| M18  | Flush    | 0 | 27 | 1.5 | 24  | 27 |

#### • 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.

| Size | Material | A  | B  |
|------|----------|----|----|
| M8   | Flush    | 20 | 15 |
| M12  | Flush    | 30 | 20 |
| M18  | Flush    | 60 | 35 |

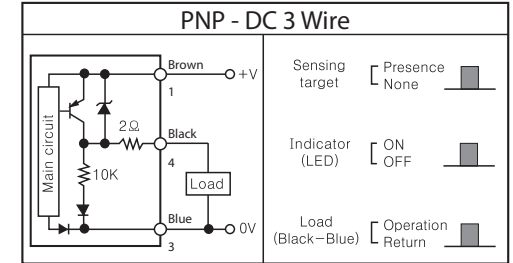
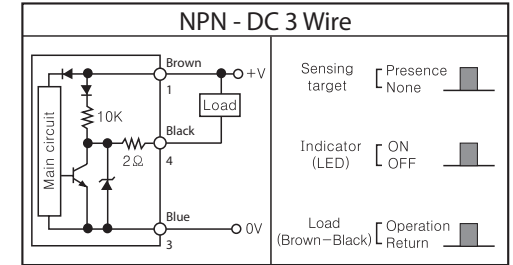
#### • Tightening Torque

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



| Size | Torque |
|------|--------|
| M8   | 10 Nm  |
| M12  | 15 Nm  |
| M18  | 40 Nm  |

### CONTROL OUTPUT DIAGRAM



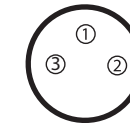
Note: 1, 3, 4 are the Pin numbers for the M12 Connector Models

### ⚠ CAUTION

If an inductive load or load with a higher than 220mA current consumption is connected, it may cause the load short-circuit protection circuit to operate, resulting in operating errors.

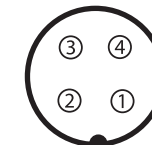
### CONNECTION DIAGRAM

#### ◆ M8 Connector



Brown (1) : DC 10~30V  
Blue (2) : 0V  
Black (3) : Control Output

#### ◆ M12 Connector



Brown (1) : DC 10~30V  
White (2) : No Connection  
Blue (3) : 0V  
Black (4) : Control Output

### Represented by:

Intech Systems Chennai Pvt. Ltd.  
S-2, Guindy Industrial Estate  
Chennai - 32. Ph: 044 4353 8888  
Email: [info@intechchennai.com](mailto:info@intechchennai.com)



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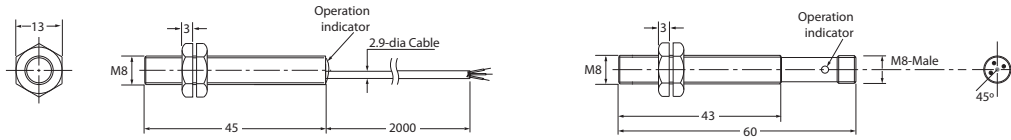
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► DIMENSIONS

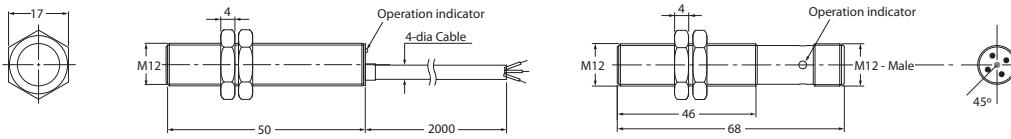
S - Standard Length; L - Long Body

All units are in mm

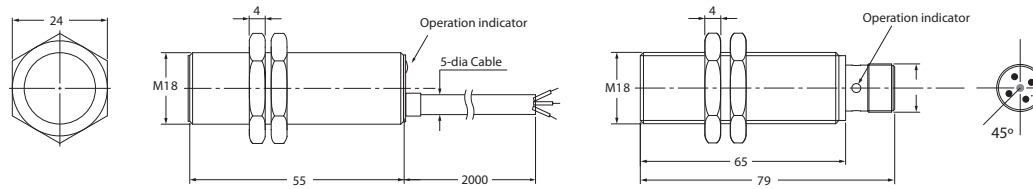
• PQS-TL-M8F-3 \_ \_



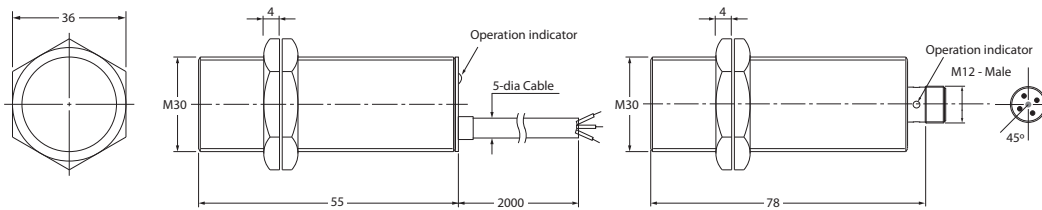
• PQS-TL-M12F-6 \_ \_



• PQS-TL-M18F-12 \_ \_



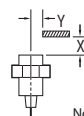
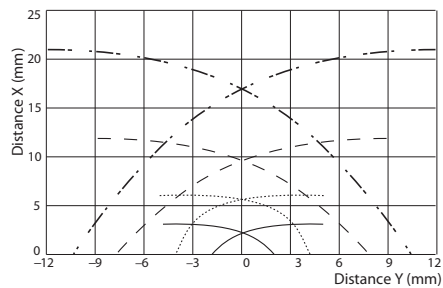
• PQ-TL-M30F-22 \_ \_



INTENTIONALLY LEFT EMPTY

► OPERATIONAL RANGE

• Flush Type



- PQS-TL-M8F-3 \_ \_ → ————
- PQS-TL-M12F-6 \_ \_ → ······
- PQS-TL-M18F-12 \_ \_ → - - - -
- PQS-TL-M30F-22 \_ \_ → - - - -

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

Represented by:

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