



PQS-F-813

PQS-F

FERROUS ONLY SS INDUCTIVE PROXIMITY



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

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

⚠ CAUTION

1. This unit shall not be used outdoors.
2. Do not use this unit in places where there is flammable or explosive gas.
3. Do not use in high humidity areas.
4. Please observe the rated specifications in Instruction Sheet.
5. Do not use this unit beyond rated power and do not supply AC power at DC power type.
6. Please check the polarity of power and wrong wiring.
7. Do not use this unit in places where there is vibration or impact.
8. Do not use in places with spatter, false detection possible.
9. Do not use excessive force to tighten the unit to the mounting plate and do not hammer the unit.
10. Do not use unit without proper grounding in areas with high static discharge.
11. Please process it as industrial waste and dispose responsibly.

For more information visit www.inno.sg

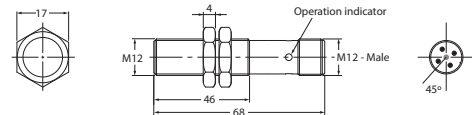
■ SPECIFICATIONS

*For details on Customized/ Special Models contact Seller

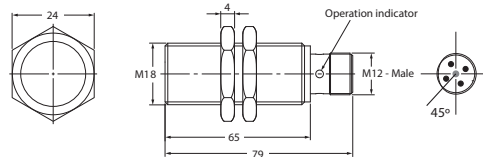
Size	M12		M18	
*Model	Flush	NPN - NO	PQS-F-M12F-2NO-M12C	PQS-F-M18F-5NO-M12C
		PNP - NO	PQS-F-M12F-2PO-M12C	PQS-F-M18F-5PO-M12C
	Non- Flush	NPN - NO	PQS-F-M12N-4NO-M12C	PQS-F-M18N-8NO-M12C
		PNP - NO	PQS-F-M12N-4PO-M12C	PQS-F-M18N-8PO-M12C
Sensing Distance	Flush	2mm (for Iron)	5mm (for Iron)	
	Non- Flush	4mm (for Iron)	8mm (for Iron)	
Standard Sensing Target	Flush	Iron, $\varnothing 15 \times 1 \text{mm}$	Iron, $\varnothing 20 \times 1 \text{mm}$	
	Non- Flush	Iron, $\varnothing 10 \times 1 \text{mm}$	Iron, $\varnothing 15 \times 1 \text{mm}$	
Hysteresis	$\pm 15\%$			
Response Frequency/ Time	Flush	2000 Hz/ 0.1ms	1000 Hz/ 0.2ms	
	Non- Flush	1000 Hz/ 0.2ms	500 Hz/ 0.2ms	
Supply Voltage	10-30VDC (ripple included)			
Current Consumption	< 10mA			
Connection	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: Red LED			
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	$\pm 5\%$ max. of sensing distance (ref. sensing distance taken at 24VDC)			
Temperature Influence	$\pm 10\%$ 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	approx. 25g		approx. 50g	
Material	Sensor: Unibody SS303 with 0.2mm head thickness (flush)/ 0.15mm head thickness (non-flush); Washer: SS threaded, self washered			
Tightening Torque	15 Nm (max.)		30 Nm (max.)	

■ DIMENSIONS

◆ PQS-F-M12F-2_-M12C

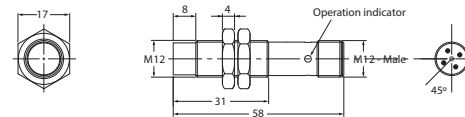


◆ PQS-F-M18F-5_-M12C

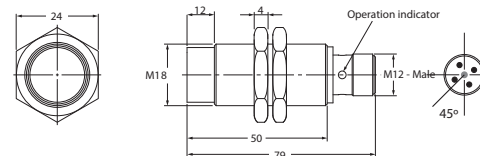


All dimensions are in mm

◆ PQS-F-M12N-4_-M12C



◆ PQS-F-M18N-8_-M12C



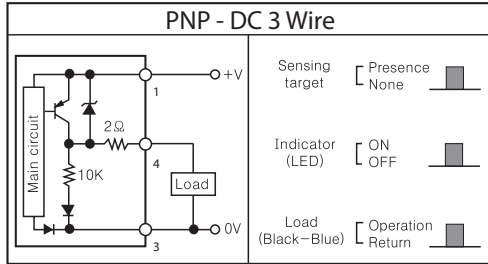
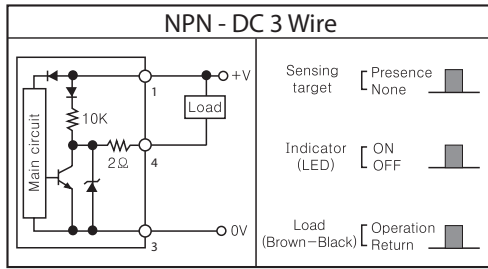
Represented by:

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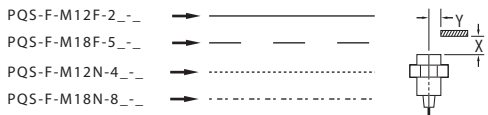
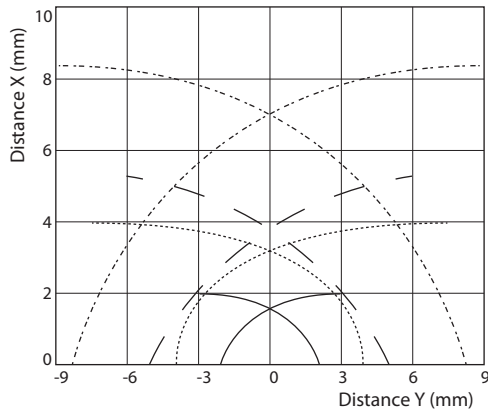
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CONTROL OUTPUT DIAGRAM



Note: 1,3 & 4 are the pin nos. for the M12 Connector type models

OPERATIONAL DATA

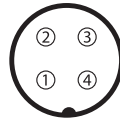


Note:
The operational curve is valid only when tested with the standard testing object or equivalent material with similar ferrous content at 25°C.
When used with SS the sensing distance may vary between 20-35%.
The sensor will not detect non-ferrous metals like aluminium and brass.

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.

CONNECTION DIAGRAM

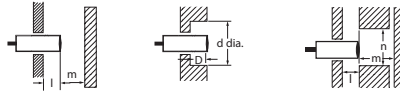


1 : DC 10~30V
2 : No Connection
3 : 0V
4 : Control Output

MOUNTING AND ADJUSTMENTS

Mounting metal influence

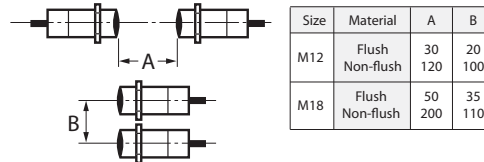
When the proximity sensor is embedded in metal, make sure that the clearances given below are maintained.



Size	Material	l	d	D	m	n
M12	Flush	1	18	1	12	50
	Non-flush	20	85	20	12	80
M18	Flush	1	23	1	24	70
	Non-flush	20	100	20	24	90

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 washered nut, use of a washer is appreciated but not essential.



Size	Torque
M12	15 Nm
M18	40 Nm

INTENTIONALLY LEFT EMPTY.

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