

DPR-1620-NPN-NC

Safety Light Curtain Area Sensor — Dimension & Installation Guide



Version: 1.0 | Date: September 2023 | SKU: SH63

DAPPRA Automation — Industrial Sensor Manufacturer

DPR-1620-NPN-NC

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1. Dimension and Optical Structure

The DPR-1620-NPN-NC combines a compact mechanical design with a multi-beam infrared detection structure. The sensor configuration includes:

- 16 optical beams
- 20mm optical axis pitch
- 10mm resolution
- 300mm protection height
- 368mm total height

Dimension Drawing

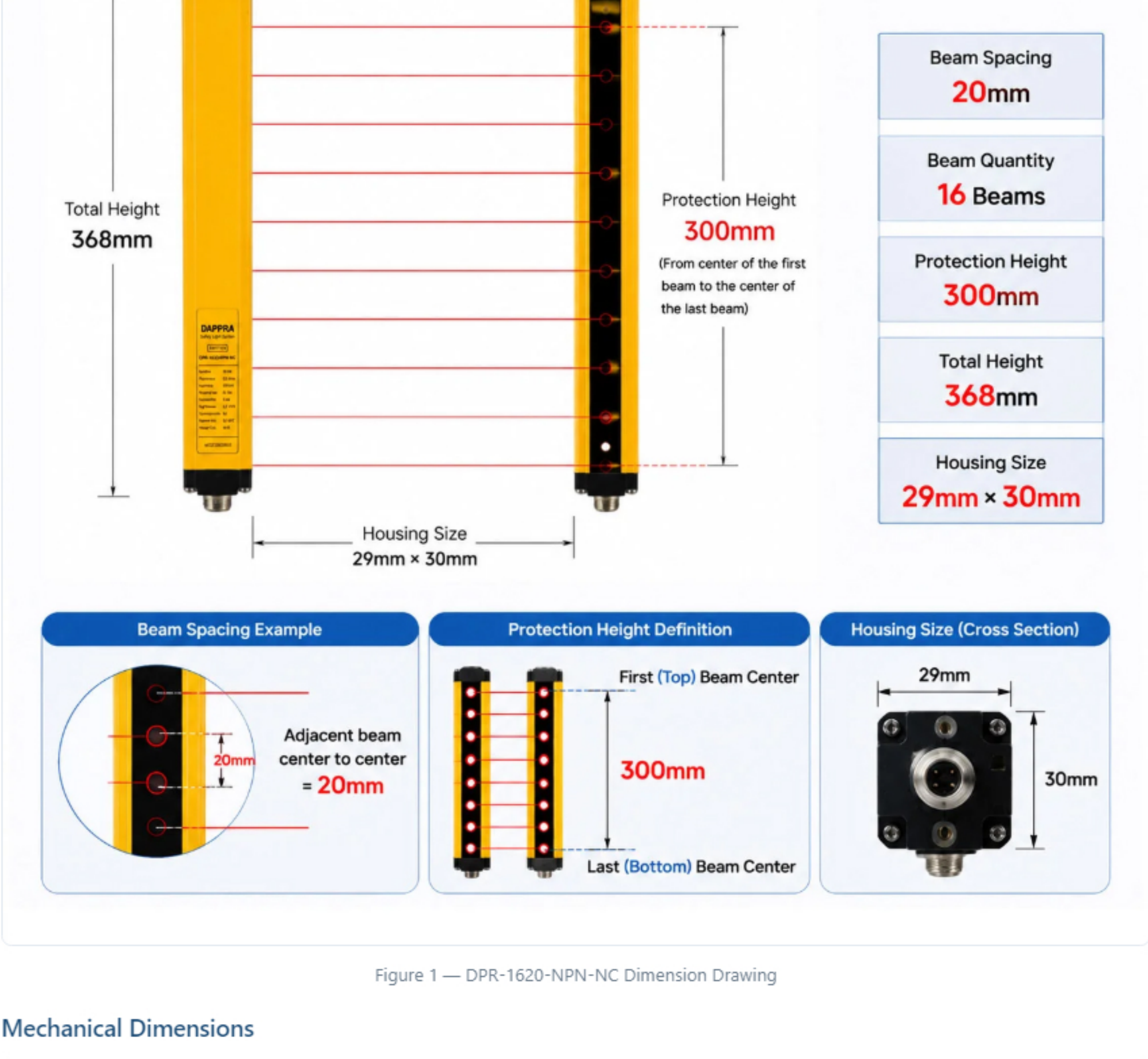


Figure 1 — DPR-1620-NPN-NC Dimension Drawing

Mechanical Dimensions

Dimension Parameter	Value (mm)
Protection Height	300
Total Height	368
Cross Section	29 × 30
Optical Axis Quantity	16
Optical Axis Pitch	20

Protection Height Calculation

The protection height is calculated according to the optical axis quantity and pitch:

Protection Height = (Optical Axis Quantity - 1) × Optical Axis Pitch

For DPR-1620-NPN-NC:

(16 - 1) × 20mm = 300mm

NOTE: Protection height is defined as the distance from the center of the first beam to the center of the last beam.

2. Installation Methods

The DPR-1620-NPN-NC supports flexible installation methods to adapt to different industrial machine structures. Installation options include:

- Top and bottom mounting
- Side mounting
- Cantilever installation

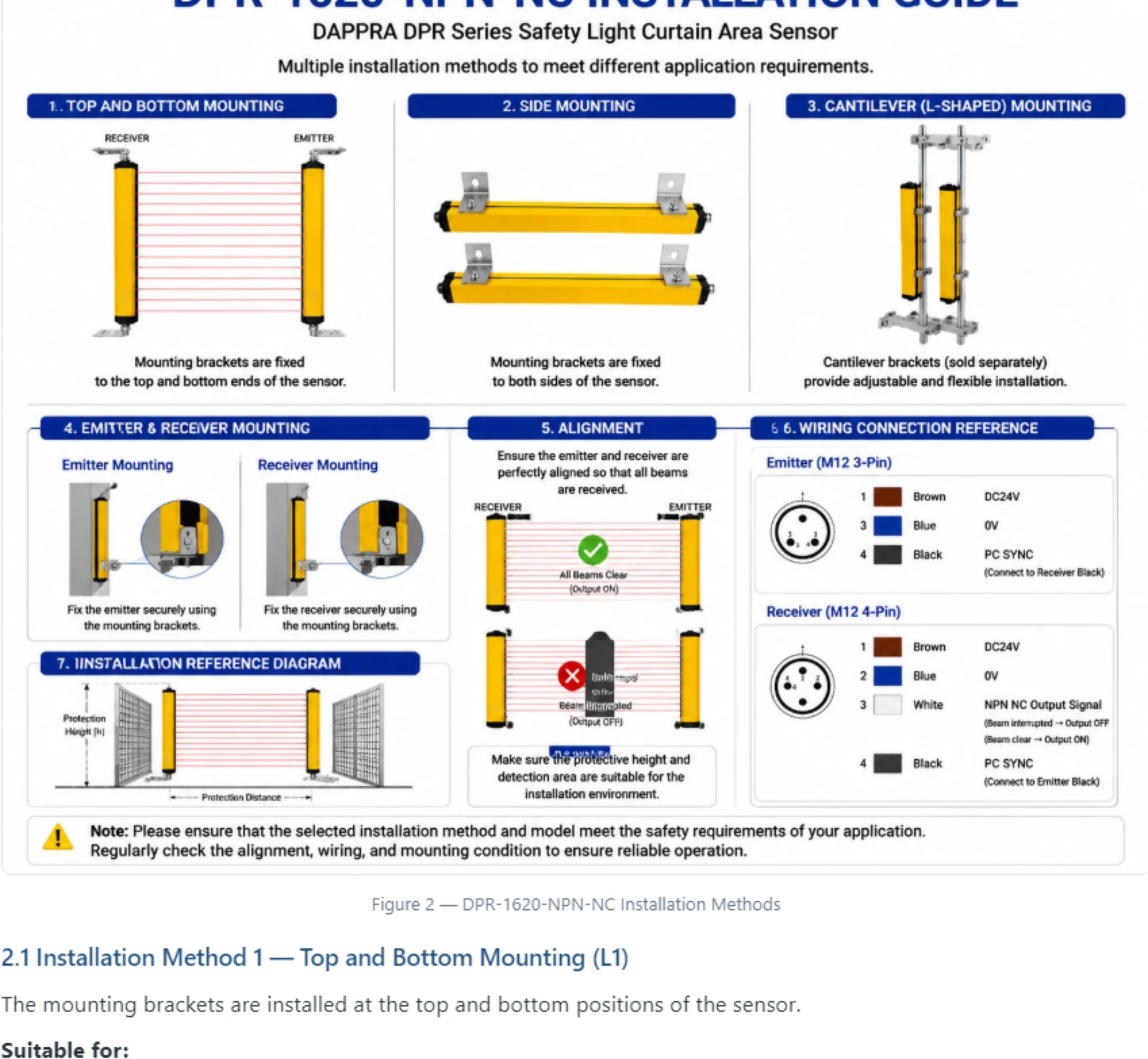


Figure 2 — DPR-1620-NPN-NC Installation Methods

2.1 Installation Method 1 — Top and Bottom Mounting (L1)

The mounting brackets are installed at the top and bottom positions of the sensor.

Suitable for:

- Standard machine guarding
- Vertical protective areas
- Equipment access protection

2.2 Installation Method 2 — Side Mounting (L2)

The mounting brackets are installed on the side of the sensor body.

Suitable for:

- Limited installation space
- Machine side protection
- Flexible mounting positions

2.3 Installation Method 3 — Cantilever Installation (L3)

The cantilever mounting method provides additional installation flexibility for special machine structures.

Suitable for:

- Customized machine layouts
- Extended protection areas
- Flexible sensor positioning

2.4 Emitter and Receiver Alignment

Correct alignment between emitter and receiver is essential for stable operation.

⚠ IMPORTANT: Misalignment of the emitter and receiver will reduce detection distance and may cause false outputs. Align the units carefully before final tightening.

Installation requirements:

- Emitter and receiver should face each other
- Optical axis direction should be aligned
- Infrared beams should transmit correctly

Correct alignment ensures:

- Stable infrared beam communication
- Reliable detection performance
- Accurate protective field monitoring

3. Wiring Guide

The DPR-1620-NPN-NC uses separate emitter and receiver units connected through M12 cables.

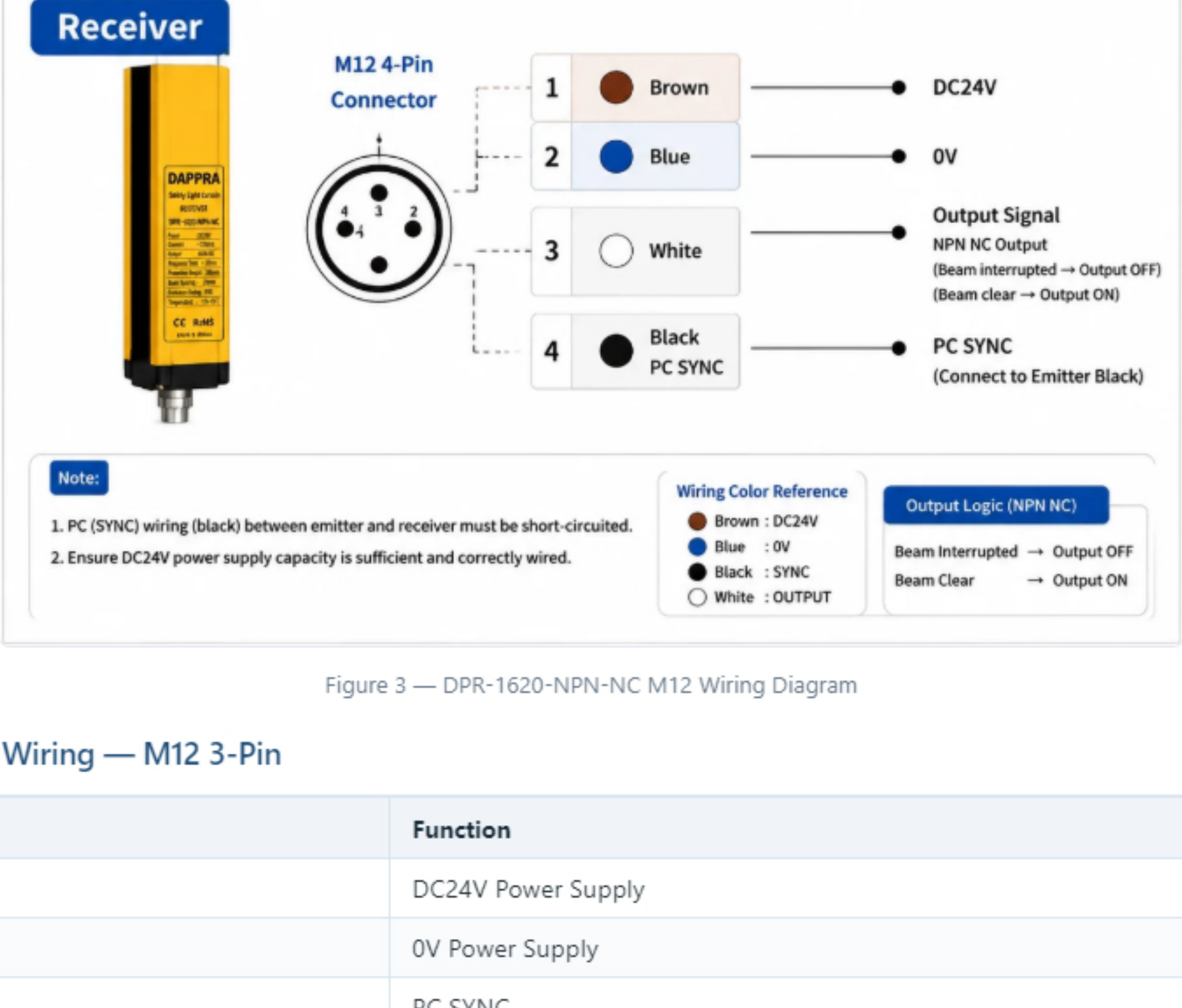


Figure 3 — DPR-1620-NPN-NC M12 Wiring Diagram

3.1 Emitter Wiring — M12 3-Pin

Pin / Wire	Function
Brown	DC24V Power Supply
Blue	0V Power Supply
Black	PC SYNC

3.2 Receiver Wiring — M12 4-Pin

Pin / Wire	Function
Brown	DC24V Power Supply
Blue	0V Power Supply
White	NPN Output Signal
Black	PC SYNC

⚠ WARNING: Do not connect power to the receiver before connecting the emitter. The emitter must be powered first for proper operation.