

# Capacitive Proximity Sensor

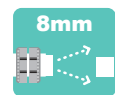
# PCK



CE

## SALIENT FEATURES

- ◆ AC 2-wire and DC 3-wire models
- ◆ LED indication, Plastic/ Brass Housing
- ◆ Built-in Surge & Reverse Polarity Protection
- ◆ Senses Ferrous, metals, plastic, wood, water, etc.
- ◆ Adjust sensing distance with sensitivity adjustment



## Model Number Legend

**PCK** - □□ - □□ - □

1      2 3    4 5    6

### 1. Series

PCK

### 2. Housing

PM18: M18, Plastic, Threaded

M30: M30, Brass, Threaded

### 3. Shield

N: Non-Flush/ Unshielded

### 4. Sensing Distance

8: 8 mm

15: 15 mm

### 5. Output

NO: NPN - NO

PO: PNP - NO

AO: AC 2 wire - NO

AC: AC 2 wire - NC

NC: NPN - NC

### 6. Connection

2M: 2m Cable

M12J3: M12 Junction Connector with 0.3m extension

### #. Accessories included

Check Nut: 1 Pair

### Example:

PCK-PM18N-8AO-2M

PCK Series, Plastic Housing M18, Non- Flush - 8mm Sensing Distance, 2 Wire AC NO - 2 meter Cable

**NOTE:** Contact us for models not shown in catalogue.  
Connector cables are sold separately; look in CC series catalogue for the same ([www.inno.sg/cc](http://www.inno.sg/cc)).

## Product Highlights

### ◆ Electric Capacitive Sensor with Teach

Electric capacitive type proximity sensor PCK Series is able to detect a wide variety of materials including iron, metal, plastic, wood, stone, water, etc.

The sensor has a built-in sensitivity adjustment allows the user to vary the sensing distance depending on the application. This makes it a versatile unit that will satisfy a variety of applications.



## Ratings and Specifications

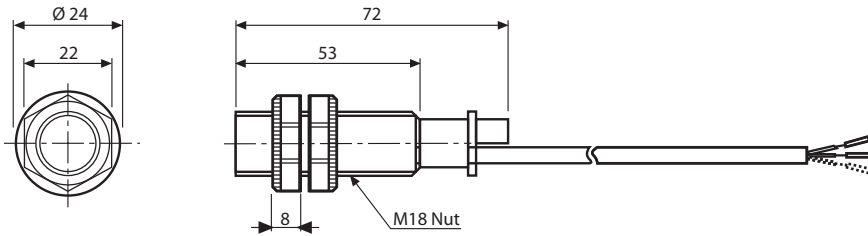
Size		M18		M30	
Shield		Non-Flush			
Connection		2 meter cable	M12 Jn. Connector with 0.3 meter cable	2 meter cable	M12 Jn. Connector with 0.3 meter cable
Model	NPN - NO	PCK-PM18N-8NO-2M	PCK-PM18N-8NO-M12J3	PCK-M30N-15NO-2M	PCK-M30N-15NO-M12J3
	PNP - NO	PCK-PM18N-8PO-2M	PCK-PM18N-8PO-M12J3	PCK-M30N-15PO-2M	PCK-M30N-15PO-M12J3
	AC 2 wire - NO	PCK-PM18N-8AO-2M	PCK-PM18N-8AO-M12J3	PCK-M30N-15AO-2M	PCK-M30N-15AO-M12J3
	AC 2 wire - NC	PCK-PM18N-8AC-2M	PCK-PM18N-8AC-M12J3	PCK-M30N-15AC-2M	PCK-M30N-15AC-M12J3
Sensing Distance		8 mm		15 mm	
Response Frequency		20Hz(AC) ; 50Hz(DC)			
Standard Sensing Target		Ø100 x 5 mm iron piece			
Setting Distance		0 ~ 6 mm		0 ~ 10 mm	
Hysteresis		max. 20%			
Sensitivity Adjustment		Built-in externally adjustable endless pot.			
Supply Voltage		12 - 24 VDC (Ripple Max 10%) or 100 - 240 VAC (± 10%) depending on Model			
Current Consumption		DC 3 wire: Max. 15 mA; AC 2 wire: -			
Leakage Current		DC 3 wire: - ; AC 2 wire: Max. 2.2 mA			
Control Output		DC 3 wire: Max. 200 mA; AC 2 wire: Max. 5 ~ 200 mA			
Output Residual Voltage		DC 3 wire: Max. 1.5 V; AC 2 wire: Max. 20 V			
Operation Indication		Red LED			
Output Type		NPN/ PNP (NO/NC) in DC 3 Wire or NO/ NC in AC 2 wire depending on Model			
Protection Circuits		DC 3 wire: Surge, Reverse Polarity Protection; AC 2 wire: Overload, Short circuit Protection			
Shock Resistance		50 G in X, Y, Z direction for 3 times			
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		IP66		IP65	
Weight		DC 3 wire: Aprox. 70g; AC 2 wire: Aprox. 65g		DC 3 wire: Aprox. 210g; AC 2 wire: Aprox. 220g	
Material		Polyamide Nylon 6 (PM6)		Nickel Plated Brass; Sensing Head: ABS	

Note: The sensing distance mentioned is for iron with the sensitivity set to maximum; for Non-Ferrous materials the sensing distance will vary.

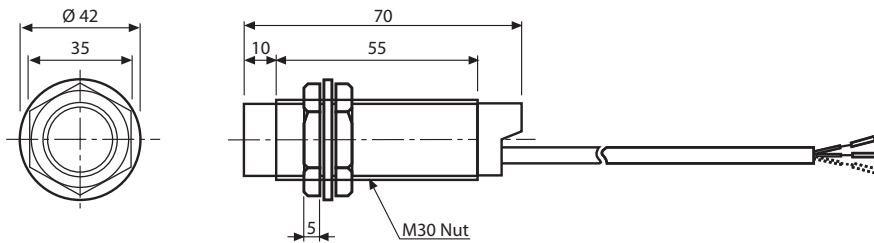
# Sensor Dimension Drawing

PCK

PCK-PM18N-8□-2M  
PCK-PM18N-8□-M12J3

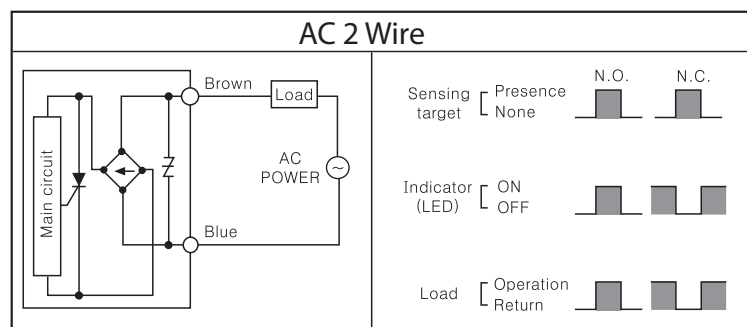
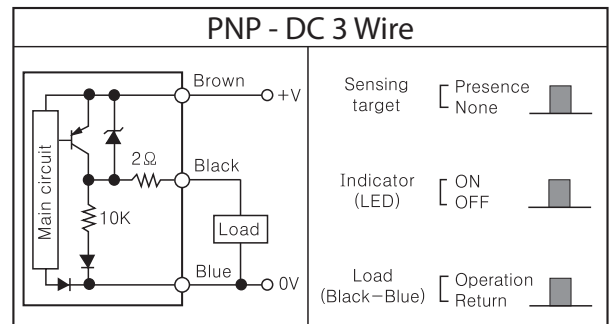
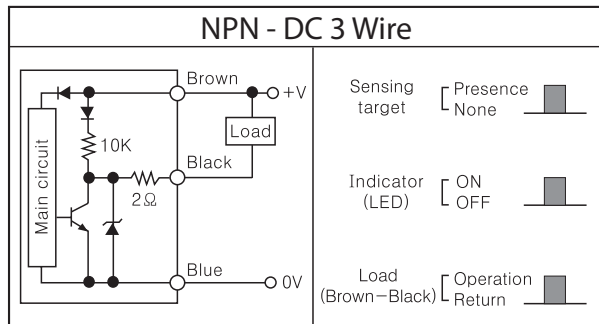


PCK-M30N-15□-2M  
PCK-M30N-15□-M12J3



All dimensions are in mm

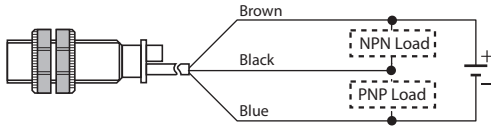
# Control Output Diagram



- Proximity Sensors
- Photoelectric Sensors
- Measurement Sensors
- Vision & Safety Sensors
- Control
- Weighing
- Automation
- Components

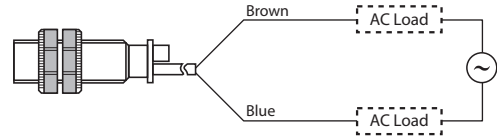
## Connection

### ◆ NPN & PNP - DC 3 Wire Type



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

### ◆ NO & NC - AC 2 Wire Type



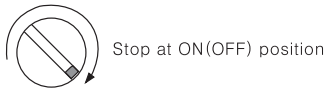
Brown : AC 100~240 V, 50/60 Hz  
 Blue : Neutral

## Mounting and Adjustment

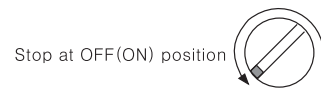
### ◆ Sensitivity Adjustment

The sensitivity and thereby the sensing distance of the proximity sensor can be adjusted using the endless potentiometer provided in the rear of the sensor.

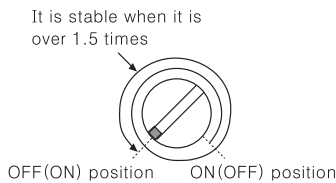
❶ When no sensing object is placed, turn the pot. to the right and stop when the proximity sensor is in ON State (OFF for NC models)



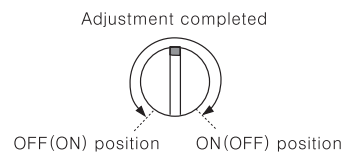
❷ Place an object in the desired sensing position, turn the pot. to the left and stop when the proximity sensor is in OFF State (ON for NC models)



❸ If the difference between the ON state (OFF for NC models) and OFF state (ON for NO models) is more than 1.5 turns of the potentiometer, the sensing operation will be stable.



❹ Place the potentiometer in the center position between ❶ & ❷ and the adjustment is complete.



### ◆ Grounding

The sensing distance of the capacitive proximity sensor is reduced if the grounding is not proper/ missing.

The M18 sensor is a plastic body sensor. The object to be sensed only needs to be grounded.

The M30 sensor has a plated brass body and it is necessary to ground both the sensor and the object to be sensed.

	PCK-PM18N-8□-□		PCK-M30N-15□-□			
Sensor Ground	-	-	ON	OFF	ON	OFF
Object Ground	ON	OFF	ON	ON	OFF	OFF
Sensing Distance	8	4	15	18	6	6

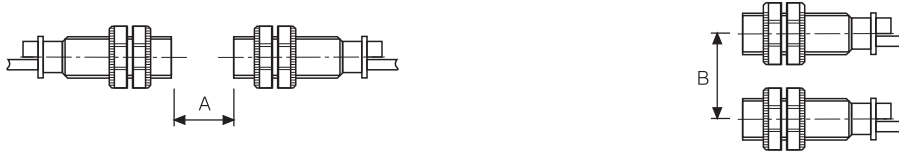
Note: Sensing distance is in mm

# Mounting and Adjustments

PCK

## ◆ Crosstalk Prevention

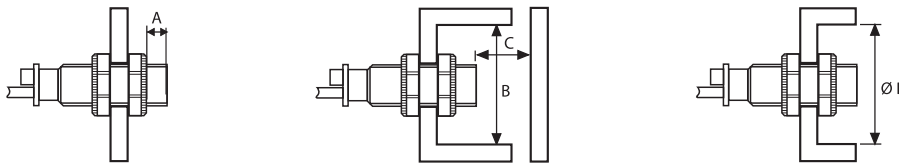
When several proximity sensors are placed close to each other they may interfere with functioning of each other and cause malfunction. To ensure proper functioning a minimum distance is to be maintained as shown below.



	PCK-PM18N-8□-□	PCK-M30N-15□-□
A	50 mm	90 mm
B	60 mm	100 mm

## ◆ Mounting

When the sensor is to be mounted on a metallic panel, the following conditions are to be followed to ensure that the mounting plate does not lead to false detection.



	PCK-PM18N-8□-□	PCK-M30N-15□-□
A	20 mm	10 mm
B	55 mm	90 mm
C	25 mm	45 mm
Ø D	55 mm	90 mm

Proximity Sensors

Photoelectric Sensors

Measurement Sensors

Vision & Safety Sensors

Control

Weighing

Automation

Components

Cat. No. PCK-412

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