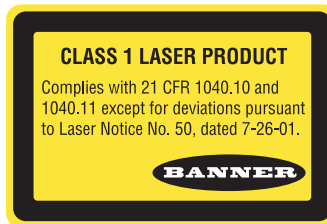


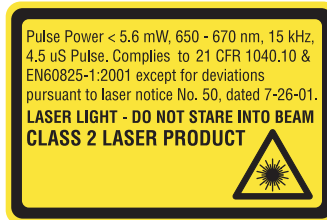
# QS30 Series Diffuse-Mode Laser Sensor

## Description of Laser Classes



### Class 1

Lasers that are safe under reasonably foreseeable conditions of operation, including the use of optical instruments for intrabeam viewing. Reference 60825-1 Amend. 2 © IEC:2001(E), section 8.2.



### Class 2

Lasers that emit visible radiation in the wavelength range from 400 nm to 700 nm where eye protection is normally afforded by aversion responses, including the blink reflex. This reaction may be expected to provide adequate protection under reasonably foreseeable conditions of operation, including the use of optical instruments for intrabeam viewing. Reference 60825-1 Amend. 2 © IEC:2001(E), section 8.2.

### Class 2 Laser Safety Notes:

Low-power lasers are, by definition, incapable of causing eye injury within the duration of the blink (aversion response) of 0.25 seconds. They also must emit only visible wavelengths (400 - 700 nm). Therefore, an ocular hazard can exist only if an individual overcomes their natural aversion to bright light and stares directly into the laser beam.

### For safe laser use:

- Do not permit a person to stare at the laser from within the beam.
- Do not point the laser at a person's eye at close range.
- Terminate the beam emitted by a Class 2 laser product at the end of its useful path. Locate open laser beam paths either above or below eye level, where practical.



### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure; per EN 60825. **Do NOT attempt to disassemble this sensor for repair.** A defective unit must be returned to the manufacturer.

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## Sensor Programming

Sensor configuration is accomplished through TEACH-mode programming and SETUP mode. After TEACH mode has defined the sensing parameters, SETUP mode may be used to add an OFF-delay or change the light/dark operate status. Manual Adjust may be used to fine-tune the thresholds (see page 7). Two push buttons, Dynamic (+) and Static (-), or the remote wire, may be used to access and set programming parameters.

Sensor programming may be accomplished using any of three TEACH methods. A single switching threshold may be programmed using either dynamic (on-the-fly) or static TEACH. In addition, Single-Point Static TEACH may be used to define a sensing window, centered on a single taught condition. Single-Point TEACH programming may be accomplished only statically.

## Remote Programming

The Remote Programming function may be used to program the sensor remotely or to disable the push buttons for security. Connect the gray wire of the sensor to ground (0V dc), with a remote programming switch connected between them. Pulse the remote line according to the diagrams in the programming procedures. The length of the individual programming pulses is equal to the value T:

$$0.04 \text{ seconds} \leq T \leq 0.8 \text{ seconds}$$

## Returning to RUN Mode

TEACH and SETUP modes each may be exited either after the 60-second time-out, or by exiting (cancelling out of) the process:

- In Static TEACH mode, press and hold the Static (-) button (or hold the remote line) for 2 seconds to exit. The sensor returns to RUN mode without saving any new settings.
- In SETUP mode, press and hold both the Static (-) and Dynamic (+) buttons (or hold the remote line) for 2 seconds to exit. The sensor returns to RUN mode and saves the current setting.