Critical Environment Technologies™

APPLICATION GUIDE

Greenhouse Production

DCC Self Contained Controller with CO & C_2H_4 Sensors

Peace of mind. Guaranteed.

Continuous monitoring of carbon monoxide and ethylene in production greenhouses.

Ethylene is naturally produced by plants and aids in the growth and development of the crop. However, too much ethylene can damage the plants and affect marketability. Decaying foliage, ripening fruit and stressed plants produce more ethylene than young, healthy plants. Other sources of ethylene gas are blowers, trimmers and carts with combustion engines, propane powered forklifts, heating systems, vent stacks and leaky fuel lines. Most often when there are high levels of ethylene gas, there is also a high concentration of carbon monoxide, which is dangerous to humans working inside the greenhouse.

The best way to monitor CO and C_2H_4 levels is with a fixed gas detection system permanently installed in the greenhouse. Gas level readings can be used to trigger alarms, turn on the ventilation system and call emergency response.

Critical Environment Technologies' DCC Dual Channel Controller with an internal carbon monoxide sensor and an internal ethylene gas sensor offers the features and functionality to ensure a safe breathing environment workers.

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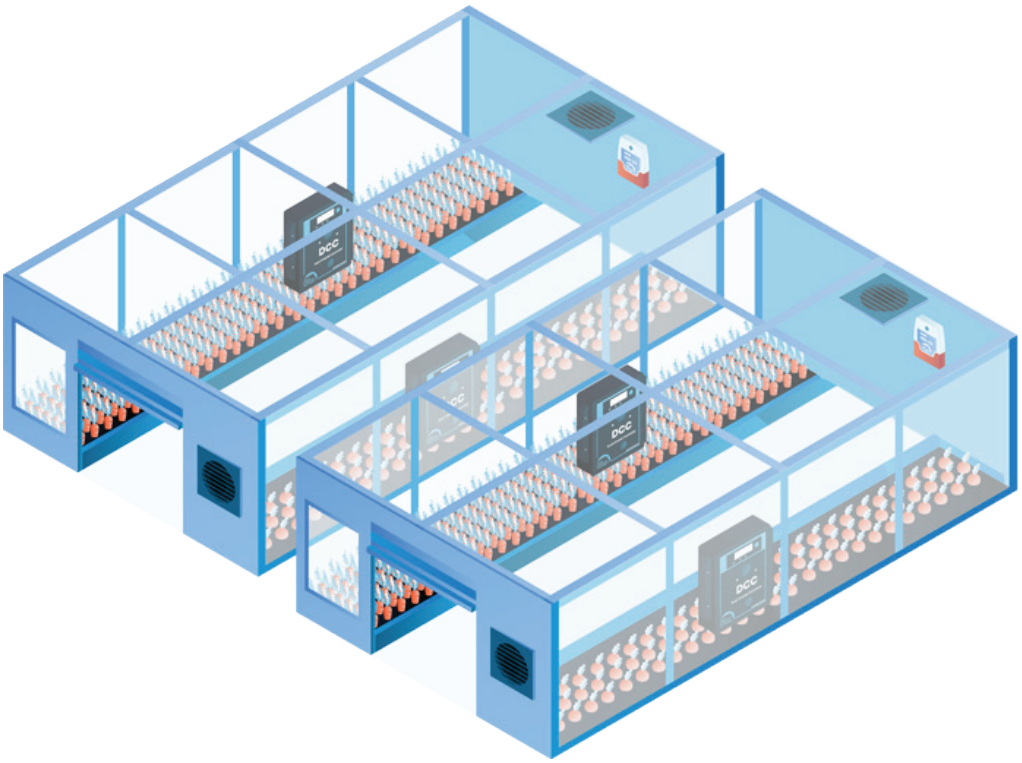
Critical Environment Technologies™

Continuous Monitoring of Carbon Monoxide (CO) & Ethylene (C_2H_4) in Greenhouses

The DCC-E-TCO-C2H4 Dual Channel Controller with an internal carbon monoxide sensor and internal ethylene sensor should be mounted in the greenhouse where the plants are growing. the DCC should be mounted (1.2 m - 1.8 m / 4 - 6 ft) from the floor as both gases are close to the same weight as air and will hang around in the "breathing zone". One DCC will monitor approximately 650 sq m (7,000 sq ft). The most appropriate location for the device to be installed is close to where people frequent the most such as pathways and work areas inside the growing area.



An RSH-24V-R Remote Strobe / Horn should be visibly mounted inside the growing room. One of the two internal relays of the DCC can be used to trigger the Remote Strobe / Horn device in the event either gas level reaches or exceeds the alarm setpoints. The second relay can be used to activate the mechanical ventilation system or trigger another set response as required.

The DCC has two 4-20 mA outputs that include VFD control and may also be used to interface with a Building Automation System (BAS) which in turn can trigger the alarm and other safety procedures as appropriate. The gas level readings will show on the display of the DCC for easy viewing. It comes standard with an internal audible alarm and is available with an optional extra loud buzzer or a watertight buzzer that can be ordered and installed at the time of purchase. It can be powered by low voltage or line voltage and has a SILENCE push button that can be used to temporarily turn off the buzzer and clear the latched relays.

The DCC comes standard in a water / dust tight enclosure that is rated IP54 with the optional splash guard installed (recommended for greenhouse applications). The DCC-E-TCO-C2H4 is fully set up, programmed, calibrated and tested prior to being shipped from the factory. It is ready to install and operate upon arrival (after a brief warm-up).

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