



PQ-W-813

# PQ-W

## WELD IMMUNE 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

- ⓘ Please keep this sheet for review before use of unit.
- ⓘ 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.

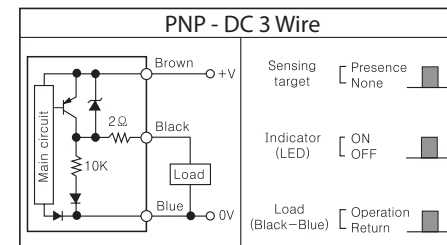
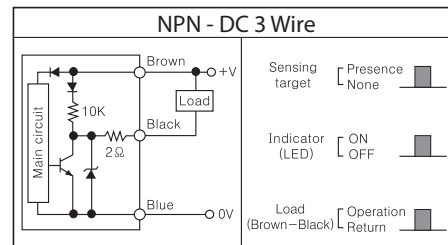
For more information visit [www.inno.sg](http://www.inno.sg)

### ■ SPECIFICATIONS

\*For details on Customized/ Special Models contact Seller

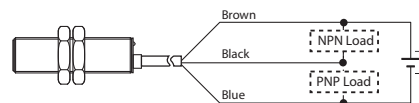
Size	M8	M12	M18	
*Model	NPN - NO	PQ-W-M8F-1NO_	PQ-W-M12F-2NO_	PQ-W-M18F-5NO_
	PNP - NO	PQ-W-M8F-1PO_	PQ-W-M12F-2PO_	PQ-W-M18F-5PO_
	AC 2 Wire - NO	PQ-W-M8F-1AO_	PQ-W-M12F-2AO_	PQ-W-M18F-5AO_
	AC 2 Wire - NC	PQ-W-M8F-1AC_	PQ-W-M12F-2AC_	PQ-W-M18F-5AC_
Sensing Distance	1mm	2mm	5mm	
Standard Sensing Target	Iron, Ø12x2mm	Iron, Ø16x2mm	Iron, Ø22x2mm	
Hysteresis	± 10%			
Response Frequency/ Time	2000 Hz/ 0.1ms (AC: 25 Hz)		1000 Hz/ 0.2ms (AC: 25 Hz)	
Supply Voltage	10-30VDC (ripple included)			
Current Consumption	< 10mA			
Connection	2 meter Pre-wired and M12 In. Connector types			
Output	Type	NPN/ PNP - NO or AC 2 Wire - NO/ NC depending on the model		
	Switching Capacity	200mA; overload trip: 220mA (AC: 300mA)		
	Leakage Current	<0.01mA (AC: <2.5mA)		
	Voltage Drop	< 1.5VDC (AC: 9VAC)		
Protection Circuits	DC Type Only: Reverse power supply polarity; short circuit and overload protection			
Dielectric Strength	1000 VAC, 50/ 60 Hz for 1 minute between current carrying 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. 40g	approx. 60g	approx. 130g
	Junction Connector	approx. 55g	approx. 75g	approx. 145g
Cable	2M, 2.9Ø 3*0.15	2M, 4Ø 3*0.25	2M, 5Ø 3*0.34	
Material	Head: PTFE; Tube: Stainless Steel; Nuts: Chrome plated MS			
Tightening Torque	10 N.m (max.)	15 N.m (max.)	40 N.m (max.)	

### ■ CONTROL OUTPUT DIAGRAM



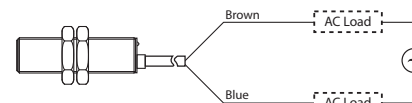
### ■ CONNECTION DIAGRAM

• DC 3 wire - NPN & PNP Types



Brown : DC 12~24V; Blue : GND; Black : Control Output

• AC 2 wire - NO & NC Types

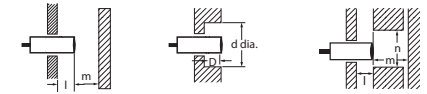


**⚠ CAUTION**  
Connect AC sensor only in series to the Load.

### ■ 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

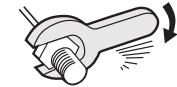
• Mutual Interference

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

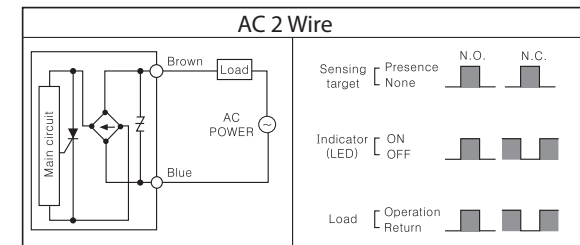
Size	Material	A	B
M8	Flush	20	15
M12	Flush	30	20
M18	Flush	60	35

• Tightening Torque

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



Size	Torque
M8	10 Nm
M12	15 Nm
M18	40 Nm



**⚠ 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.

Represented by:

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Chennai - 32. Ph: 044 4353 8888  
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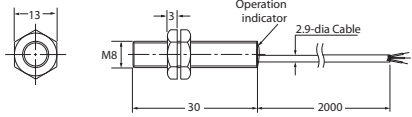


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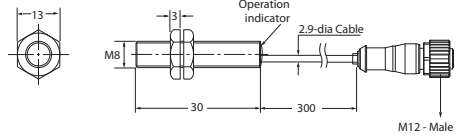
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► DIMENSIONS

PQ-W-M8F-1\_-2M

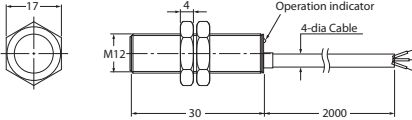


PQ-W-M8F-1\_-M12J3

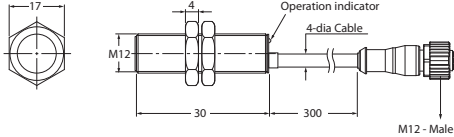


All units are in mm

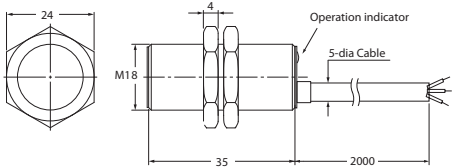
PQ-W-M12F-2\_-2M



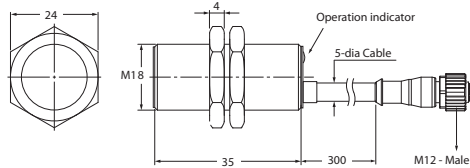
PQ-W-M12F-2\_-M12J3



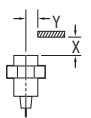
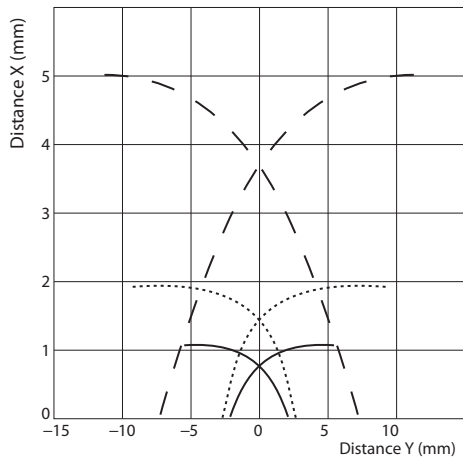
PQ-W-M18F-5\_-2M



PQ-W-M18F-5\_-M12J3



► OPERATIONAL RANGE



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

- PQ-W-M8F-1\_-\_ → —————
- PQ-W-M12F-2\_-\_ → ·······
- PQ-W-M18F-5\_-\_ → - - - - -

INTENTIONALLY LEFT EMPTY

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