DAPPRA Automation

Dimension & Installation Guide

DPR-1240-NPN-NC

Safety Light Curtain Area Sensor — Mechanical Dimensions and Installation Instructions

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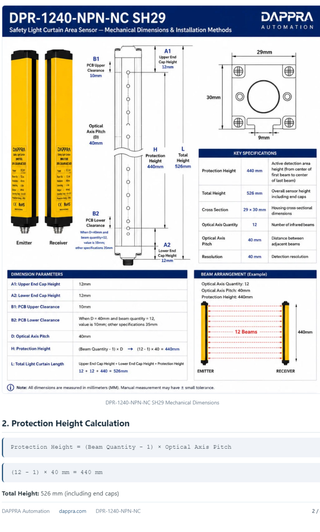
DAPPRA Automation — Industrial Sensor Manufacturer

1. Product Dimensions

The DPR-1240-NPN-NC features a compact design with a 29 × 30 mm cross-section, making it suitable for space-constrained industrial installations.

Dimension	Value
Protection Height	**440 mm**
Total Height (including end caps)	**526 mm**
Optical Axis Pitch	40 mm
Cross Section (Width × Depth)	29 × 30 mm
Number of Beams	12



DPR-1240-NPN-NC SH29 Mechanical Dimensions

2. Protection Height Calculation

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Protection Height = (Beam Quantity - 1) × Optical Axis Pitch
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(12 - 1) × 40 mm = 440 mm
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Total Height: 526 mm (including end caps)

3. Installation Methods

The DPR-1240-NPN-NC supports three primary installation methods to accommodate various machine structures and space constraints.

3.1 Standard Vertical Installation

The emitter and receiver are mounted vertically opposite each other, creating a detection area across the full protection height.

- **Suitable for:** CNC machines, press machines, machine entrances, safety protection areas
- **Advantages:** Simple alignment, maximum coverage area

3.2 Side Installation

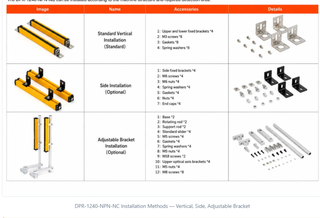
Mounts the sensor on the side of the machine frame where standard vertical mounting space is restricted.

- **Suitable for:** Compact equipment, limited installation space, customized machine layouts
- **Advantages:** Space-efficient, adaptable to machine geometry

3.3 Adjustable Bracket Installation

Uses adjustable mounting brackets for flexible positioning and fine-tuning of emitter-receiver alignment.

- **Suitable for:** Customized automation equipment, retrofits, flexible manufacturing cells
- **Advantages:** Easier alignment, flexible angle adjustment



DPR-1240-NPN-NC Installation Methods — Vertical, Side, Adjustable Bracket

⚠ **IMPORTANT:** Ensure proper alignment between emitter and receiver. Use the alignment indicator LEDs to confirm correct positioning before securing the brackets.

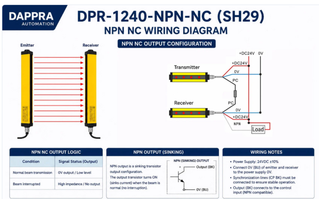
4. Wiring Instructions

The DPR-1240-NPN-NC uses an **NPN NC output** configuration. Follow the wiring diagram below for proper connection.

Wire Color	Function	Description
Brown	Power Supply (+)	DC24V ± 20%
Blue	Power Supply (-)	GND (0V)
Black	Output Signal	NPN NC output
White	Test / Sync (optional)	For function test or synchronization

Signal Logic — NPN NC

Condition	Output Signal
Normal beam transmission (no object)	0V (low level) — Output active
Beam interrupted (object detected)	High impedance — Output inactive



DPR-1240-NPN-NC SH29 NPN NC Wiring Diagram

5. Safety Precautions

- Ensure power supply is within DC24V ±20% specification before connection.
- Do not disassemble or modify the sensor. Contact DAPPRA for service.
- Keep the optical surfaces clean for reliable detection.
- Do not operate the sensor beyond the rated environmental specifications.
- The SIL certification applies only when installed and used according to the instructions.

For technical support: **www.dappra.com** | ✉ info@dappra.com