



Description

The 45MLD Class 2 Laser Diffuse Sensor introduces a whole new perspective for today's sensing solutions. Extreme versatility allows the 45MLD sensor to meet most application requirements and be a major asset in the packaging, material handling, and semiconductor industry today.

The 45MLD laser diffuse sensor includes a 300mm (11.8in) adjustable sensing range via the triangulation method which implements the background suppression feature.

For sensing small targets a rotatable lens allows the user to adjust the focal point of the laser beam down to 0.5mm (0.01in).

Target presence status is provided through a discrete NPN or PNP output within 200 microseconds which is compatible with most control circuits found in factory automation systems.

This small, versatile sensor maintains all the ratings that are necessary for all applicable industries today, IP65, CE, and UL.

General Specifications

Light Source	Class 2 laser
Unit Protection	Output short-circuit and overload protection
Supply Voltage	10–30V DC
Current Consumption	35mA maximum
Output Type	NPN or PNP
Output Mode	Light or dark operate selectable
Output Rating	100mA
Response Time	200µs
Housing Material	Polyamide
Lens Material	PMMA
Connection Types	4-pin DC pico QD
Optional Accessories	Mounting brackets and cordsets
Operating Environment	IP65
Operating Temperature	0°C to +50°C (32°F to +122°F)
Ambient Light Immunity	5000 Lx
Leakage Current	12V Supply: 0.92mA @ 10mA load, 9.3mA @ 100mA load 24V Supply: 0.73mA @ 10mA load, 6.7mA @ 100mA load
Approvals	UL and cUL listed and CE marked for all applicable directives

Features

- Class 2 laser
- 30V DC operation
- NPN or PNP outputs
- Fast response time
- Rotatable focus lens allows adjustment of laser spot to 0.5mm (0.01in)
- 50mm to 300mm (1.96in to 11.8in) sensing distance
- Background suppression
- IP65

General Information

Typical Wiring Diagrams . . . page 1–104
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Accessories

Quick-Disconnect Cables . . . page 7–1
Mounting Assemblies page 1–375

45MLD

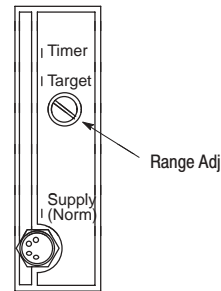
Laser Diffuse Sensor

Product Selection

Operating Voltage Supply Current	Sensing Distance— mm (inches)	Output Energized	Output Type Response Time	Connection Type	Catalog Number
10–30 DC 35mA	50 to 300 (1.9 to 11.8)	L.O./D.O. Selectable	NPN or PNP 200µs	4-pin DC Pico QD	45MLD-8LEA1-P4

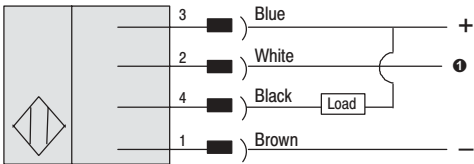
User Interface Panel

Label	Color	State	Status
Target	Green	OFF	No target present
		ON	Target present
Timer	Red	OFF	40msec pulse OFF
		ON	40msec pulse ON
Supply (Norm)	Red	ON	Normal wiring Brn = (+), Blu = (-)
		OFF	Reverse wiring Brn = (-), Blue = (+)

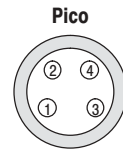
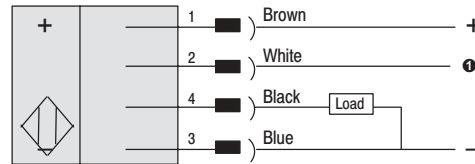


Wiring Diagrams

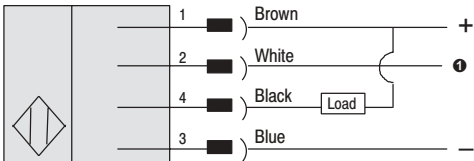
NPN (Light Operate)



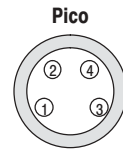
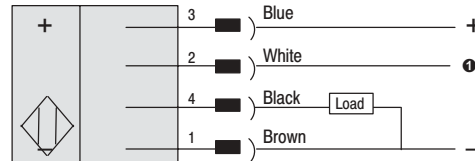
PNP (Light Operate)



NPN (Dark Operate)



PNP (Dark Operate)



- ① 40ms pulse stretcher ON = Tie **White Wire** to (+) positive terminal.
- 40ms pulse stretcher OFF = Open circuit or tie **White Wire** to (-) negative terminal.

Dimensions—mm (inches)

