

Laser Description and Safety Information



CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Do not attempt to disassemble this sensor for repair. A defective unit must be returned to the manufacturer.

COMPLIES WITH 21 CFR 1040.10 AND 1040.11
EXCEPT FOR DEVIATIONS PURSUANT TO
LASER NOTICE No. 50, DATED JUNE 24, 2007.
BANNER ENGINEERING CORP.
9714 10TH AVENUE NORTH
MINNEAPOLIS, MN 55441

SERIES
Q3X



LASER LIGHT
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
COMPLIES WITH IEC 60825-1:2007

Laser wavelength: 655 nm
Output: < 0.42 mW
Pulse Duration: 5 μ s

Installation

Install the Safety Label

The safety label must be installed on Q3X sensors that are used in the United States.



NOTE: Position the label on the cable in a location that has minimal chemical exposure.

1. Remove the protective cover from the adhesive on the label.
2. Wrap the label around the Q3X cable, as shown.
3. Press the two halves of the label together.

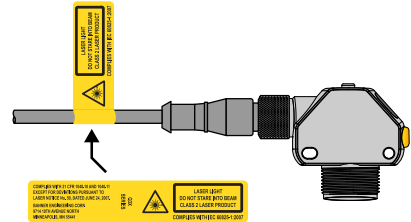


Figure 3. Safety Label Installation

Sensor Orientation

Correct sensor-to-target orientation is important to ensure proper sensing. To ensure reliable detection, orient the sensor as shown in relation to the target to be detected.

For models with background suppression, make sure the intended target is inside of the contrast sensing range and that any background objects are positioned beyond the background suppression distance.

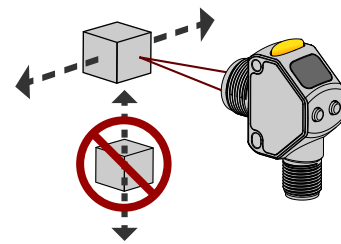
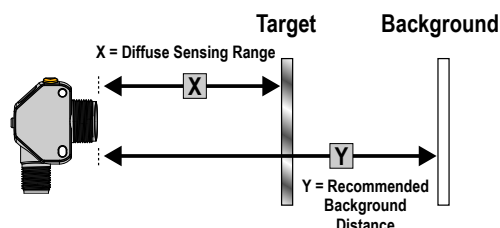


Figure 4. Optimal Orientation of Target to Sensor

Sensor-to-Background Position



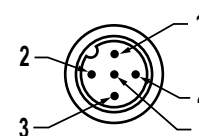
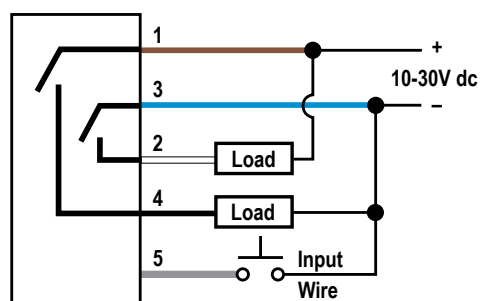
Model Number	X	Y
LD50	50 mm (1.97 in)	60 mm (2.36 in)
LD100	100 mm (3.94 in)	120 mm (4.72 in)
LD150	150 mm (5.91 in)	190 mm (7.48 in)
LD200	200 mm (7.87 in)	280 mm (11.02 in)

Figure 5. Q3XBLD Contrast Detection versus Background Suppression

Sensor Mounting

1. If a bracket is needed, mount the sensor onto the bracket.
2. Mount the sensor (or the sensor and the bracket) to the machine or equipment at the desired location. Do not tighten at this time.
3. Check the sensor alignment.
4. Tighten the screws to secure the sensor (or the sensor and the bracket) in the aligned position.

Wiring Diagram



Key

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black
- 5 = Gray



NOTE: Open lead wires must be connected to a terminal block.



NOTE: The input wire function is user-selectable; see the Instruction Manual for details. The default for the input wire function is off (disabled).

Cleaning and Maintenance

Handle the sensor with care during installation and operation. Sensor windows soiled by fingerprints, dust, water, oil, etc. may create stray light that may degrade the peak performance of the sensor. Blow the window clear using filtered, compressed air, then clean as necessary using 70% isopropyl alcohol and cotton swabs or water and a soft cloth.

Sensor Programming

Program the sensor using the buttons on the sensor or the input wire (limited programming options; see the Instruction Manual for details).

In addition to programming the sensor, use the input wire to disable the buttons for security, preventing unauthorized or accidental programming changes. See the Instruction Manual for more information.

Setup Mode

1. Access Setup mode from Run mode by pressing and holding MODE for longer than 2 seconds.
2. Use  or  to navigate through the top menu.