

PRODUCT PROFILE

44B Photoelectric Sensor

The 44B photoelectric sensor is intended for industrial applications requiring the reliable detection of targets close to a surface that must be ignored by the sensor. Unlike standard diffuse style sensors, the 44B incorporates a dual receiver optical system to actively “see” both the target and background areas. This allows the sensor to suppress any background reflections.

The 44B photoelectric sensor is available in two sensing modes with a common mechanical optics system. The difference between the two lies in their operation. Both sense modes will actively “see” the background condition using a second internal receiver. However, the background suppression sense mode will change its output state when it “sees” reflected light from the target. In contrast, the foreground suppression sense mode will use the background as a “reflector” and change its output state when this reflector is blocked by a target.

As shown in the application examples, the background suppression sense mode is best suited for the detection of light targets against a less reflective background. Foreground suppression should be used when looking at a dark or irregularly shaped target against a highly reflective background.

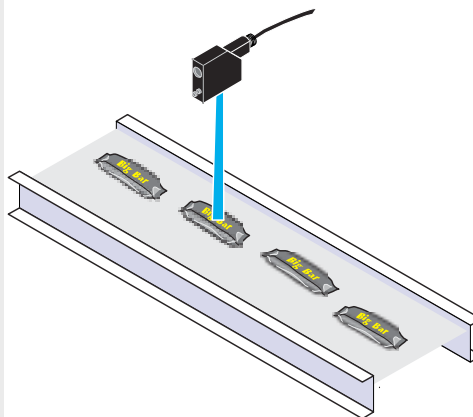
Features

- Optical design helps reduce output false trigger due to background reflections
- Power, output, and stability LED indicators
- Micro QD design with 90 degree swivel capability
- Low voltage 24VDC operation
- Protected from mis-wiring
- Both NPN and PNP outputs
- 1ms response time
- 0...+70 °C (-32 ...+158 °F) temperature ratings

Add Flexibility and Reliability to Your Sensing Applications with Adjustable Background and Foreground Suppression Photoelectric Sensors

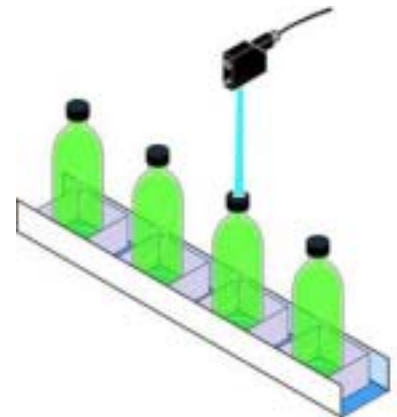


Typical Applications



Foreground Suppression

Detection of candy bars against reflective white conveyor belt. The sensor will “see” the candy bar by the absence of reflected light from the belt.

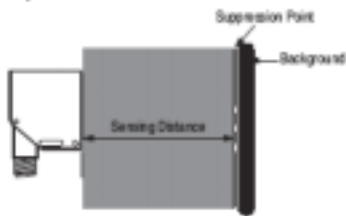


Background Suppression

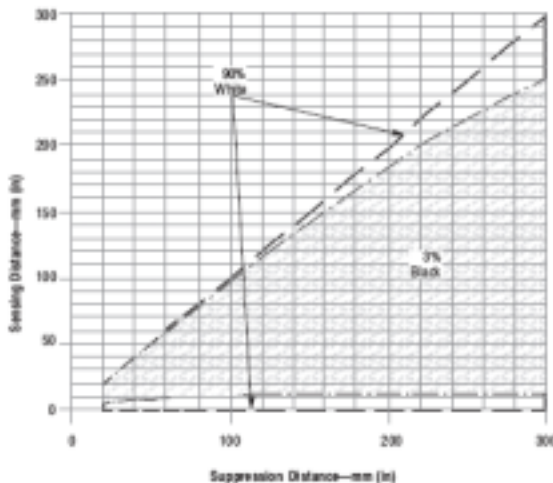
Detection of missing bottle caps. The sensor will “see” the bottle cap by the reflected light from the cap while ignoring the bottle.

Product Selection

Typical Response Curve

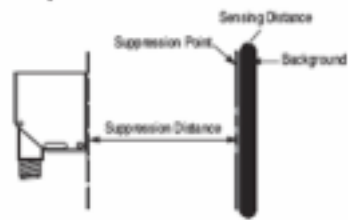


Background Suppression

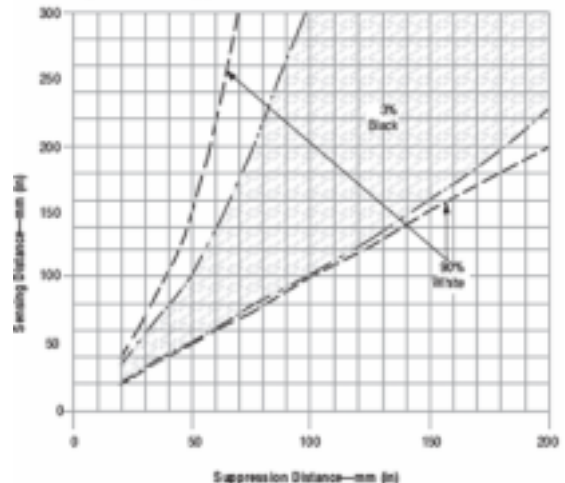


Example: With a suppression point set at 200mm, the sensing distance will be between the sensor face and just under 200mm for 90% white reflective targets and between 12mm and 185mm for 3% black reflective targets.

Typical Response Curve



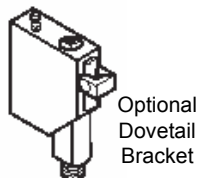
Foreground Suppression



Example: With a suppression point set at 50mm, the sensing distance will be between just over 50mm and 150mm for 90% white reflective targets and between just over 50mm and 100mm for 3% black reflective targets.

Sense Mode	Description	Catalog Number
	Background Suppression, 300mm, light-operate, micro QD	44BSB-1JBA1-D4
	Background Suppression, 300mm, dark-operate, micro QD	44BSB-1KBA1-D4
	Foreground Suppression, 200mm, dark-operate, micro QD	44BSN-1KBA1-D4
	Foreground Suppression, 200mm, light-operate, micro QD	44BSN-1JBA1-D4

Accessories



Description	Catalog Number
Dovetail Bracket (optional)	44B-BKT
Cordset, 4-pin micro QD	889D-F4AC-2

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Power, Control and Information Solutions

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
 Europe/Middle East/Africa: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
 Asia Pacific: Rockwell Automation, Level 14, Core F Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846