

TVI-310e

CARBON DIOXIDE TRANSMITTER



This state-of-the-art instrument measures carbon dioxide(CO₂) concentrations in the parts-per-million (ppm) range and is ideal for applications ranging from large buildings with complex HVAC systems to home gyms.

Fresh air contains 350-400 ppm CO₂. Human respiration and combustion by-products from furnaces, fireplaces, and appliances can easily raise indoor levels of CO₂ above 2000ppm. According to the National Institutes of Occupational Safety and Health, increased levels (above 2000 ppm) of CO₂ may contribute to "sick building syndrome," and symptoms such as hyperventilation, headache, dizziness, shortness of breath, and drowsiness.

The TVI-310e CO₂ monitor provides continuous, accurate reading of indoor CO₂ levels, making it easy to maintain an optimum level of fresh air while reducing heating and cooling costs to an absolute minimum. Use of the TVI-310e enables the Building Manager to recycle heated or cooled air, adding outside air only when indoor CO₂ levels rise above 2000ppm. Thus "sick building syndrome" and high heating and cooling costs can both be controlled at the same time with the use of TVI-310e

The TVI-310e is easy to control and support. Measurement output is via a 4 - 20mA current loop or a 0 to 10 volt interface. A completely isolated power supply eliminates any ground loop or electrical interaction problems when multiple units are connected to the same controller. Low power consumption makes the TVI-310e perfect for power sensitive applications.

The TVI-310e's single gas verification makes field calibration a snap, and its superior design means significantly longer calibration intervals. Unlike other models, its simple user interface has no complicated menus: all maintenance and calibration operations are easily performed even on units with no display. The TVI-310e's versatility is enhanced by options satisfy most applications. The clear, bright 0.4" high LCD display option is readable from any angle for installations where local annunciation of the CO₂ concentration is desired. For direct control applications the relay option can be configured to open or close above the setpoint and is easily adjusted in the field. For plenum sampling requirements, the popular duct option is easy to install.

Parameter	Value
Operating principle	Non-dispersive infrared (NDIR)
Gas sampling method	Diffusion or available duct kit
Measurement range	0-2000 ppm std, 0-5000 ppm max
Repeatability	± 20 ppm
Measurement accuracy	± 5% of reading or 75 ppm, whichever is greater
Recommended calibration interval	5 years
Warm up time	Less than 1 minute
Power requirements	18 - 30 VDC or 18 - 28 V _{RMS} AC
Power consumption	Less than 1 watt
Operating temperature range	0 - 50° Celsius
Operating humidity range	5 - 95% RH, non-condensing
Voltage output (linear)	0 - 10 VDC full scale standard. Range field adjustable from 1-10 VDC
Current output (linear)	4-20 mA (R _{LOOP} : 400 Ω maximum)
Optional LCD display	4 digit, .4" high
Optional relay contact rating	3 Amps @ 24 VAC
Optional relay setpoint range	0 to full scale
Case dimensions	5.25" x 3.25" x 1.4"
Enclosure material	Satin finish, high impact plastic



Ordering Specifications:

TVI-	310e-	[]-	-[]	-[]
		[blank] - Room type	-R-additional relay output	-L complete with LCD display
		[D]-Duct type (with duct kit)		