INSTALLATION INSTRUCTIONS

OptiGuard™

Thru Beam Photo Optic System

MODEL: OG-T-K10

WARNING

Read and understand all instructions before beginning installation. Disconnect power to motor and test upon completion. Photo optics should be installed by qualified personnel to ensure the requirements herein have been met. Keep these instructions with the installation. Always abide by local and national electrical code specifications when wiring accessories to motor controls.

The Miller Edge **OptiGuard** monitored and fail-safe thru beam photo optic system is a UL Recognized Component that meets the UL 325 requirement. The OptiGuard consists of an emitter and a receiver with two mounting brackets. The emitter and receiver are intended to be positioned in such a way that an obstruction in the entrapment zone will interrupt the beam of light. An interruption of the beam will signal the operator to stop and/or reverse motion.

CONTENTS

- (1) Emitter: OG-T-E
- (1) Receiver: OG-T-R
- (2) Bracket/hoods
- (4) Through-unit screws
- (4) Through-unit nuts
- (4) Through-unit washers

REQUIRED

- Mounting hardware as required by mounting surface
- Hand tools for hardware installation

RECOMMENDED

- Operator manual

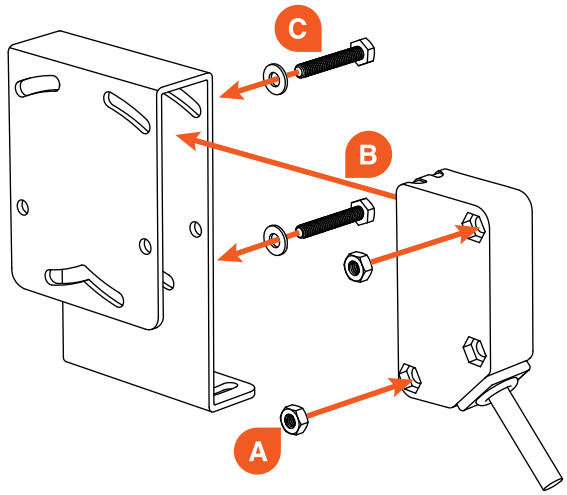


Image 1: Assembling the emitter or receiver into the bracket using the provided through-unit hardware

I. INSTALLATION

Select a stable mounting location with a clear line of site, across the protected area, to detect obstructions. The light beam should not be obstructed by plants, leaves, etc.

1. **Mount the emitter and receiver vertically or horizontally in their desired locations.**
   a) Install the emitter and receiver into their brackets. (Image 1)
      i. Place provided nuts into the top and bottom recessed corners of the photo eyes. (A)
      ii. Slide the photo eyes into their brackets. (B)
      iii. Place washers onto screws and insert through bracket and emitter and receiver from the side opposite the nuts. Finger tighten to secure in place. (C)
   b) Using the appropriate hardware required by the mounting surface, attach the mounting bracket. The emitter lens will point across the protected area toward the receiver mounting location. (Image 2)

2. **Power the emitter and receiver.** To avoid risk of electrocution, turn off and disconnect power to the operator before wiring.
   a) Connect the emitter and receiver to the operator per the wiring diagram. (Figure 1)
   b) Apply power to the operator.
   c) Confirm the green LED lights on the emitter and receiver has turned on. (Figure 2)

3. **Align the receiver with the emitter.** (Image 2)
   a) Aim the emitter toward the receiver. You can stand or kneel beside the unit, sighting along it and viewing the yellow receiver LED, to help with alignment. (Image 4)
   b) With the hardware loosened, turn the emitter and receiver left and right and/or up and down until the yellow receiver LED turns on solid. (Image 3)
   c) Tighten the mounting screws. Do not overtighten the through-unit screws.

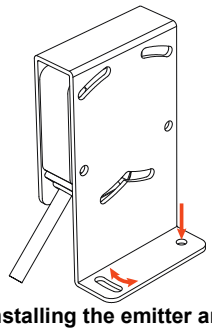


Image 2: Installing the emitter and receiver onto the mounting surface

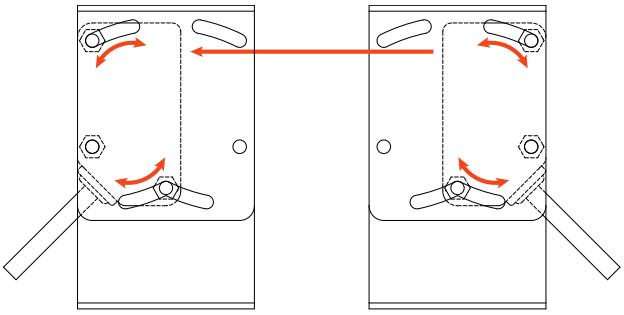


Image 3: Aligning the emitter and receiver

	NORMALLY CLOSED	10K MONITORED
WHITE	COM	COM
BLACK	Normally closed monitored input*	
GRAY		10K monitored input
BROWN	AC or (+)DC**	AC or (+)DC**
BLUE	AC or (-)DC**	AC or (-)DC**
Outputs listed are with unit powered and aligned		
*For N.C. monitoring, power may be a switched source **Power source: 12-40 V DC, 24-48 V AC		

Figure 1: Wiring connection diagram

GREEN	Solid: Power
YELLOW (receiver only)	Solid: Aligned Flashing: Signal is marginal

Figure 2: LED indicators

II. TROUBLESHOOTING

PROBLEM	REASON	SOLUTION
Green LED off	• No power	• Verify your power source • Refer to operator manual for switched power
Yellow LED off	• No signal • Emitter not seen	• Align emitter and receiver • Remove blockage
Yellow LED flashing	• Poor signal • Distance is too far • Dirty lenses	• Align emitter and receiver • Relocate components • Clean with mild soapy solution

III. TECH SUPPORT

For additional assistance, contact Miller Edge Tech Support: 800-220-3343

IV. GENERAL SPECIFICATIONS

PERFORMANCE	
Operating Range	6-100 ft. (2-30 m)
Number of Elements	1 element
Maximum Ambient Light	>100,000 lux
Aperture Angle	±3°
Operating Temperature	-13°F to +131°F (-25°C to +55°C)
Agency Approvals	UL 325 Recognized Component
ELECTRICAL	
Power Source	12-40 volts DC, 24-48 volts AC
Current Consumption	<40 mA
Relay Rating	Maximum 40 volts AC/DC, 2 amp.
Output	N.C., 10K
PHYSICAL	
Dimensions	Photo eye: 3/4 W x 2-1/2 H x 1-3/8 D in. (18 W x 62 H x 35 D mm) Bracket: 1-5/8 W x 4 H x 2-3/8 D in. (42 W x 113 H x 60 D mm)
Weight	Photo eye with cable: 5.5 oz. Bracket: 6.5 oz.
Housing Material	Photo eye: Polycarbonate housing, PMMA lens Bracket: Steel
LED Indicators	2: Power, alignment
Cable Length	6 ft., 20 AWG cable
Mounting Orientation	Vertical, horizontal
Degree of Protection	IP67

V. MAINTENANCE

It is strongly recommended that users check photo optics at least once per month for operation, and damage to housings and mountings. Also check for signs of damage to cables or connection points. Refer to your operator manual for detailed instructions about motor connections.

VI. REPLACEMENT

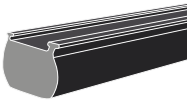
To replace your OptiGuard, contact your sales representative. Attempting to repair your Miller Edge photo optic is not recommended and will void the manufacturer warranty.

VII. **WARRANTY**

OptiGuard carries a **2-year warranty** from date of shipment from Miller Edge for credit or replacement. This warranty applies to normal use, which is found to have defective materials or workmanship, as determined solely by an authorized factory representative. This warranty is void where evidence of misuse or abuse is present. This warranty covers repair or replacement of the purchased product only; product installation/labor charges are not covered. Miller Edge manufactures its products to meet stringent specifications and cannot assume responsibility for those consequences arising from improper installation or misuse. Installation instructions and testing procedures provided by Miller Edge must be followed for proper operation and maintenance.

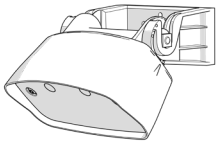
VIII. **ACCESSORIES**

Contact your Miller Edge sales representative for photo optics accessories:

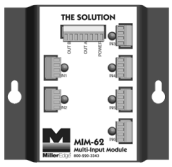


SENSING EDGES

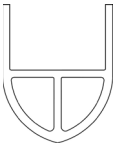
JUNCTION BOXES



MOTION SENSORS



OPERATOR MODULES



BUMPERS & SEALS

WARNING LABELS