

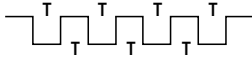
Remote Configuration

The Remote Configuration function may be used to set the sensor threshold 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:

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

Push Button Disable

In addition to its programming function, Remote Programming may be used to disable the push buttons for security. Disabling the push buttons prevents undesired tampering with the programming settings. Connect the gray wire of the sensor as described on above, and four-pulse to either enable or disable the push buttons:



Maximum Excess Gain SET - Model QS30LLP

- Sets the sensor for maximum excess gain without allowing false proxying. Provides maximum contrast between any reflector and a blocked condition and is stable even in dirty environments.
- Useful for long-range applications and high variations in contrast, such as beam-break applications where the target objects are larger than the beam.

Sensor can be aimed at an object or the reflector during SET process to obtain the same result. All conditions darker than the switchpoint condition result in ON output (Dark Operate). Output ON and OFF conditions can be reversed by changing Light/Dark Operate in SETUP mode (factory setting: Dark Operate).

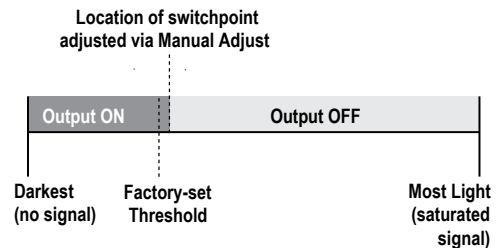


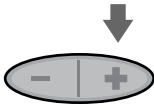
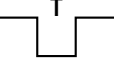
Figure 3. Maximum Excess Gain SET (Dark Operate shown)

Manual Adjust – Maximum Excess Gain SET

During RUN mode, adjusts switchpoint up or down via “+” or “-” push buttons.

- Each push button “click” adjusts the switchpoint up by approximately 0.5X excess gain or down by the same increments.
- The lighted bargraph LEDs move to reflect the increase or decrease of excess gain relative to the switchpoint.
- LEDs #7 and 8 flash when maximum gain is achieved; LEDs #1 and 2 flash when minimum gain is achieved.

When the received signal is at any level greater than 6X excess gain, the first “-” (minus) click to reduce excess gain reduces it to the 6X level. Subsequent “-” clicks result in decreased values as shown in [Specifications](#) on page 8 (approximately 2 clicks per LED change). To return to maximum excess gain, either press “+” repeatedly until LEDs #7 and 8 flash, or hold the “+” button for longer than 2 seconds. For example, in an application that results in 20X excess gain, pressing “-” once lowers the gain to 6X, exhibited by LED #8 ON. Pressing it twice more results in approximately 5X excess gain, exhibited by LED #7 ON. Holding the “+” button for 2 seconds results in a return to maximum gain (20X), exhibited by LEDs #7 and 8 flashing.

	Push Button	Remote (0.04 seconds ≤ T ≤ 0.8 seconds)	Indicators
Set Switchpoint	• Press and hold “+” > 2 seconds 	• Single-pulse remote line. 	Green Power LED: OFF Yellow Output LED: ON Bargraph: #7 & 8 flashing • Sensor returns to RUN mode with new settings • Use Manual Adjust to increase or decrease sensor excess gain

	Push Button	Remote (0.04 seconds ≤ T ≤ 0.8 seconds)	Indicators
			