

# RADIANT TECHNOLOGY

Part #: RI-2025-2-COUSB

CO-USB last edited 7.25.2025 by JPW

**Attention: This product is not designed to replace your home Carbon Monoxide detector. Other advisories also apply. Read and understand this entire document.**

**PLEASE NOTE: We have included CO Warning Checklist Card along with a velcro dot to attach it to your panel.**

**We have also included a velcro patch to attach the CO-USB OR UP to your panel.**

Thanks for purchasing CO-USB from Radiant Technology. This new product (April 2025) has significant new features:

- Blinking RED LED alarm level is set in accordance with FAA guidelines (Search the web for “Carbon Monoxide, a Deadly Menace” – FAA) at 41 PPM
- Serial Data broadcast output included
- Power from any USB outlet

This product will help protect you. Your responsibility is to understand how it works and how to interpret its results. Please read this manual thoroughly before using CO-USB.

SENSOR used in CO-USB. CO-USB uses an electro-chemical sensor with an expected life of five years. Discard after five years.

USER TEST. We recommend checking the response of your product by holding it in glass jar filled with smoke from one extinguished match. Do not hold the sensor over a flame; the rising heat may destroy it. The response time should be less than 90 seconds. Do this before your first use of the product. After placing in fresh air, the recovery time should be less than 90 seconds.

CROSS SENSITIVITY. Because of the design of the electro-chemical sensor, CO-USB has excellent rejection of interfering gases.

POWER. To power CO-USB on and off, attach it to any powered USB port. Remove when done.

USAGE. Hang the unit in ambient air, not directly in an air stream, using a USB extension cable (not supplied). Or install directly in a USB port. When turned on, and after a 3 minute warm up period, the red LED will blink when the CO level exceeds 41 PPM, and the green LED will dim. At 41 PPM, the FAA says: Unconsciousness, eventual death if victim is not removed from source of CO.

The above level and guidance on CO poisoning are directly from published FAA advice: [Carbon Monoxide, a Deadly Menace \(from faa.gov\)](#)

AURAL ALARM. This unit does not have an aural alarm.

PILOT ACTIONS, when CO is suspected (sourced from published FAA advice):

- Turn the cabin heat fully off.
- Increase the rate of cabin fresh air ventilation to the maximum.
- Open windows if the flight profile and aircraft's operating manual permit such an action.
- If available (provided it does not represent a safety or fire hazard), consider using supplemental oxygen.
- Land as promptly as possible.
- Do not hesitate to let Air Traffic Control know of your concerns and ask for vectors to the nearest airport.
- Once on the ground, seek medical attention.
- Before continuing the flight, have the aircraft inspected by a certified mechanic.

CALIBRATION. We cannot guarantee the absolute accuracy of CO-USB. Our vendor spec is +/- 10% of total PPM.

## ERRONEOUS INDICATIONS.

- A rapid change in temperature may cause an errant result, for instance, stepping out of a cool cockpit onto a hot ramp area.
- A rapid change in air flow may cause an errant result, for instance, moving the unit from ambient air into air vent flow.
- A rapid change in humidity may cause an errant result.

## DIGITAL SERIAL PORT.

CO-USB includes a digital port, while the CO-USB-UP does NOT have a digital port. CO-USB may be powered from this port, as long as it is not connected to a USB port simultaneously. Doing so may damage the USB port or your serial port.

### Pinout:

Pin 1: +5 volts to/from USB port. Alternative input power source.

Pin 2: TX data 3.3 volts output

Pin 3: RX data 3.3 volts input (DO NOT EXCEED 3.5 volts)

Pin 4: Ground

Pin 5: Alarm status

### Serial specs:

Baud rate is 9600

8 bit

1 stop bit

No check bit

### TX Data, broadcast once per second:

Byte 0: 0xFF

Byte 1: 0x18 (Helps identify device)  
Byte 2: DC (ignore)  
Byte 3: DC (ignore)  
Byte 4: Gas Concentration High byte  
Byte 5: Gas Concentration Low byte  
Byte 6: Alarm Value High byte (always zero)  
Byte 7: Alarm Value Low byte (always 41)  
Byte 8: Checksum

#### WARRANTY:

Your new Radiant Technology product carries a three-year warranty, from the end user invoice date. Please contact [support@radiantinstruments.com](mailto:support@radiantinstruments.com) should your product need warranty service. There is an additional charge for international warranty service.

This warranty service includes the following:

- Any failed unit will be repaired or replaced.

#### DISCLAIMER:

While Radiant Technology has taken care to ensure the accuracy of the information contained herein it accepts no responsibility for the consequences of any use thereof and reserves the right to change the specification of goods without notice. Radiant Technology accepts no liability for the correct, incorrect, or erroneous use of the device, including the failure of the device to perform as expected. If you do not agree to these terms, please discontinue use of the product.

#### RETURN / REFUND INFORMATION:

If ordered directly from us: Must be returned in new, uninstalled, resalable condition within 14 days after receipt. Ship to Radiant Technology LLC, PO Box 20690, Wichita KS 67208.

If ordered from any of our distributors or resellers: Their Terms and Conditions apply. Check with them.