439 PPM
70.52°F
23% RH

TSENSE: CO2

CO2 Sensor with Temperature, RH & Display

TSENSE is an advanced and versatile 3 in 1 transmitter. Designed for installation in the air conditioned zone, it measures CO2 concentration, temperature and humidity in the ambient air. The data is transmitted to a BMS system or stand-alone controller using a standard output (analog or relay) or via BACnet™ or Modbus communication protocols. TSENSE combines all the necessary elements for effective climate control in commercial office buildings, hospitals, hotels, schools and other facilities, allowing for a comfortable and healthy environment for the occupants. It is flexible in design and is suitable for use in many different energy efficient ventilation strategies. The TSENSE incorporates a NDIR (non-dispersive infrared) technology and complies with ASHRAE 189.1. (TSENSE units can be configured in the field using the touch screen display or by UIP5 Software via a USB to Serial adapter cable with a 3.5 mm audio jack).

The TSENSE Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, www.workaci.com.

GAS

SPECIFICATIONS

Supply Voltage	12 VDC, 24 VDC or 24 VAC (50-60 Hz) ±20%, (min 10V, max 40V)
Power Consumption	2W max,<0.35 W average (non-display), <0.60 W average (w/display)
Measurement Range (CO2, Temp, RH)	0–2000 ppm vol., 0-50°C, 0-95% RH
Output Signal	Voltage output 0-10 V, Rout: <100Ω, Max Load: >5 kΩ
Output Resolution Scales	10-bits, 10 mV steps, 0.1% steps of full ppm/°C/% RH range
Linear Analog output, 0-10V, At Screw Terminal	CO2: 0-2000 ppm, Temp: 0-50°C, RH: 0-100% RH
Relay Output	On/Off, 1000/900 ppm CO2, SPDT Form 1C Relay
Contact Ratings	0.5 A @ 125 VAC, 2 A @ 30 VDC
Digital Relay Output	1 (on) or 0 (off)
Communication Protocols	BACnet (MS/TP) or MODBUS (RTU)
Baud Rates (Field Adjustable)	9600, 19200, 38400, 57600
BACnet MAC Address	0-127 (Default 104)
Accuracy (CO2)	±50 ppm of measured value @ 1000 ppm, 17-28°C and 30 to 60% RH ±30 ppm +3% of measured value over full range
Accuracy (Temp, RH)	±0.5°C (@ 17-28°C), ±1.0°C (@ 0-50°C), ±5% RH (@ 20%-80% RH)
Long-term Drift	<±0.5% RH
Pressure Dependence	+1.58% reading per kPa deviation from normal pressure, 101.3 kPa
Measurement Interval	15 seconds
Reponse Time	<3 min diffusion time (CO2), <6 min (Air velocity of 0.15 m/s) (Temp)
Warm Up Time	>1 min
Operating Temperature/Relative Humidity Range	32 to 122ºF (0 to 50ºC)/0 to 95% RH, non-condensing
Life Expectancy	>15 years (typical)
Display (Optional)	LCD with CO2 ppm, Temperature °C and Humidity %RH
Buttons	Touch screen display
Conformance With Standards	EMC directive 2004/108/EC, RoHS directive 2011/65/EU, complies w/ ASHRAE 189.1
Wiring Connections	Screw terminal, max 1.5 mm2, with Power, GND, Out1 (CO2), Out2 (Temp), Out 3 (RH) BACnet MS/TP over RS485, MODBUS over serial
Product Dimensions	(H) 4.92" (W) 3.34" (D) .866"

ORDERING

Please select one Sensor Series (A). NOTE: The USB to Serial Cable (TTL-232-3V3-AJ) must be ordered to modify sensor settings for all units without display.

A   Sensor Series

◯ **TSENSE-LCD** (TSENSE Model with LCD)
◯ **TSENSE** (TSENSE Model without LCD)

1   Additional Configurations

◯ **TTL-232-3V3-AJ** (USB to Serial Cable, 3.5 mm Audio Jack)

BUILD PART NUMBER

After completing (A) from the above table, fill in the Part Number Table below. (1) is an additional configuration. An example part number is offered.

A

EXAMPLE: TSENSE-LCD

1

EXAMPLE: TTL-232-3V3-AJ