

SLS smartGPIO STACK-LIGHT & PHOTO-EYE

FOR THE IMPINJ SPEEDWAY RFID READER



Description

The SLS smartGPIO devices are configured to work directly from the +5V provided by the GPIO port on the Speedway Revolution RFID Reader. No additional power connection required to operate a two-color stack-light and/or up to two photo-eye sensors.

The connector is adapted specifically to the pin-out of the Impinj Speedway reader family (R120, R220, R420 and R700). Adapter available upon request for the Alien ALR-F800 and Zebra FX9600.

Part Numbers

Audible Stack-Light & Photo Eye with Connector Combination – 10000261, 10000346 (R700)

Audible Stack-Light with Connector – 10000260, 10000343 (R700)

Photo Eye with Connector – 10000215, 10000362 (R700)

Operation

GPO (STACK-LIGHT AND PHOTO EYE SENSOR)

STACK-LIGHT

The smartGPIO devices operate as inverse-logic devices (NPN), this means that a GPO high or '1' state will disable the stack-light color section or audible output.

Here are the GPO assignments:

GPO Port	Assignment
1	GREEN LIGHT
2	RED LIGHT
3	AUDIBLE
4	NONE

These can be used in conjunction with each other, for example GPO 1, 2 and 3 set low will illuminate both red and green color sections as well as sound the audible.

AUDIBLE

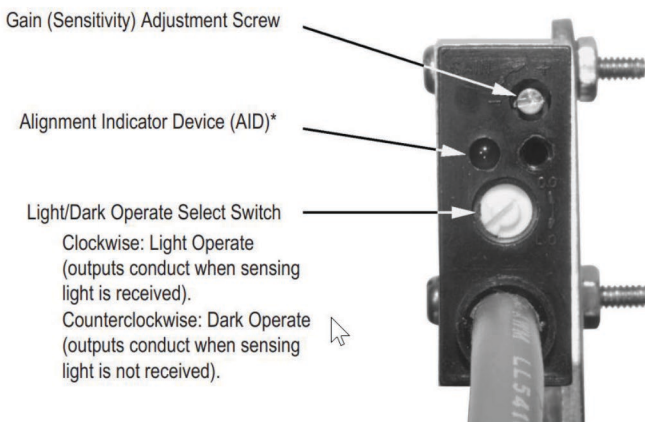
The audible intensity can be adjusted by rotating the top section of the stack, being careful not to rotate beyond 180 degrees. Rotating clockwise increases intensity and counter-clockwise rotation decreases intensity. For maximum intensity, the black plug at the top of the stack can be removed.

GPI (PHOTO EYE SENSOR)

The photo eye operates on GPI 1 (and GPI 2 in the dual sensor option).

It is a Non-Polarized Retroreflective Photoelectric Sensor meaning it requires having the visible beam aligned with a flat, clear, reflective target with a minimum 2000X Luminance Factor to sense the reflective beam.

SLS has reflective tape available for sell, contact us for more information.



The default setting on the photo eye sensor is dark operate which means it will send a falling (high-to-low) transition output if it does not sense a reflected beam (the beam is 'broken').

So, in default, the start trigger would be set to 'falling' (or low) and the stop trigger set to rising (or high).

This can be switched to light operate if desired as shown in figure below along with gain and alignment adjustments.

INVERSE LOGIC

The Impinj Speedway GPO

ports are set to low ('0') by default – this means that, when connected to the reader with no application running, both light color sections and audible will be enabled.

This can be helpful to indicate when an application (either embedded or client-connected) has stopped running or lost connection.

Specifications

Device	Specification
Stack Light (per color section)	Current draw @ 5V: 120mA max Lumen Output (typical) Green: 23, Red: 7.5
Audible	Intensity: 80 to 92dB @ 1 meter (3.3 ft) Oscillation Frequency: 2.1 kHz Current: 25mA max
Photo Eye	Type: Non-Polarized Retroreflective Photoelectric Range: 5 meters (15 feet) Current: 50mA max