

aSENSE (Disp)



An advanced transmitter that measures CO₂ concentration and temperature.

aSENSE is an advanced transmitter for installation in the climate zone. It measures both CO₂ concentration and temperature in the ambient air. The data is transmitted to a BMS system or controller and can be configured with UIP Software.

aSENSE is a key component for climate control of buildings and other processes. The transmitter is flexible and suits many different ventilation strategies. It is also a cost-efficient gas alarm sensor for spaces where carbon dioxide gas is a potential danger.

The product is designed to control ventilation by transmitting the measured carbon dioxide and temperature value to the Master or DDC of the system. A common application is controlling ventilation in rooms with varying numbers of people such as offices, classrooms, and cinemas. The ventilation control is based on temperature and CO₂ measurements and helps saving energy and create a healthy indoor environment.

Standard specification

Measured gas	Carbon dioxide (CO ₂)
Operating principle	Non-dispersive infrared (NDIR)
Measurement range	0–2000ppm
OUT1 CO ₂	0–10VDC, 0–2000ppm 0/4–20mA, 0–2000ppm
OUT2 °C	0/2–10VDC, 0–50°C
OUT3	-
Accuracy (CO ₂)	±30ppm ±3% of reading
Dimensions	120 x 82 x 30mm
Life expectancy	>15 years
Operating temperature range	0–50°C
Power supply	24VAC/DC
Communication	UART

Key benefits

- Maintenance-free
- Available in different carbon dioxide measurement ranges
- Available in different housings
- Internal automatic self-diagnostics
- Cost-optimised for connection to DDC



aSENSE (Disp) Technical Specification

General Performance:

Storage Temperature Range	-40–70°C (display model Disp: -20–50°C)
Sensor Life Expectancy	>15years ¹
Maintenance Interval	No maintenance required ¹
Self-Diagnostics	Complete function check, yellow LED and LCD error indication (display model Disp)
Display (model Disp)	4 Digits, 7 segments LCD with ppm indicator
Warm-up Time	>1min. (@ full specs >5min.)
Operating Temperature Range ²	0–50°C
Operating Environment	Residential, commercial spaces

Electrical / Mechanical:

Power Input	24VAC ±20%, 50/60Hz (half-wave rectifier input)
Power Consumption	<1W average
Electrical Connections ³	1.5mm ² screw terminals for power input (G+, G0) and outputs (OUT1, OUT2)

CO₂ Measurement:

Sensing Method	Non-dispersive infrared (NDIR) waveguide technology with ABC automatic background calibration algorithm
Sampling Method	Diffusion
Response Time (T1/e)	<3min. diffusion time
Measurement Range	0–2000ppm
Accuracy ^{1,4}	±30ppm ±3% of measured value
Pressure Dependence	+1.6% reading per kPa deviation from normal pressure, 100kPa

Temperature Measurement:

Operating principle	Negative Temperature Coefficient (NTC) resistor
Measurement range	-20–60°C
Accuracy ⁵ / Digital resolution	±1°C / 0.1°C on display, 0.01°C by UART

Outputs:

OUT1 ⁶	Voltage or mA current loop output, selectable by jumper
Linear Conversion Range, voltage	0/2–10VDC for 0–2000ppm _{vol}
Linear Conversion Range, mA current	0/4–20mA for 0–2000ppm _{vol}
OUT2 ⁶	Voltage or mA current loop output, selectable by jumper
Linear Conversion Range, voltage	0/2–10VDC for 0–50°C
Linear Conversion Range, mA current	0/4–20mA for 0–50°C

Voltage outputs:

D/A Conversion Accuracy	±2% of reading ±20mV
D/A Resolution	10mV
Electrical Characteristics	R _{OUT} <100Ω R _{LOAD} >5kΩ

Current loop output:

D/A Conversion Accuracy	±2% of reading ±0.3mA
D/A Resolution	0.02mA
Electrical Characteristics	R _{LOAD} <500Ω

Note 1: In normal IAQ applications, accuracy is defined after minimum three (3) ABC periods of continuous operation. Some industrial applications do require maintenance.

Note 2: Lower operation temperature range can be reached by adding a box heater assembly.

Note 3: Different options exist and can be customised depending on the application. Please, contact Senseair for further information.

Note 4: Repeatability is included. Uncertainty of calibration gases (±1% currently) is added to the specified accuracy.

Note 5: Valid only for units configured in voltage output mode.

Note 6: During power up, OUT1 and OUT2 are defined to be low. Exact value depends on many factors including temperature.

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EURO-INDEX verleent service op alle meetinstrumenten uit haar leveringspakket en biedt de faciliteiten, kennis en hoog gekwalificeerd personeel voor (preventief) onderhoud, reparatie en kalibratie van uw meetinstrumenten.

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EURO-INDEX is van alle vertegenwoordigde merken een Geautoriseerd Service Centrum.

Dit betekent dat uw instrumenten worden behandeld door goed opgeleid en kundig personeel, dat beschikt over de juiste gereedschappen en software. Er worden uitsluitend originele onderdelen gebruikt en de garantie van uw instrument, evenals de certificering (ATEX, EN50379, etc.) blijven intact.

Service- en kalibratielaboratorium

EURO-INDEX beschikt over een bijzonder modern service- en kalibratielaboratorium met RvA accreditatie naar NEN-EN-ISO/IEC 17025. Deze accreditatie geldt voor verschillende grootheden, zoals gespecificeerd in de scope bij accreditatienummer K105.



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Digitale toegang tot uw kalibratiecertificaten met Mijn KWS

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- Instrumenten worden geleverd met accessoirepakket en herleidbaar kalibratiecertificaat

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Servicebalie



Kalibratie rookgasanalyse



Seminars en workshops



Kalibratie thermografie

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BELGIË
Leuvensesteenweg 607
1930 Zaventem
T: 02 - 757 92 44
F: 02 - 757 92 64
info@euro-index.be
www.euro-index.be

NEDERLAND
Rivium 2e straat 12
2909 LG Capelle a/d IJssel
T: +31 - (0)10 - 2 888 000
F: +31 - (0)10 - 2 888 010
verkoop@euro-index.nl
www.euro-index.nl

