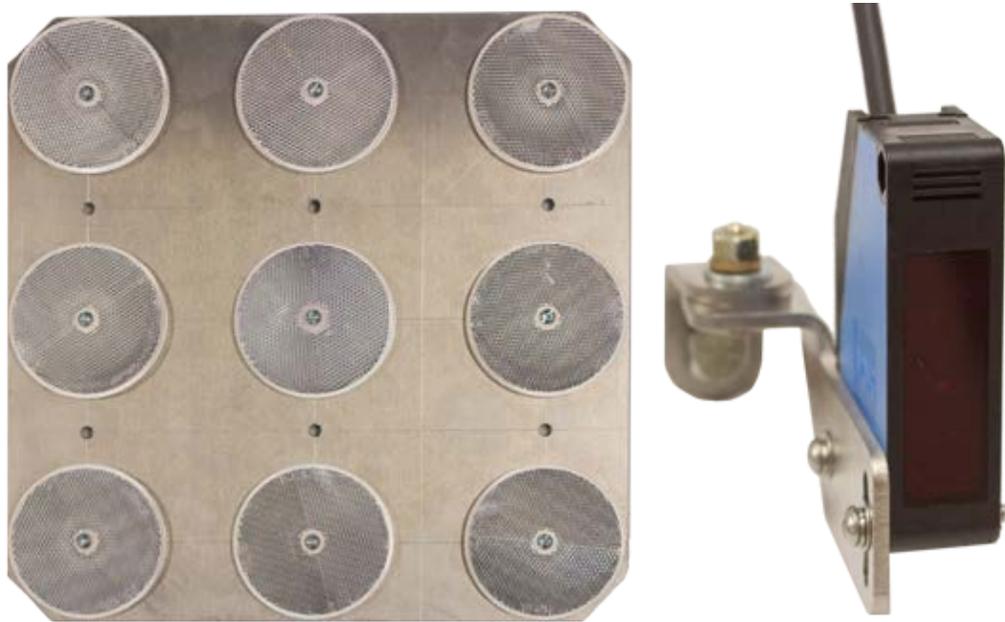


# BridgeGuard Essential™ Manual



**CONDUCTIX**  
wampfler  
① DELACHAUX GROUP

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# SECTION 1 - SAFETY

## Safety Information Responsibility

All owner, operator, and maintenance personnel must read and understand all manuals associated with this product before installation, operation, or maintenance.

The manual provides information on the recommended installation, operation, and maintenance of this product. Failure to read and follow the information provided could cause harm to yourself or others and/or cause product damage. No one should install, operate, or attempt maintenance of this product prior to familiarizing themselves with the information in this manual.

## Safety Messages

Safety messages in this manual are preceded by the HAZARD SYMBOL and one of three words: CAUTION, DANGER, OR WARNING. These safety messages are intended to alert you to potential hazards that could cause harm to you or others and/or cause product damage.

### CAUTION

- The HAZARD SYMBOL used with the word CAUTION indicates unsafe actions or situations that have the potential to cause injury, and/or minor equipment or property damage.

### DANGER

- The HAZARD SYMBOL used with the word DANGER describes immediate hazards that have the potential to cause severe personal injury or death.

### WARNING

- The HAZARD SYMBOL used with the word WARNING describes unsafe actions or situations that have the potential to cause severe injury, death, and/or major equipment or property damage.

### NOTE

- The word NOTE is used to alert you to installation, operation, programming, or maintenance information that is important, but not hazard related.

## SECTION 2 - OVERVIEW

### General Product Overview

BridgeGuard Essential prevents crane to crane or crane to structure collision during operation, either from human error or from system malfunction.

### Structure



## CAUTION

- The original equipment manufacturer must assure that the system is properly configured. Safety is the ultimate responsibility of the user.

Overall features of BridgeGuard Essential can be seen below. See **Figure 5-1** and **Figure 5-2**.

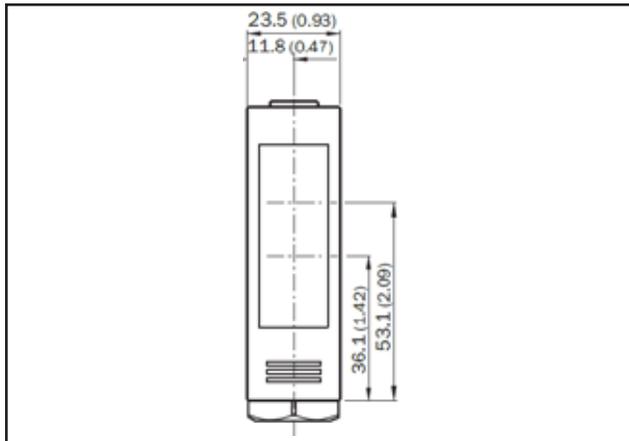


Figure 5-1

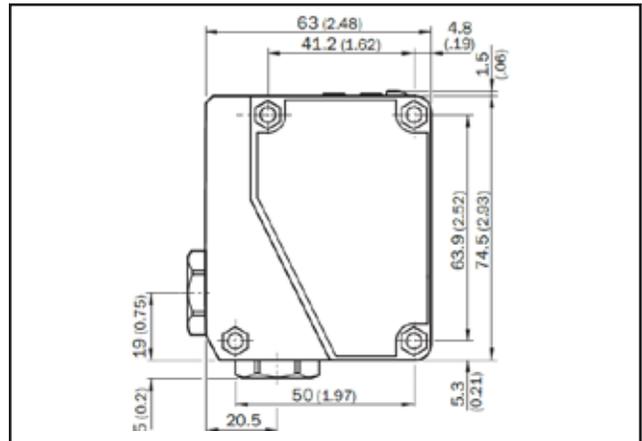


Figure 5-2

### Status Indicator Lights

The sensor features status indicator LEDs that provide information on the supply voltage activity, signal strength, and output activity. See **Table 5-1**.

Item	Color	Description
 Status Indicator LEDs	Green	Supply Voltage Active
 Status Indicator LEDs	Red	Signal Strength
 Status Indicator LEDs	Yellow	Output Active

**Table 5-1** Description of Status Indicator LEDs

## SECTION 3 - INSTALLATION

### Mechanical Installation Reflector Mounting

#### NOTE

- Reflector plate comes with 6 pre-drilled holes. See **Figure 6-1**.
- A minimum of 4 fasteners should be used to mount reflector to I-Beam web.

1. Mount reflector to the I-Beam using appropriate hardware. See **Figure 6-1**.

#### NOTE

- A spacer must be used between the I-Beam's web and the reflector back plate.
- A lock washer must be used to prevent loosening.
- The plate can be mounted to other surfaces using the same holes, the beam is only an example.

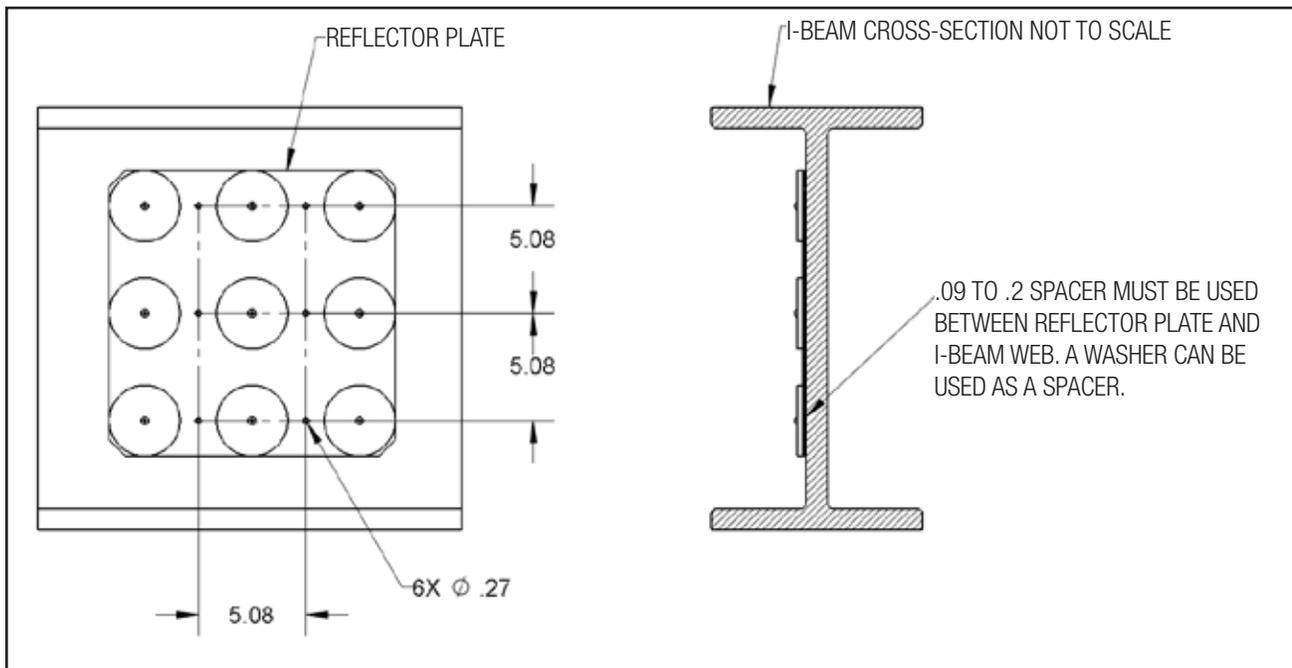


Figure 6-1 Reflector Mounting

### Sensor Mounting

1. Mount sensor in desired location and make adjustments appropriate to your specific assembly. See **Figure 6-2**.

#### ! WARNING

- Maximum sensor trigger distance should be no more than 50 feet

#### NOTE

- The sensor can be mounted to the flange of the beam or other alternative surfaces.



Figure 6-2 Sensor Mounting

## SECTION 3 - INSTALLATION

### Sensor to Bracket Assembly

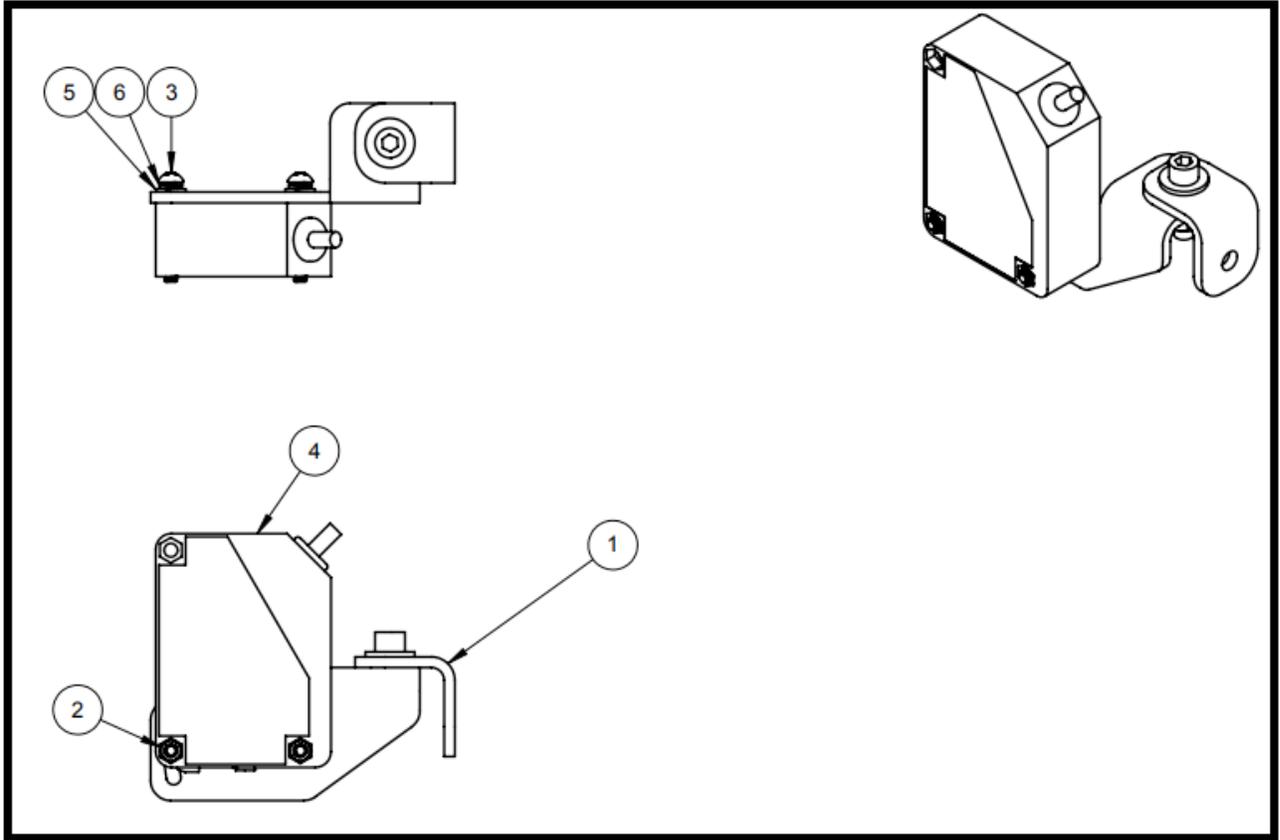


Figure 7-1 Sensor to Bracket Assembly

Number	Description	qty
6	WASHER 8 SCREW LK SST	2
5	WASHER 8 FLAT SST	2
4	SENSOR	1
3	SCREW 8-32 X 1-1/4 SST PHP	2
2	NUT HEX 8-32 NARROW SST	2
1	SENSOR MOUNTING SET	1

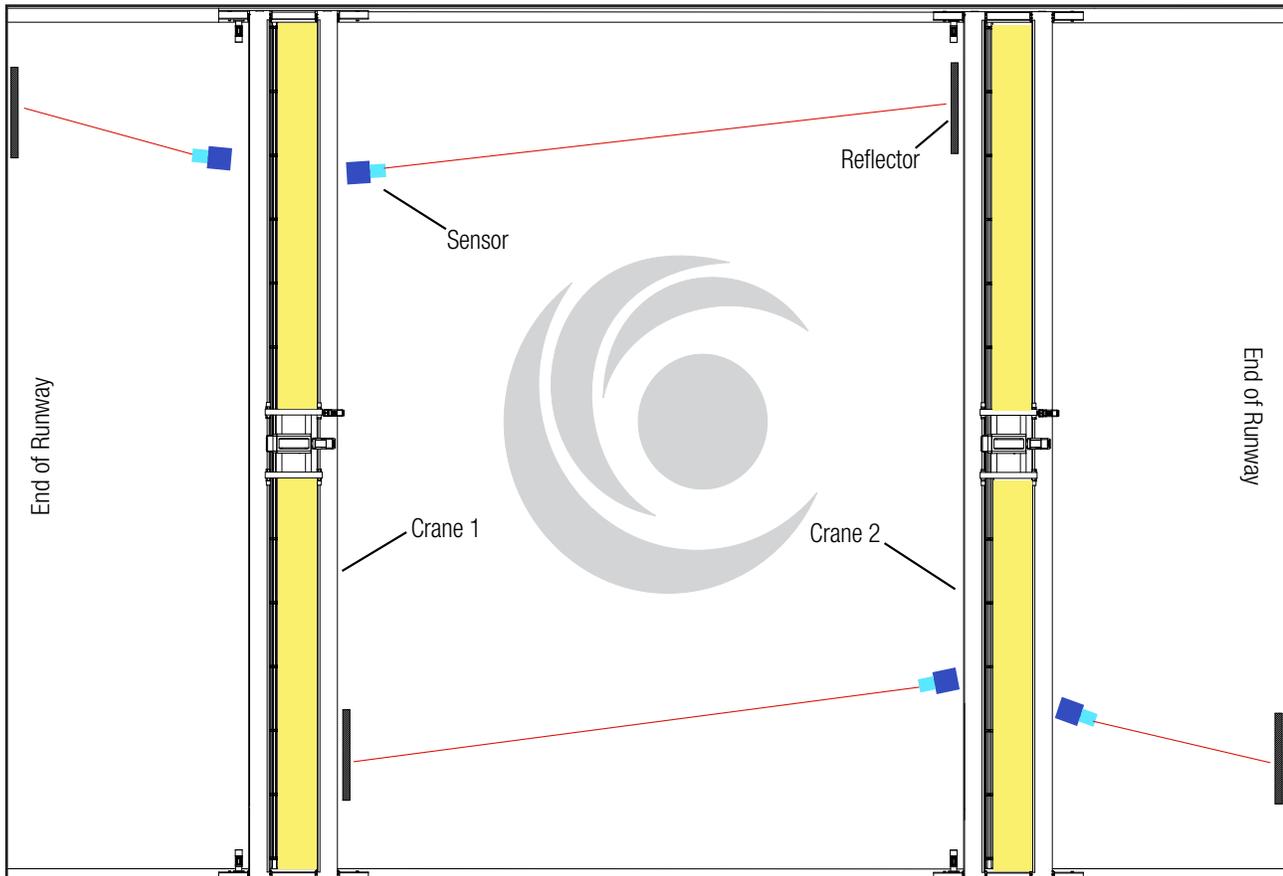
Figure 7-1

## SECTION 3 - INSTALLATION

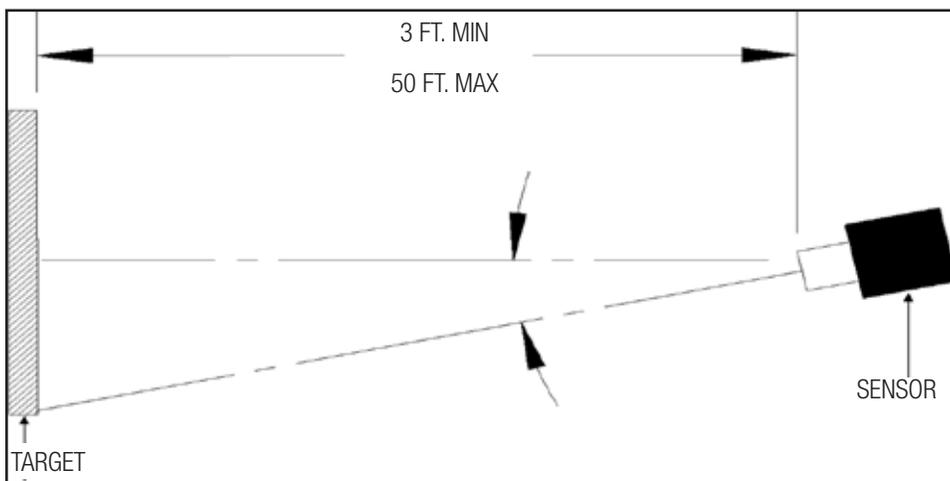
### Sensor Targeting

Included below are general sensor target installations, your specific installation may vary. See **Figure 8-1** and **Figure 8-2**.

1. Move the crane/vehicle to the predefined stopping position.
2. Align the sensor. Use provided bracket to align the sensor so that its light is either to the left or right edge of the reflector plate.
3. Slowly adjust sensor so that red sender beam hits center of reflector. When green indicator light turns on, your sensor is properly positioned.
4. Tighten nuts and bolts on mounting plate.
5. Move crane back and forth a few times to make sure that sensors switch on at the stopping point.



**Figure 8-1** General Sensor Target Installation



**Figure 8-2**

### NOTE

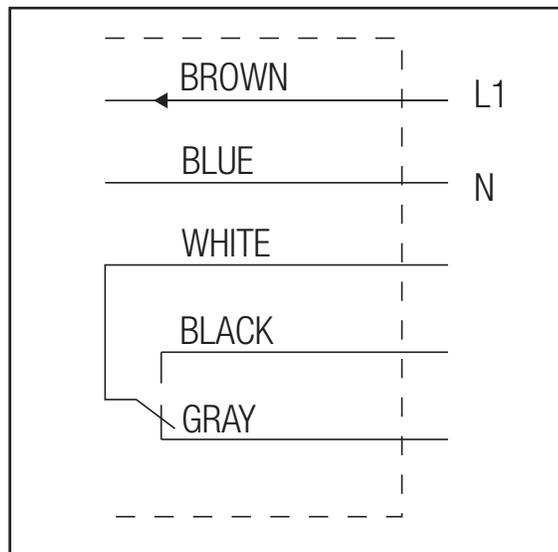
- Reflector plate must be centered and aligned with the sensor as shown in **Figure 8-2**.

## SECTION 3 - INSTALLATION

### Electrical Installation

#### Sensor Cable

Use the Sensor Cable Wiring Diagram for sensor cable installation. See **Figure 9-1**.



**Figure 9-1** Sensor Cable Wiring Diagram

## SECTION 4 - MAINTENANCE

### Mechanical Maintenance

#### Reflector

Ensure that the reflector is clean and clear of dirt and other debris at all times.

#### Sensor

Ensure the sensor is clean and clear of dirt and debris at all times.

Ensure sensor-target path is clear of obstructions.

### Electrical Maintenance

 <b>WARNING</b>
<ul style="list-style-type: none"><li>• Equipment damage due to improper cleaning</li><li>• Never use cleaning agents containing abrasive substance</li></ul>

Interval	Maintenance work	To be performed by
Cleaning interval depends on ambient conditions and climate	Clean housing	Specialist
Every 3 months depending on the application conditions with regard to shock and vibration	Check the screw connections and plug connections.	Specialist

Table 10-1

## SECTION 5 - TROUBLESHOOTING

Potential issues and solutions are shown below. Contact the factory for additional support. See **Table 11-1**.

Issue	Potential Cause	Solution
Loss of signals	Electrical Connections	Inspect the electrical connections to the sensors and to the control box.
Unable to read output signals	Electrical Connection	Inspect the connection to terminal blocks in control box and to the sensor.
	Light is not on reflector plate	Realign sensor and reflector plate.
Sensor not working even when plugged in	Sensor-target misalignment	Check to see if sensor is working by holding the reflector close to the sensor.
	Sensor-target misalignment	If the sensor is working, check sensor-target alignment and make adjustments.

**Table 11-1**

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