



# DENKI SEIGYO

## DPS3M-RDP / DPS3M-RDN

### RETRO-REFLECTIVE PHOTOELECTRIC SENSOR



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## 1. PRODUCT OVERVIEW

The **Denki Seigyo DPS3M-R Series Retro-Reflective Photoelectric Sensors** are compact industrial optical sensors designed for reliable object detection using a reflector-based sensing method.

The DPS3M-R series combines transmitter and receiver inside a single housing and detects objects by interruption of reflected light from a reflector.

With visible red LED light source, polarization filter, and stable long-distance sensing, the DPS3M-R series is ideal for conveyors, packaging machines, material handling systems, and industrial automation applications.

- ✓ Sensing distance up to **3 meters**
- ✓ Compact rectangular housing
- ✓ PNP / NPN output models available
- ✓ High immunity against reflected surface interference

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## 2. KEY FEATURES

- Retro-reflective sensing principle
- Polarized reflector sensing
- Long sensing distance up to 3 m
- Visible red LED light source
- PNP / NPN output options
- Light ON / Dark ON selectable
- Potentiometer sensitivity adjustment
- Reverse polarity protection
- Short-circuit protection
- IP67 protection class
- Compact ABS industrial housing



### 3. MODEL STRUCTURE

#### Example:

#### DPS3M-RDP

Code	Description
D	Denki Seigyo
PS	Square Photo Sensor
3M	3 meter sensing distance
R	Retro-reflective type
D	DC type
P	PNP output
N	NPN output

### 4. AVAILABLE MODELS

Model	Output Type	Functional Principle	Sensing Distance
DPS3M-RDP	PNP	Retro-reflective	3 m
DPS3M-RDN	NPN	Retro-reflective	3 m

### 5. TECHNICAL SPECIFICATIONS

#### General Specifications

Parameter	Specification
Functional Principle	Retro-reflective photoelectric sensor
Sensing Range	0.05 – 3 m
Sensing Range Max.	4 m
Polarization Filter	Yes
Light Source	Red LED
Wavelength	650 nm
Adjustment	Potentiometer



## Electrical Specifications

Parameter	Specification
Supply Voltage	10 – 30V DC
Ripple	±10%
Current Consumption	≤ 30 mA
Output Current	≤ 100 mA
Response Time	< 0.6 ms
Switching Frequency	1000 Hz
Protection	Reverse polarity / Overcurrent / Short circuit

## Output Specifications

Model	Output
DPS3M-RDP	PNP
DPS3M-RDN	NPN

## Switching Modes

- Light ON
- Dark ON

## Mechanical Specifications

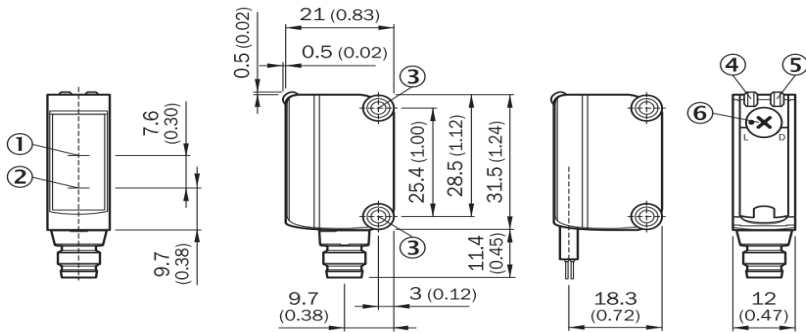
Parameter	Specification
Housing Type	Rectangular
Housing Material	ABS / PC
Front Screen	PMMA
Connection	3-wire cable, 2 m
Cable Material	PVC

## Environmental Specifications

Parameter	Specification
Protection Rating	IP67
Operating Temperature	–25°C to +55°C
Storage Temperature	–40°C to +70°C
Humidity	35–85% RH



## Dimensions



## 6. INDICATORS & ADJUSTMENT

Indicator	Function
Green LED	Power ON
Yellow LED	Output status

### Adjustment Functions

- Sensitivity adjustment potentiometer
- Light/Dark switching selector

## 7. CONNECTION DIAGRAM

### PNP Output (DPS3M-RDP)

Wire Colour	Function
Brown	+V
Blue	0V
Black	Output

### NPN Output (DPS3M-RDN)

Wire Colour	Function
Brown	+V
Blue	0V
Black	Output



## 8. CHARACTERISTIC FEATURES

### Light Spot Size

Distance	Spot Size
0.35 m	Ø 8 mm
1.0 m	Ø 25 mm
3.0 m	Ø 80 mm
5.0 m	Ø 130 mm

### Recommended Reflector

Reflector Model	Type
DS-RF250	Standard reflector

## 9. APPLICATIONS

The DPS3M-R series is suitable for:

- Conveyor object detection
- Industrial automation systems
- Material handling equipment
- Robotics
- Presence detection
- Production line monitoring

## 10. ACCESSORIES

Accessory	Description
Reflector	Standard reflector included
Mounting Bracket	Stainless steel mounting bracket
Sensor Cable	3-wire cable

## 11. ORDERING INFORMATION

Model	Output	Distance	Type
DPS3M-RDP	PNP	3 m	Retro-reflective
DPS3M-RDN	NPN	3 m	Retro-reflective