



# DENKI SEIGYO

## Inductive Proximity Sensor

### Round Full-Metal Inductive Proximity Sensor – M30 Diameter

## 1. PRODUCT OVERVIEW

The **Denki Seigyo DPRF30-10DP-PC/ DPRF30-10DN-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 **M30 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        |
| 30    | M30 Diameter           |
| 10    | 10 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 |
|----------------|-------------|------------------|----------------|-----------------|
| DPRF30-10DP-PC | PNP NO      | 10 mm            | Full Metal M30 | Pig tail cable  |
| DPRF30-10DN-PC | NPN NO      | 10 mm            | Full Metal M30 | Pig tail cable  |
| DPRF30-10DP-C  | PNP NO      | 10 mm            | Full Metal M30 | M12 Connector   |
| DPRF30-10DN-C  | NPN NO      | 10 mm            | Full Metal M30 | M12 Connector   |
| DPRF30-10DP    | PNP NO      | 10 mm            | Full Metal M30 | Cable Type      |
| DPRF30-10DN    | NPN NO      | 10 mm            | Full Metal M30 | Cable Type      |

## 3. KEY FEATURES

- Compact **M30 cylindrical sensor**
- **Full metal stainless steel body**
- **10 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) | 10 mm              |
| Installation                | Quasi flush        |
| Output Type                 | 3-wire DC          |
| Assured Operating Distance  | 0 – 10 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         | 30 mm           |
| Length           | 66 mm           |
| Protection Class | IP67            |

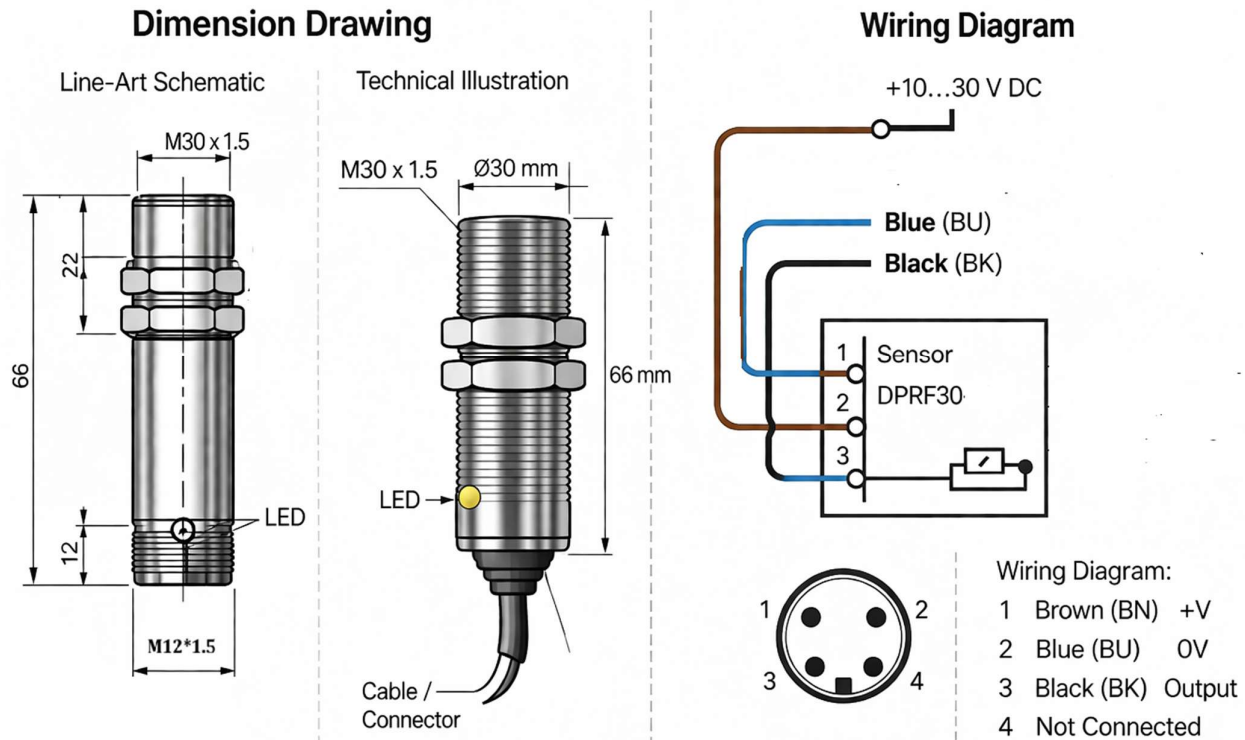
The compact body allows easy installation in limited spaces.

## 8. ENVIRONMENTAL CONDITIONS

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

## 9. DIMENSIONS & ELECTRICAL CONNECTION

### M30 Sensor Specifications



Note: Use the supplied M12 4-pin connector or equivalent.

Wire colors follow EN 60947-5-2 standard.

## 10. APPLICATIONS

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