DAPPRA Automation

Technical Datasheet

DPR-1240-NPN-NC

Safety Light Curtain Area Sensor with 440 mm Protection Height

Version: 1.0 | Date: September 2026 | SKU: SH29

DAPPRA Automation — Industrial Sensor Manufacturer

DPR-1240-NPN-NC

Safety Light Curtain Area Sensor with 440 mm Protection Height

Product Description

The DAPPRA DPR-1240-NPN-NC is a Safety Light Curtain and Area Sensor from the DPR Series, designed for industrial automation equipment requiring reliable multi-beam object detection and machine protection.

The DPR-1240-NPN-NC uses through-beam infrared detection technology with a separate emitter and receiver. With 12 optical beams, a 40 mm optical axis pitch, and a 440 mm protection height (526 mm total height), it provides stable detection performance for industrial applications.

Key Features

- 12 parallel infrared beams
- 40 mm optical axis pitch
- 440 mm protection height / 526 mm total height
- NPN NC output configuration
- DC24V power supply
- Detection distance up to 3 m
- IP65 protection rating
- Oil-resistant design
- Anti-vibration and anti-interference design
- SIL functional safety certification

Product Identity

Parameter	Specification
Brand	DAPPRA
Manufacturer	DAPPRA Automation
Product Series	DPR Series
Model	DPR-1240-NPN-NC
SKU	SH29
Product Category	Safety Light Curtain / Area Sensor
Detection Method	Through Beam Infrared Detection
Beam Configuration	Parallel Beam
Optical Axis Quantity	12 Beams
Optical Axis Pitch	40 mm
Output Type	NPN
Signal Logic	NC (Normally Closed)

Technical Specifications

Specification	Value
Model	DPR-1240-NPN-NC
SKU	SH29
Series	DPR Series
Detection Method	Through Beam Infrared Detection
Beam Configuration	Parallel Beam
Optical Axis Quantity	12 beams
Optical Axis Pitch	40 mm
Protection Height	440 mm
Total Height (including end caps)	526 mm
Maximum Detection Distance	3 m
Power Supply	DC24V ±20%
Response Time	<5 ms
Output Type	NPN
Signal Logic	NC (Normally Closed)
Connector	M12 Cable
Output Current	≤200 mA
Power Consumption	<5 W
Cross Section Size	29 × 30 mm
Protection Rating	IP65
Housing Material	Aluminum Alloy
Operating Temperature	-10°C to 55°C
Operating Humidity	Relative Humidity <85% at 20°C
Ambient Light Resistance	10000 Lux (incident angle >5°)

SIL CE FCC RoHS IP65

Model Number Explanation

Code	Meaning
DPR	DAPPRA DPR Series
12	12 Optical Beams
40	40 mm Optical Axis Pitch
NPN	NPN Output Type
NC	Normally Closed Signal Logic

DPR-1240-NPN-NC represents a DPR Series Safety Light Curtain Area Sensor with 12 beams, 40 mm optical axis pitch, NPN output and Normally Closed signal logic.

Protection Height Calculation

For DPR Series Area Sensors, protection height is calculated as:

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Protection Height = (Beam Quantity − 1) × Optical Axis Pitch
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For DPR-1240-NPN-NC:

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(12 − 1) × 40 mm = 440 mm
```

Total Height: 526 mm (including end caps)

NPN NC Signal Logic

The DPR-1240-NPN-NC uses an NPN output with NC (Normally Closed) signal logic.

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

NPN NC Output Configuration

- **Output Type:** NPN
- **Signal Logic:** NC (Normally Closed)
- **Power Supply:** DC24V ±20%
- **Connector:** M12 Cable

Wiring Diagram

Refer to the official DAPPRA DPR-1240-NPN-NC wiring diagram for detailed connection information.

M12 4-Pin Connector | NPN NC Output

Industrial Applications

The DPR-1240-NPN-NC Safety Light Curtain Area Sensor is designed for industrial automation applications requiring multi-beam object detection and machine protection.

Typical application areas include:

- CNC Machines
- Press and Hydraulic Machinery
- Packaging Machinery
- Conveyor Systems
- Robot Workcells
- Automated Assembly Equipment
- Shearing and Cutting Machinery
- Stamping Machinery
- Woodworking Machinery
- Welding Production Lines
- Vertical Parking Systems
- Falling Object Detection Applications

Environmental Protection

The DPR-1240-NPN-NC is designed for industrial automation environments where equipment may experience humidity, water exposure, oil contamination, mechanical vibration and electromagnetic interference.

Feature	Description
IP65 Protection	Protection design for industrial environments requiring resistance to dust and water exposure.
Oil Resistance	Surface protection for oil-resistant performance.
Anti-Vibration Design	Designed for stable operation in industrial machinery environments.
Anti-Interference Design	Designed for resistance against electromagnetic interference.
Ambient Light Resistance	10000 Lux (incident angle >5°)
Operating Temperature	-10°C to 55°C
Operating Humidity	Relative humidity <85% at 20°C

Safety & Compliance

The DPR-1240-NPN-NC is supported by functional safety and product compliance documentation.

SIL Functional Safety Certification

The DPR-1240-NPN-NC has obtained SIL certification through third-party testing and verification according to functional safety requirements.

Safety Parameter	Specification
Safety Level	SIL
Certification Type	Third-Party Functional Safety Certification

Product Compliance Documentation

- SIL Functional Safety Certificate
- CE Certification
- FCC Certification
- RoHS Compliance

Standard Product Package

Package Item	Quantity / Description
Emitter	1 unit
Receiver	1 unit
Connecting Cables	2 cables (M12)
Standard Mounting Accessories	Included

The complete package allows installation of the emitter and receiver system for through-beam infrared detection applications.

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