



# DENKI SEIGYO

## Inductive Proximity Sensor

Round Full-Metal Inductive Proximity Sensor – M18 Diameter

### 1. PRODUCT OVERVIEW

The **Denki Seigyo DPRF18-7DP-PC/ DPRF18-7DN-PC** is a compact inductive proximity sensor designed for reliable detection of metallic objects in industrial automation systems. The sensor features a **full-metal stainless-steel housing**, high noise immunity, and stable switching performance.

It is ideal for machine automation, packaging systems, robotics, and conveyor monitoring applications.

Key advantages include:

- Full metal body for durability
- High switching reliability
- Compact **M18 cylindrical design**
- LED switching indication
- Protection against reverse polarity and short circuit

### 2. MODEL CODE STRUCTURE

Code	Description
D	Denki Seigyo
PR	Round Proximity Sensor
F	Full Metal Body
18	M18 Diameter
7	7 mm sensing distance
D	DC type
P	PNP/NPN output
PC	Pig tail cable
C	Connector type
Blank	Cable type



## Ordering Information

Model	Output Type	Sensing Distance	Housing	Connection Type
DPRF18-7DP-PC	PNP NO	7 mm	Full Metal M18	Pig tail cable
DPRF18-7DN-PC	NPN NO	7 mm	Full Metal M18	Pig tail cable
DPRF18-7DP-C	PNP NO	7 mm	Full Metal M18	M12 Connector
DPRF18-7DN-C	NPN NO	7 mm	Full Metal M18	M12 Connector
DPRF18-7DP	PNP NO	7 mm	Full Metal M18	Cable Type
DPRF18-7DN	NPN NO	7 mm	Full Metal M18	Cable Type

## 3. KEY FEATURES

- Compact **M18 cylindrical sensor**
- **Full metal stainless steel body**
- **7 mm sensing distance**
- **PNP/NPN normally open output**
- Reverse polarity protection
- Short-circuit protection
- High switching frequency
- LED switching indicator
- IP67 protection

## 4. TECHNICAL SPECIFICATIONS

### General Specifications

Parameter	Specification
Switching Function	Normally Open (NO)
Output Type	PNP/NPN
Rated Sensing Distance (Sn)	7 mm
Installation	Quasi flush
Output Type	3-wire DC
Assured Operating Distance	0 – 7 mm

Reduction factors for different metals:

Material	Reduction Factor
Aluminum	0.25
Copper	0.22
Stainless Steel	0.65

These values correspond to the sensor’s detection capability depending on the target material.



## 5. ELECTRICAL SPECIFICATIONS

Parameter	Specification
Operating Voltage	10 – 30 V DC
Switching Frequency	0 – 500 Hz
Voltage Drop	≤ 2 V
Load Current	0 – 200 mA
Off-State Current	≤ 0.1 mA
No-Load Current	≤ 10 mA

Protection features include:

- Reverse polarity protection
- Short-circuit protection (pulsing)

These electrical ratings ensure reliable operation in industrial environments.

## 6. INDICATOR

Indicator	Function
Yellow LED	Output switching indicator

## 7. MECHANICAL SPECIFICATIONS

Parameter	Specification
Housing Material	Stainless steel
Sensing Face	Stainless steel
Diameter	18 mm
Length	50 mm
Protection Class	IP67

The compact body allows easy installation in limited spaces.

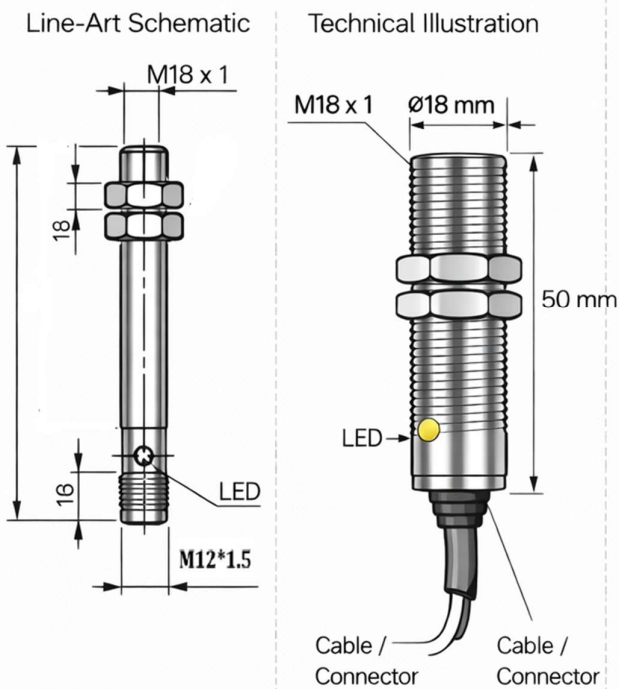
## 8. ENVIRONMENTAL CONDITIONS

Parameter	Specification
Operating Temperature	-25 °C to +70 °C
Protection Degree	IP67

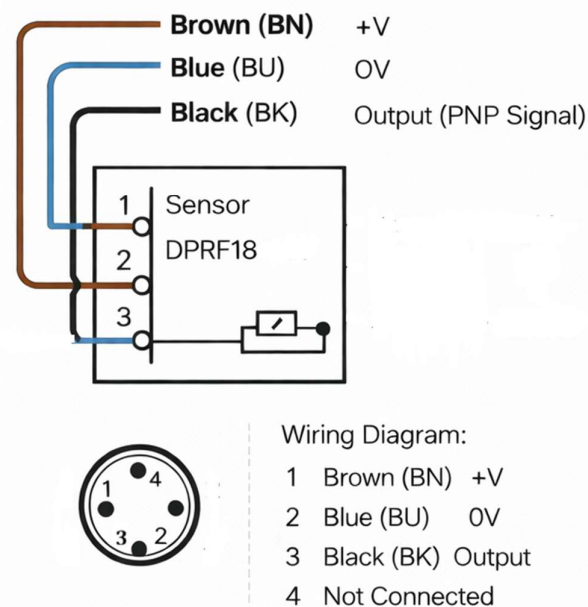
## 9. DIMENSIONS & ELECTRICAL CONNECTION

### M18 Sensor Specifications

#### Dimension Drawing



#### Wiring Diagram



Wire colors follow **EN 60947-5-2 standard**.

## 10. APPLICATIONS

- Industrial automation
- Conveyor systems
- Packaging machines
- Robotics
- Position detection
- Assembly lines