

AUTOMATIONDIRECT Logo

DATA SENSING

3505 HUTCHINSON ROAD

CUMMING, GA 30040-5860

DS CX2 Area Detectors

Quick Start Guide



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Alignment

Mechanical mounting:

It is extremely important to secure the light curtains to a rigid structure, not subject to deformation or strong vibrations. Decide where to place the Receiver so that it is not

subject to strong natural or artificial light sources or to luminous interference of other sensors.

Place the Emitter and Receiver facing one another, at the same height above the reference plane, following the same orientation. The output wires of the transmitter and receiver must be on the same side.

The distance between the two elements must not exceed the limits set by the specifications.

The optical beams can be partially deflected by nearby reflective surfaces. Because of that, the path beam interruption may not be detected. Therefore, all reflective surfaces and objects should be placed at a minimum safe distance from the optical beam path.

Safety Information

WARNING:

☐ This is NOT a protective device. Therefore, it should not be used to guarantee personnel safety.

☐ This is a low-voltage, direct current device. Proper functioning is only guaranteed between 16.8 VDC and 30 VDC. Under 15 VDC voltage all outputs are in an OFF state. Over 30 VDC voltage may damage the device. When the device is switched on, outputs are inactive for a certain amount of time known as Time Delay Before Availability.

☐ The Emitter emits near-infrared light at non-dangerous levels. The device is classified as RGO (exempt) according to IEC 62471: 2006-07.

☐ Please make sure that light curtains are used in proper environmental adjustment conditions.

- Calibration must always be carried out aiming for the best possible alignment. More than one calibration and alignment adjustment may be necessary to guarantee the best alignment.
- Check any reflective surface next to the light beams which may influence them.
- Check any transparent panels or similar panels which may change the beam angle of the light curtains.
- Prevent the light curtain's optical window from getting scratched or tarnished
- Do not expose the receiver to strong natural or artificial light sources, including

stroboscopic light.

- Do not expose the receiver directly to optical beams projected by other optical devices
- Ensure that the ambient temperature does not exceed the stated limits.
- Bear in mind that smoke, vapor, liquids and powders may alter transparency of air or dirty the optical window
- Always dispose of unusable or irreparable devices always in accordance with national regulations regarding waste disposal.

Before You Begin



For initial installation, it is highly recommended to do a system reset. This will delete any previous settings of Blanking or memory errors (Red LED Flashing).

1. All connections between the emitter and receiver must be made. (See section 4.)
2. TEACH input should be open and the Blanking input connected to common.
3. Power-On the system, wait for the illumination of Green and Blue LED. (This can take a few minutes)
4. Disconnect the BLANKING input.
5. Power off the system.
6. Proceed to the Non-Blanking or Blanking start up section.

☐ **Note:** If the sensors were not aligned properly, a flashing red LED may appear on the emitter. During system startup, this does not mean a failure. Align properly and follow the appropriate Startup section.

Non-Blanking Startup

The system must be aligned.

1. All connections between emitter and receiver must be made. (See section 2.)
2. Connect the NO/NC as you wish the system to respond. (For NO connect to common or leave open. For NC connect to 24 VDC).
3. The Blank and Teach inputs must be open.
4. Power ON the system.
5. Connect the Teach input momentarily to the common (Teach Fine command) and wait

for the end of Teach-in (wait for illumination of the Green and Blue LED).

6. Insure maximum alignment by adjusting the position of the sensor.
7. Mechanically fix the system, making sure to maintain the alignment.
8. Determine which teach function that you need for your system: fine or gross. Fine Teach allows for the smallest detectable object. Gross Teach will avoid pitfalls in the stability and repeatability of performance and is less sensitive to environmental conditions. For these reasons, Gross Teach is preferred.
9. For Gross Teach connect the input momentarily to the +24 VDC and for Fine Teach connect the input momentarily to the common.
10. Wait for the Green and Blue LED to become illuminated. Your sensors are now set up and ready for testing

The system must be aligned and powered off.

1. All connections between emitter and receiver must be made.
2. Connect the NO/NC as you wish the system to respond. (for NO connect to common or leave open. For NC connect to +24 VDC)
3. The Teach input must be open.
4. The Blanking input is connected to the +24 VDC
5. Ensure the beams you want to blank are 100% blocked from emitter.
6. Power-ON the system.
7. Wait for the illumination of the Green and Blue LED
8. The input can now be disconnected.
9. Connect the Teach momentarily to the common (Teach Fine command) and wait for the end of Teach-in (wait for illumination of the Green and Blue LED)
10. Insure maximum alignment by adjusting the position of the sensor.
11. Mechanically fix the system, making sure to maintain the alignment.
12. Determine which teach function that you need for your system, fine or gross. Fine Teach allows for the smallest detectable object. Gross Teach will avoid pitfalls in the stability and repeatability of performance and is less sensitive to environmental conditions. For these reasons, Gross Teach is preferred.
13. For Gross Teach connect the input momentarily to the +24 VDC and for Fine Teach connect the input momentarily to the common.
14. Wait for the Green and Blue LED to become illuminated. Your sensors are now set up

and ready for testing.

Wiring

Refer to the Electrical Installation section in the manual for power supply requirements.



Note: Wiring colors are based on Automation Direct cable assemblies.

The minimum distance between the “Proximity Switch Metal Enclosure” and any “External uninsulated live part” shall be 12.7mm.

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Documents / Resources

	AUTOMATIONDIRECT DS CX2 Area Detectors [pdf] User Guide DS CX2, DS CX2 Area Detectors, Area Detectors, Detectors
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References

- [User Manual](#)

Area Detectors, AUTOMATIONDIRECT, Detectors, DS CX2, DS CX2 Area
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