



Duct-O-Wire® CAS-1RA-O Addendum

Collision Avoidance and Reflector Array Kit Instructions

EFFECTIVE NOVEMBER 2013

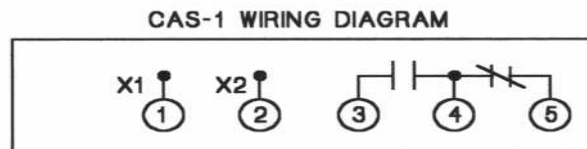
Your Duct-O-Wire CAS-1RA-O Collision Avoidance Kit comes complete with (1) Sensor Unit, (1) Sensor Unit mounting bracket and hardware, (1) Plug, (1) Bushing, (2) Grommets, (1) Reflector Array and (1) Instruction sheet.

MAKE CERTAIN POWER SUPPLY IS DISCONNECTED BEFORE INSTALLING, REPAIRING, OR MAKING ADJUSTMENTS TO THIS DEVICE. THIS DEVICE SHOULD BE INSTALLED BY QUALIFIED ELECTRICAL PERSONNEL ONLY.

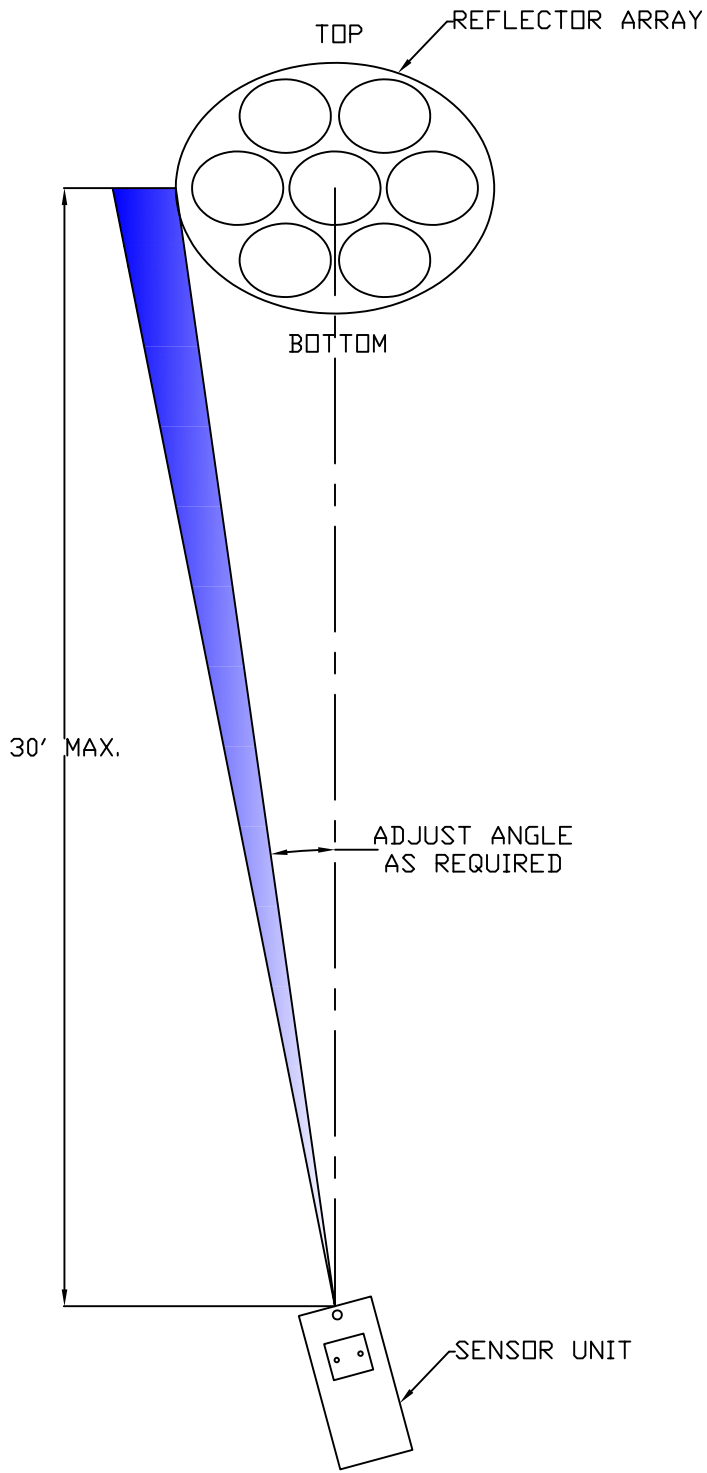
THIS PRODUCT IS DESIGNED FOR OPERATING DISTANCES OF 30 FEET MAXIMUM AND THREE FEET MINIMUM. DO NOT EXCEED THESE DISTANCES.

SENSOR RATING: 3 AMPS MAX

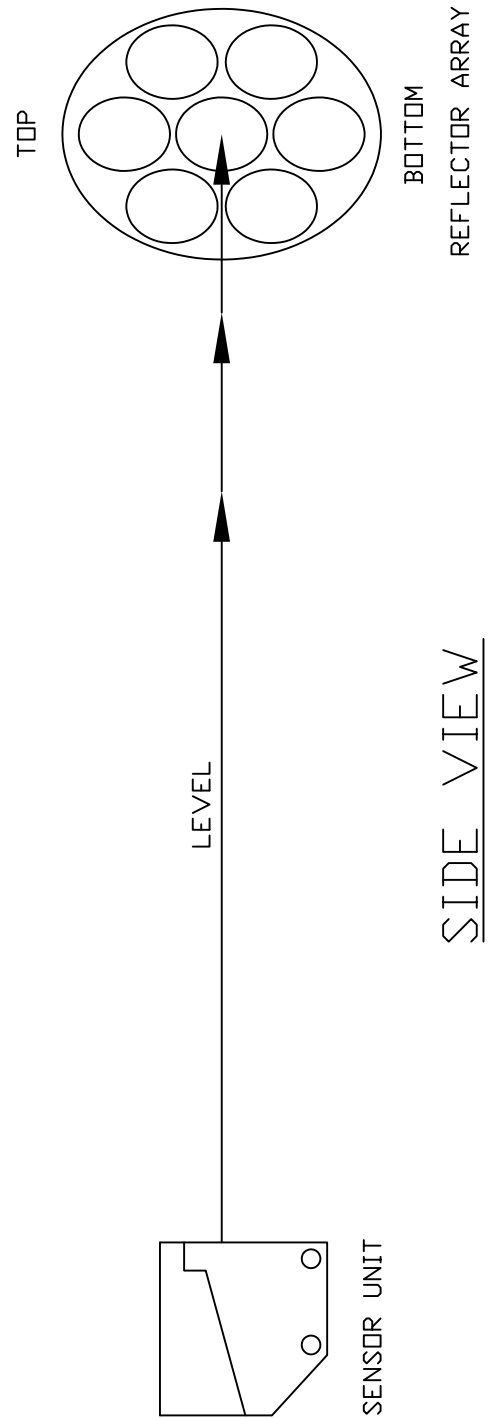
1. When mounting the sensor to the bracket, make sure the screw heads are on the bracket side and the nuts are captive inside the sensor. Do not over tighten the sensor mounting screws.
2. Wire the sensor with a round cable, properly rated for voltage and application. The rubber bushing must fit tightly around the cable. Always use the provided plug to seal the remaining entrance. As with all sensors of this type, it is important to keep dust, moisture and contaminants from the inside of the unit. **The hole size for the cable entry into the sensor unit has been reduced from previous versions. It is necessary to slide the compression nut and the rubber bushing onto the cable prior to stripping back the outer jacket for wiring. After wiring, fully tighten compression nut prior to reassembling.**



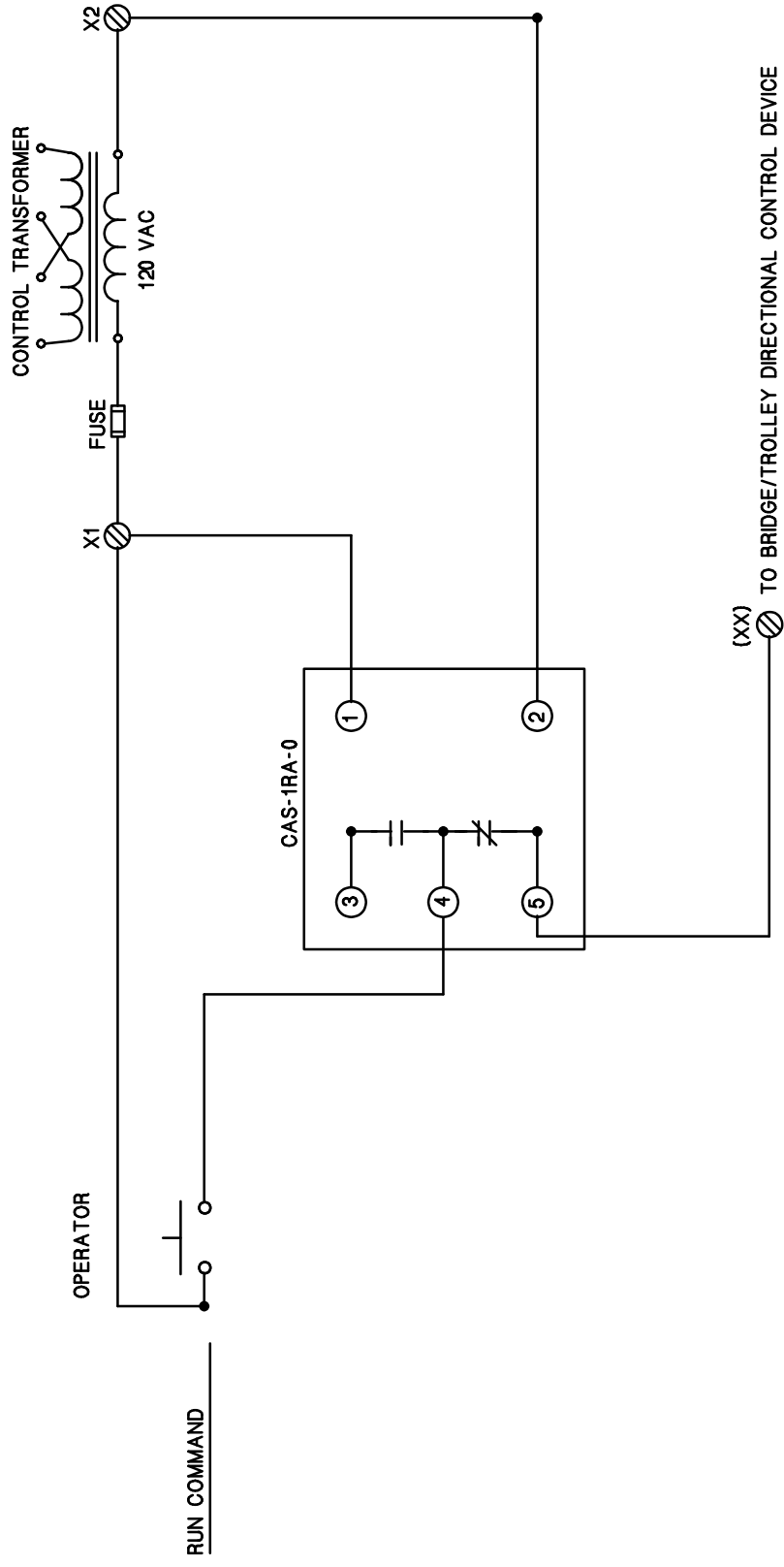
3. This sensor operates on 120 VAC. Connect power leads to terminals 1 and 2.
4. Terminals 4 and 5 are normally closed and are the ones generally used for Collision Avoidance applications. They should be wired in series with the direction circuit to be interrupted.
5. Mount the reflector array securely to a solid object. **The reflector array must be centered and aligned both horizontally and vertically on the same plane as the sensor unit.** (see diagram)
6. To adjust the trigger point: (A) With the crane positioned at the trigger point, move the sensor unit so that the visible red light spot is just to the left or right of the reflector array. (B) Slowly move the sensor unit towards the center of the reflector array until the indicator light on the sensor switches on. The visible red light spot will be at the edge of the reflector array. (C) Secure the sensor unit in this position. (D) Check the switching action by moving closer to and further away from the trigger zone. (E) Slight adjustment of the sensor unit may be necessary to attain desired switching point.
7. Do not adjust the sensitivity on the sensor unit. It must remain in the factory set, full clockwise, maximum gain position.
8. If multiple photoelectric units are being used in the same proximity, installation locations must be far enough apart that there is no chance that one sensor will intercept the light beam from another unit.
9. As with all photoelectric sensors, it is necessary to keep excessive dust or dirt from diminishing the optical effectiveness of the device. Wiping the sensor's optical surface and the reflector array occasionally with a moist, not wet, cloth should be made part of a normal maintenance procedure.



TOP VIEW



SIDE VIEW



DUCT O WIRE COMPANY	
CAS-1RA 0 Collision Avoidance	
Directional Run Command Interruption/Travel Stop	
Drawing # CAS1RAO	Drawn By: R Peterson Date: 10/28/13



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Duct-O-Wire

CAS-2L100 Laser Collision Avoidance Kit

Installation and Operating Instructions

Effective June 1, 2012

- ▶ This product incorporates IR Laser Protection Class 2; visible laser light.
- ▶ Do Not Stare Into The Laser Beam!

The Duct-O-Wire CAS-2L100 Two Event Laser Collision Avoidance Kit comes with (1) Laser Sensor Unit, (1) Sensor Mounting Bracket and Hardware, (1) 10 Meter Data Cable, (1) DIN Mounted Power / Relay Module, (1) Reflector Array with Mounting Hardware, Schematic Sheet and Warning Label.

Laser Class 2 Max Power 4.1 mW Time Base 100 s Pulse Duration 1.3 ms
Wave Length 650 nm Compliance: 21 CFR PART 1040 EN60825-1:2003-10

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MOUNTING AND ALIGNMENT

1. Mount sensor and reflector using supplied bracket and hardware to suitable locations for stability and proper alignment. Use 3 point alignment method to ensure the laser and reflector are in a straight line, both horizontally and vertically true.
2. Connect the supplied data cable to the sensor and power / relay module per the drawing.
3. Attach the supplied Laser Warning Label in the immediate vicinity of the sensor unit.
4. Connect 110 VAC to the transformer per the schematic drawing.
5. A visible red light will be seen from the sensor to the reflector. Do Not Stare Into the Laser Light.

SENSOR PROGRAMMING - FEET MODE (Use a pen or small blunt object for improved response)

NOTE: ALL BUTTON PRESSES MUST BE DONE WITHIN 15 SECONDS

1. Press and release the **Mode/Enter** button until **EF** is displayed. (multiple presses)
2. Press and release the **SET** button.
3. Press and release the **Mode/Enter** button until **Uni** is displayed. (6 button presses)
4. Press and hold the **SET** button until **FEET** is displayed, and release.
5. Press and release the **Mode/Enter** button once to confirm.
6. Wait 15 to 20 seconds and the unit will return to the "run" mode.
7. When sensor is in Run mode, distance to target is displayed in feet.

SENSOR PROGRAMMING – SET POINT 1 (first event distance)

NOTE: If the desired distance is passed, the counter will need to be advanced until the set point is displayed again. ALL BUTTON PRESSES MUST BE DONE WITHIN 15 SECONDS.

1. Press and release the **Mode/Enter** button until **SP 1** is displayed. (2 presses)
2. Press and hold the **SET** button until the desired distance for the first event is displayed, then release.
3. NOTE: Minimum distance is 1 meter (3.28 feet).
4. Press and release the **Mode/Enter** button once to confirm. The display will show **SP 1**.
5. Wait 15 to 20 seconds and the unit will return to the "run" mode.

CAS-2L100 Laser Collision Avoidance Kit Installation and Instructions

SENSOR PROGRAMMING – ENABLE SET POINT 2

NOTE: ALL BUTTON PRESSES MUST BE DONE WITHIN 15 SECONDS

1. Press and release the **Mode/Enter** button until **OU2** is displayed. (3 presses)
2. Press and hold **SET** button until **Hno** is displayed, then release.
3. Press and release the **Mode/Enter** button to confirm.
4. Wait 15 to 20 seconds and the unit will return to the “run” mode.

SENSOR PROGRAMMING – SET POINT 2 (second event distance)

NOTE: ALL BUTTON PRESSES MUST BE DONE WITHIN 15 SECONDS

1. Press and release the **Mode/Enter** button until **SP 2** is displayed. (4 presses)
2. Press and hold the **SET** button until the desired distance for the second event is displayed, then release.
3. NOTE: Minimum distance is 1 meter (3.28 feet).
4. Press and release the **Mode/Enter** button once to confirm. The display will show **SP 2**.
5. Wait 15 to 20 seconds and the unit will return to the “run” mode.

YOUR LASER COLLISION AVOIDANCE SYSTEM SHOULD NOW BE READY TO OPERATE.
PLEASE ENSURE THAT THE LED'S ON THE CONTROL UNIT LIGHT WHEN CRANE IS MOVED TO EACH SET POSITION.

FACTORY RESET – ONLY IF REQUIRED

1. In the event that improper selections were made during the previous sensor programming steps, it may be necessary to reset the unit to factory settings. Perform the following steps **ONLY** if required or the sensor is not responding as intended.
2. Press and release the **Mode/Enter** button until **EF** is displayed. (multiple presses required)
3. Press and release the **SET** button once.
4. Press and release the **Mode/Enter** button until **rES** is displayed.
5. Press and hold **Set** button until ---- (4 dashes) is displayed.
6. Confirm by pressing the **Mode/Enter** button once.
7. After performing the factory reset you must repeat the **SENSOR PROGRAMMING** steps outlined in the steps above.

