

9020 Series LonWorks® Compatible Carbon Dioxide Transmitter With Temperature



Wall
TR9020-L



Wall
TR9020



Duct Probe
TR 9021-L

A Breakthrough In Simplicity And Cost!

- ✓ Attractive wall mount case with display for temperature and CO₂ levels. No-Display version also available.
- ✓ Self-calibrating sensor eliminates calibration/maintenance requirements.
- ✓ Easy to install duct mount version with 8" aspiration probe. (No tubes to plug or clean.)
- ✓ Easy choice of voltage or current via jumper selection, relay output also available.
- ✓ Display, output range and scaling easily customized via a PC interface.
- ✓ Transmits CO₂ and Temperature concentrations for AirTest TR9000 Products using LonTalk® protocol.
- ✓ Gold plated optical sensor ensures long-term durability and stability.
- ✓ Purposefully built for quality - designed and built using Internationally Certified ISO 9001 processes.

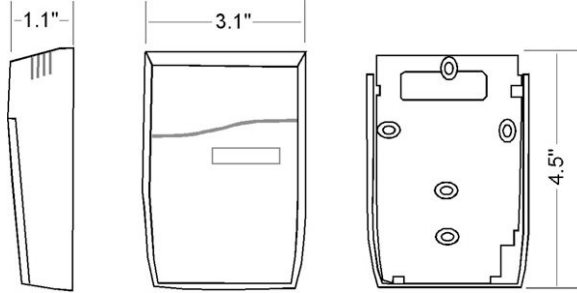
Why Active Ventilation Control With CO₂?

- Ventilation control with CO₂ is a viable and energy efficient way of controlling ventilation to target cfm/person levels based on actual occupancy. This approach offers many advantages over the traditional approach of providing fixed ventilation based on maximum occupancy.
- ⇒ Reduce ventilation and energy costs in applications with variable occupancy.
 - ⇒ In static occupancy applications, owner can continuously control ventilation rates to reflect current occupancy conditions.
 - ⇒ Actively control ventilation to eliminate unintended over and under ventilation conditions resulting from post commissioning adjustment of outside air quantities.
 - ⇒ Monitor and control zone ventilation efficiency and take advantage of using preconditioned transfer air from under occupied spaces for ventilation.
 - ⇒ Documented CO₂ levels can provide ongoing verification that code-required ventilation rates are being maintained.

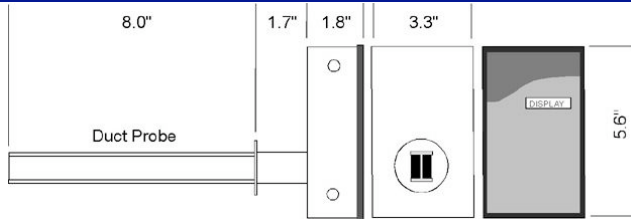
About The CO₂ And Temperature Transmitter

The TR9200 is a state of the art monitor for zone ventilation (CO₂) and temperature control. Versions for wall or duct mount are available. The need for calibration has been eliminated through use of a unique self-calibration algorithm that has been proven in over 8 years of use.

Wall: TR9020



Duct: TR9021



Network Variables For Node Objects

nviRequest To control objects and request modes for objects within this node.
nvoStatus To report status of objects on this node.

Network Variables For Temperature

nviSpaceTemp Space Temperature Input.
nvoSpaceTemp Space Temperature Output.
NvoSpaceTempCopy ... Copy of nvoSpaceTemp.
nciMinDeltaTemp Updates nvoSpaceTemp.

Network Variables For CO₂ Sensor

nviSpaceCO₂ Space CO₂ Sensor Input.
nvoSpaceCO₂ Space CO₂ Sensor Input Access To Adjustment Buttons.
nciMinDeltaCO₂ Updates nvoSpaceCO₂.

Other AirTest CO₂ Products

nvoUnitStatus Space Comfort Controller Status
nciSndHrtBt Send Heartbeat
nciRcvHrtBt Receive Heartbeat
nciHvacType HVAC Unit-Type Identifier
nciSetpoints Space Temperature Setpoint
nciMinOutTm Minimum Send Time

CO₂ & Temp LonWorks® Compatible Products

Wall Mount: **TR-9020** (No Display), **TR-9020-L** (Display)
 Duct Mount: **TR-9021** (No Display), **TR-9021-L** (Display)

Distributed By:

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Specifications

General

CO₂ Detection Method: Gold Plated Non-Dispersive Infrared Optical Sensor with Automatic Baseline Correction for Self-Calibration. Diffusion Sampling.

Certification: CE, EMC89/336/EEC, CA Energy Commission
Temperature Measurement: Thermistor With Linear Output
Transmitter Rated Life: 15 years

Operating Conditions: 32 to 122° F (0 to 50°C), 0 to 95% RH
Storage Conditions: -40 to 158° F (-40 to 70° C)

Performance

CO₂ Measurement Range: 0-2000 ppm (factory set), user adjustable to 3000 ppm

CO₂ Accuracy: +/- 1% of measurement range + 5% of measured value.

Calibration: Self Calibrating, Calibration Not Required
Response Time: T₉₀ = <2 minutes (diffusion)

Temperature Measurement Accuracy: +/- 0.9° F (0.5° C)

Power

Input: 18-30 VAC, 50-60 hz (half-wave rectified)

Average Power Consumption: £ 3 Watts average

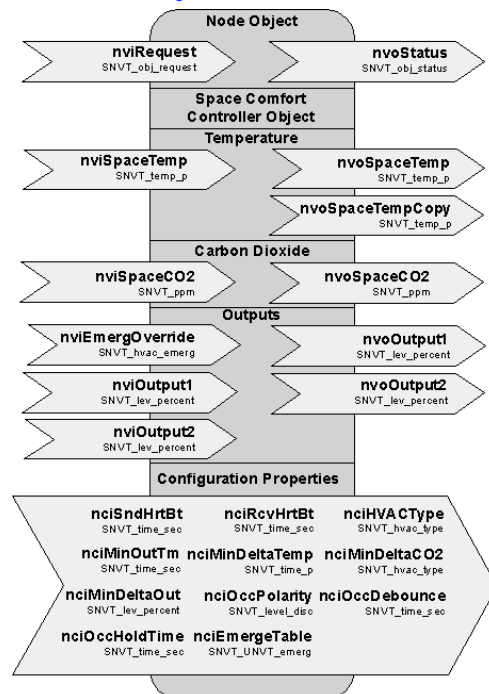
Outputs

Digital Display: CO₂ Concentrations in ppm, Temperature in °F or °C. (User selectable with PC Interface)

Linear Analog Outputs: (CO₂ =Out1, Temp = Out2) jumper selectable for VDC or mA

0 to 10 VDC R_{OUT} < 100 ohm, 0 to 5 VDC R_{LOAD} >5k ohm, 4 to 20 mA R_{LOAD} < 500 ohm

LonWorks® Node Objects:



Covered By US Patents: 6194735, 6016203, other patents pending



AirTest™ Technologies Inc. specializes in the application of cost effective, state-of-the-art gas monitoring technology to ensure the comfort, security, health and energy efficiency of buildings.

