DAPPRA Automation

Industrial Sensor Manufacturer



DPR-0420-NPN-NC

Installation Guide

SKU: SD69

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Important Safety Information

Before installing the DPR-0420-NPN-NC Industrial Area Sensor, please read this guide carefully. The sensor is designed for industrial automation and machine protection applications. Proper installation is essential for reliable operation.

⚠ **Warnings:**

- Installation must be performed by qualified personnel
- Disconnect power before wiring or servicing
- Ensure correct power supply voltage (DC24V ±20%)
- Observe applicable safety standards and regulations
- Verify detection distance and alignment during installation

Product Components

Component	Description
Emitter	Generates infrared beams
Receiver	Detects beam interruptions
Mounting Brackets	For securing emitter and receiver
M12 Cables	3-Pin (Emitter) / 4-Pin (Receiver)
Installation Hardware	Screws, washers, mounting accessories

Tools Required

- Screwdriver set
- Measuring tape or ruler
- Spirit level
- M12 connector tool (optional)
- Multimeter for electrical testing
- Allen key set



Installation options for the DAPPRA DPR-0420-NPN-NC SD69 Area Sensor and light curtain system.

Installation Methods

The DPR-0420-NPN-NC supports three installation methods. Select the method that best suits your machine structure and protection requirements.

Method 1: Standard Vertical Installation

The standard vertical installation method places the emitter and receiver vertically opposite each other to create a detection area.

Procedure:

1. Mount the emitter and receiver vertically on opposite sides of the protected area
2. Ensure both units are aligned at the same height
3. Verify the optical axis is straight and unobstructed
4. Tighten mounting screws securely

Suitable for:

- CNC machines
- Press machines
- Machine entrances
- Safety protection areas

Method 2: Side Installation

Side installation allows the sensor to be mounted according to machine structure limitations where standard mounting space is restricted.

Procedure:

1. Mount units on side brackets
2. Adjust angle for proper beam alignment
3. Verify detection field covers the required area

Suitable for:

- Compact equipment
- Limited installation space
- Customized machine layouts

Method 3: Adjustable Bracket Installation

The adjustable bracket installation method allows flexible positioning and alignment of the emitter and receiver.

Advantages:

- Easier alignment
- Flexible mounting angle adjustment
- Suitable for customized automation equipment

Procedure:

1. Install adjustable brackets on both units
2. Position brackets on machine frame
3. Adjust angle and position for optimal detection
4. Secure all fasteners

Installation Checklist

- ☐ Verify mounting location is clean and level
- ☐ Mount emitter and receiver with correct orientation
- ☐ Ensure optical axis is aligned
- ☐ Check detection distance (0.2–3 m)
- ☐ Connect power supply correctly
- ☐ Verify wiring connections
- ☐ Test beam transmission
- ☐ Perform functional test

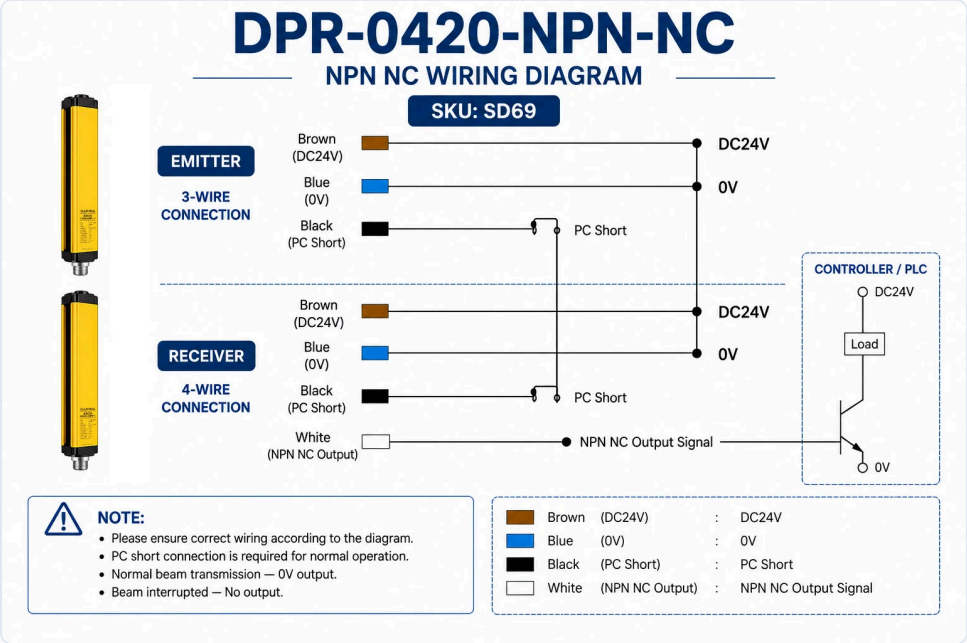
Wiring Instructions

Electrical Specifications

Parameter	Specification
Power Supply	DC24V ±20%
Output Type	NPN NC (Normally Closed)
Connector Type	M12 (Emitter: 3-Pin / Receiver: 4-Pin)
Cable Length	2 m

Signal Logic

Condition	Output
Normal beam transmission	0V output
Beam interrupted	No output



Wiring diagram for the DAPPRA DPR-0420-NPN-NC SD69 NPN NC Area Sensor.

Connection Guide

Emitter (M12 3-Pin):

Pin	Signal
1	DC24V (+)
2	NC
3	GND (0V)

Receiver (M12 4-Pin):

Pin	Signal
1	DC24V (+)
2	Output Signal
3	GND (0V)
4	NC

Alignment Procedure

1. Connect power to emitter and receiver
2. Observe LED indicators on receiver
3. Adjust emitter and receiver position for optimal alignment
4. Confirm indicator shows normal beam condition
5. Test interruption with an object
6. Verify output signal changes correctly

Troubleshooting

Problem	Possible Cause	Solution
No output signal	Power supply issue	Check DC24V supply
LED indicator off	Wiring incorrect	Verify connections
Intermittent detection	Misalignment	Re-align emitter/receiver
False triggering	Obstruction in beam path	Clear detection area
No response to interruption	Output configuration error	Verify NPN NC logic

Technical Support

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