

*Save Life
and Energy*



Product Catalogue

Air and Gas Sensors

High Quality



The Swedish company *SenseAir*[®] is a centre of excellence with over 20 years of experience in IR gas measurements. We develop and produce affordable precision gas sensors for high volume applications. Our products mainly measure carbon dioxide (CO₂). Carbon dioxide is a colourless gas that exists in the Earth's atmosphere and can be dangerous in high concentrations. When we exhale CO₂ it is quickly mixed with the surrounding air even indoors and, providing that the ventilation is good, the concentration will be reduced to harmless levels.

Our CO₂ sensors are used in ventilation control for energy savings to enhance good indoor climate process yield and economic outcome in many bio-related processes, for personal safety applications, for built-in appliances and many other areas.

With over 20 years of experience *SenseAir*[®] has become a world leader in the field of NDIR (non-dispersive infra-red) technology. The measuring cell has been improved and is based on cost-effective production techniques in plastic. *SenseAir*[®] holds many patents relating to its proprietary measurement technique.

The sensors from *SenseAir*[®] are all pre-calibrated and have an estimated life expectancy of more than 15 years in normal applications. In order to maintain high quality, 100% of the sensors are tested to comply fully with all the different performance criteria set up, such as sensor stability and calibration accuracy within the allowed temperature and humidity range. The Automatic Baseline Correction assures that the sensors do not require any further calibration when used in normal indoor air applications. The sensor can also, if needed, be calibrated in the field with no need to returning it to a service centre.

The *SenseAir*[®] quality management system is certified for compliance with ISO 9001:2008. We offer full traceability on all the critical components through individual unit serial numbers and PCB manufacturing batch numbers. All test data from each shipped sensor is stored in a database and can be traced at any time.

This product catalogue shows an overview of our main products, for more information or special requests please contact us or visit our website at www.senseair.com.



Applications



Ventilation Control.....p. 3 - 6

One of our major markets is building automation where our sensors control individual fans, dampers, valves, etc. 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 to save energy and create a healthy indoor environment.



Air Quality Monitoring.....p. 7

Measuring CO₂ indicates when new "fresh" outside air must be supplied for an acceptable indoor air quality. Bad ventilation can result in fatigue and headache. When the CO₂ levels exceed the defined levels an alarm is sounded. This helps to create a healthy indoor environment in homes, offices, and school etc.



Safety.....p. 7 - 9

In today's health- and energy-conscious environment, measuring CO₂ is important for safety and comfort, energy savings, and to warn about potentially toxic CO₂ and CO levels. *SenseAir*® offers a full line of products for this application in, for example public garages, buildings, truck terminals, tunnels, and mines.



Agriculture.....p. 10

CO₂ is necessary to all forms of life. It is a vital parameter in the production of all kinds of plant species, bacteria, poultry etc. CO₂ sensors can be used to increase process yield and efficiencies in many bio-related processes, such as in greenhouses, mushroom-farming, food transportation/storage, chicken hatcheries and incubators.

3,5 mW
IAQ



OEM Modules.....p. 10 - 14

Our OEM modules are cost-optimized sensors for high volume applications intended to be integrated into our customers' own products. They can easily be adjusted to comply with differing customer requirements. The only restriction for what OEM modules can be used for is the creativity and inventiveness of the customer. We also offer low power solutions. For HVAC we have a solution only requiring 3,5mW, and it can go even lower if used for other applications.

Accessories.....p.14

Ventilation Control



| eSENSE™ (Standard Configuration) | |
|---|--|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0 to 10 V DC (CO ₂) |
| OUT2 linear output | 2 to 10 V DC or 4 - 20 mA (CO ₂) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 100 x 80 x 28 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

eSENSE™ is a CO₂ transmitter for climate control and fits directly on top of EU electrical junction box standards. The unit is available both with and without display for fixed installation in the climate zone. The transmitter helps you to save money by decreasing your energy consumption while creating a healthier indoor air climate.

| Art. no. | Product | Additional features |
|------------|---------------------------|--|
| 050-8-0002 | eSENSE™ | No display |
| 050-8-0005 | eSENSE™ - Disp | Display |
| 050-8-0026 | eSENSE™ - TR | No display, terminal for resistive temperature probe |
| 050-8-0036 | eSENSE™ - Disp OUT1 0-5 V | Display, OUT1=0 to 5 V OUT2=2 to 10 V |



| eSENSE™ II (Standard Configuration) | |
|--|--|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0 to 10 V DC (CO ₂) |
| OUT2 linear output | 2 to 10 V DC or 4 - 20 mA (CO ₂) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 130 x 85 x 30 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

eSENSE™ II is a CO₂ transmitter for climate control and fits directly on top of US electrical junction box standards. The unit is available both with and without LCD display for fixed installation in the climate zone.

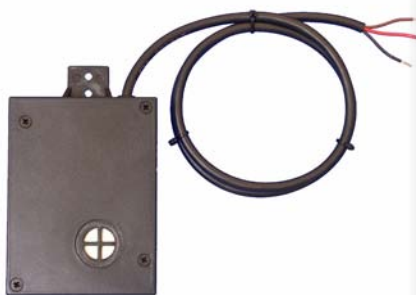
| Art. no. | Product | Additional features |
|------------|------------------------------|---------------------------|
| 050-8-0014 | eSENSE™ II | No display |
| 050-8-0012 | eSENSE™ II - Disp | Display |
| 050-8-0048 | eSENSE™ II - OUT1 0-5 V | No display, OUT1=0 to 5 V |
| 050-8-0049 | eSENSE™ II - Disp OUT1 0-5 V | Display, OUT1=0 to 5 V |



| eSENSE™ Duct (Standard Configuration) | |
|--|---|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0 to 10 V DC (CO ₂) |
| OUT2 linear output | 2 to 10 V DC or 4 to 20 mA (CO ₂) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 152 x 85 x 47 mm, probe 245 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

eSENSE™ Duct and eSENSE™ Ind are two infrared and maintenance-free CO₂ transmitters, for climate control of buildings and other processes. eSENSE™ Duct is for installation in the ventilation duct. eSENSE™ Ind is a wallmounted transmitter with protection class IP54 and it's applicable in most large spaces.

| Art. no. | Product | Additional features |
|------------|---------------------------|---|
| 050-8-0004 | eSENSE™ Duct | No display |
| 050-8-0009 | eSENSE™ Duct - Disp | Display |
| 050-8-0047 | eSENSE™ Duct - OUT1 0-5 V | No display, OUT1= 0 to 5V |
| 050-8-0032 | eSENSE™ Ind | Suits industry environment (without duct probe) |
| 050-8-0033 | eSENSE™ Ind - Disp | Suits industry environment (without duct probe) |



| eSENSE™ Slim (Standard Configuration) | |
|--|---------------------------------|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0 to 10 V DC (CO ₂) |
| OUT2 linear output | None |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 106 x 67 x 26 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

eSENSE™ IP50 is used to measure indoor air carbon dioxide concentration. This product is an ultra-compact transmitter intended for factory mounting for both wall and duct applications with the protection class IP50. A 300 mm long cable connected to the PCB makes it possible to place the sensor where mounting is difficult.

| Art. no. | Product | Additional features |
|------------|---------------------------|---------------------|
| 050-8-0003 | eSENSE™ Slim | |
| 050-8-0045 | eSENSE™ Slim - OUT1 0-5 V | OUT1=0 to 5 V |

Ventilation Control



aSENSE™



aSENSE™ Ind

aSENSE™ (Standard Configuration)

| | |
|-------------------------|--|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0/2 to 10 V DC or 0/4-20 mA (CO ₂) |
| OUT2 linear output | 0/2 to 10 V DC or 0/4-20 mA (°C) |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 120 x 82 x 30 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

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

| Art. no. | Product | Additional features |
|------------|-----------------------------|---|
| 045-8-0001 | aSENSE™ | |
| 045-8-0002 | aSENSE™ - Disp | Display |
| 045-8-0003 | aSENSE™ - RL | No display, relay |
| 045-8-0025 | aSENSE™ - Disp RL | Display, relay |
| 045-8-0028 | aSENSE™ Ind - Disp RL | Display, relay, suits industry environment |
| 040-3-0005 | aSENSE™ Ind -10% Disp RL MB | Display, relay, 0 to 10% _{vol} (CO ₂), Modbus prepared |
| 040-8-0029 | aSENSE™ - MB RS485 | No display, Modbus RS485 communication |



aSENSE™ Duct (Standard Configuration)

| | |
|-------------------------|--|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0/2 to 10 V DC or 0/4-20 mA (CO ₂) |
| OUT2 linear output | 0/2 to 10 V DC or 0/4-20 mA (°C) |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 152 x 85 x 47 mm, probe 245 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

aSENSE™ Duct is an infrared and maintenance-free carbon dioxide transmitter for installation in the ventilation duct. The unit has an industrial housing (protection class IP65) with duct probe.

| Art. no. | Product | Additional features |
|------------|---------------------|---------------------|
| 045-8-0019 | aSENSE™ Duct | No Display |
| 045-8-0031 | aSENSE™ Duct - Disp | Display |



| aSENSE™ VAV - Disp (Standard Configuration) | |
|--|---|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0/2 to 10 V DC or 0/4-20 mA 600 to 900 ppm (CO ₂) 23-24 °C |
| OUT2 linear output | 0/2 to 10 V DC or 0/4-20 mA, 600 to 900 ppm |
| OUT3 Relay | Closed >600 ppm Open <500 ppm (CO ₂) |
| OUT4 linear conversion | 0 to 10 V DC or 0/4-20 mA, 20-18 °C |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 120 x 82 x 30 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

aSENSE™ VAV is a stand alone controller that measures both CO₂ concentration and temperature in ambient air. It also has a terminal for extra functions for example manual override and it's prepared for Modbus. The unit is a key component for energy-effective and healthy climate control of rooms with a varying number of people.

| Art. no. | Product | Additional features |
|------------|------------------------------|---|
| 040-8-0011 | aSENSE™ VAV - Hdisp | Hidden display |
| 040-8-0016 | aSENSE™ VAV - Disp | Display |
| 040-8-0010 | aSENSE™ VAV - Disp SL | Display, screw locked lid |
| 040-8-0040 | aSENSE™ VAV - Hdisp MB RS485 | Hidden display, Modbus RS 485 communication |



| aSENSE™ VAV Duct - Disp (Standard Configuration) | |
|---|--|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0/2 to 10 V DC or 0/4-20 mA, 600 to 900 ppm (CO ₂) 23-24 °C |
| OUT2 linear output | 0/2 to 10 V DC, 600 to 900 ppm (CO ₂) |
| OUT3 Relay | Closed >600 ppm Open < 500 ppm (CO ₂) |
| OUT4 linear output | 0 to 10 V DC or 0/4-20 mA, 20-18 °C |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 152 x 85 x 47 mm, probe 245 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

aSENSE™ VAV Duct is a stand alone controller with built-in sensors that measure CO₂ and temperature for installation in the ventilation duct. aSENSE™ VAV Duct has an industrial housing and it's also prepared for Modbus.

| Art. no. | Product | Additional features |
|------------|-------------------------|---------------------|
| 040-8-0024 | aSENSE™ VAV Duct - Disp | Display |

Air Quality Monitoring/ Safety



| eSENSE™ FAI (Standard Configuration) | |
|---|---|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0 to 10 V DC (CO ₂) |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 100 x 80 x 28 mm (eSENSE™ FAI) 130 x 85 x 30 mm (eSENSE™ FAI II) |
| Accuracy | ± 30 ppm ± 3 % of reading |

eSENSE™ FAI "Fresh Air Indicator" is an infrared and maintenance-free carbon dioxide alarm for installation in areas where the carbon dioxide levels need to be monitored, such as classrooms and offices. The product measures the carbon dioxide concentration in ambient air and alarms with sound and light when the levels exceed defined levels.

| Art. no. | Product | Additional features |
|------------|----------------|---|
| 050-8-0061 | eSENSE™ FAI | Fits European standard J-boxes (mute button on the side) |
| 050-8-0057 | eSENSE™ FAI II | Fits US standard J-boxes (visible red mute button on the front) |



| SenseAir® (Standard Configuration) | |
|---|----------------------------|
| Measurement range | 0 to 6000 ppm |
| Power supply | Battery (charger included) |
| Audible alarm | No |
| Measurement temperature | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 125 x 52 x 32 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

Portable SenseAir® is a light-weight CO₂ instrument with a digital display designed to measure the CO₂ concentration and temperature in the surrounding air. A built-in data logger makes SenseAir® the perfect choice for monitoring the carbon dioxide concentration in a number of different applications and environments. The SenseAir® is also ideal for measuring carbon dioxide concentration in incubators, greenhouses, mushroom farms etc., where correct levels are essential for the process outcome. Included in original purchase: unit with internal battery, protective casing, communication cable, wall-plug battery charger.

| Art. no. | Product | Additional features |
|-----------|-----------|---------------------|
| 07-1-0038 | SenseAir® | Display, grey |



SenseAir® Alarm (Standard Configuration)

| | |
|------------------------|----------------------------|
| Measurement range | 0 to 3% |
| Power supply | Battery (charger included) |
| Audiable alarm | Yes |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 125 x 52 x 32 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

SenseAir® Alarm is hand-held, pocket-sized alarm instrument with a digital display designed to measure the CO₂ concentration in surrounding air. The large clear display presents both current carbon dioxide concentration and the 8 hours Time Weighted Average (TWA) CO₂ value. Integrated logging and alarm functions make *SenseAir® Alarm* the perfect choice for personal safety applications. Included in original purchase; unit with internal battery, protective casing, communication cable, wall-plug battery charger.

| Art. no. | Product | Additional features |
|-----------|------------------------|---------------------|
| 07-2-0009 | <i>SenseAir® Alarm</i> | Display, orange |



pSENSE (Standard Configuration)

| | |
|-------------------------|--|
| Measurement range | 0 to 2000 ppm (extended 10 000 ppm) |
| Power supply | 4 x AA type (UM-3) |
| Audiable alarm | Yes |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 209 x 70 x 58 mm |
| Accuracy | ± 75 ppm ± 5 % of reading (0 to 2000 CO ₂) |

Model *pSENSE* is a flexible and easy to use hand-held instrument, designed to measure the CO₂ concentration and temperature in surrounding air. The model is also ideal for measuring CO₂ concentration in incubators, greenhouses, mushroom farms etc. where correct levels are essential for the process outcome. Audible alarm, Max/Min Average as well as TWA and STEL measurements are possible. With the *pSENSE* data cable accessory you can simple log data for longer time.

| Art. no. | Product | Additional features |
|-----------|-------------------------------|--|
| 00-0-0015 | <i>pSENSE</i> | Yellow |
| 00-0-0024 | <i>USB-cable and software</i> | For <i>pSENSE</i> and <i>pSENSE RH</i> |
| 100534 | <i>Power Supply pSENSE</i> | Net adaptor 9V/100-240VAC for <i>pSENSE</i> and <i>pSENSE RH</i> |

Safety



pSENSE RH

(Standard Configuration)

| | |
|--------------------------------------|---|
| Measurement range (CO ₂) | 0 to 5000 ppm (extended 10 000 ppm) |
| Measurement range (RH) | 10 to 90 % |
| Power supply | 4 x AA type (UM-3) |
| Audible alarm | Yes |
| Temperature measurement | 0 to 50 °C |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 209 x 70 x 58 mm |
| Accuracy | ± 30 ppm ± 3 % of reading (0 to 2000 ppm) |

pSENSE RH works perfect for measuring the indoor air quality parameters CO₂, temperature and RH%. Audible alarm, Max/Min Average as well as TWA and STEL measurements are possible. With a battery capacity covering more than 24 hours, the model works perfectly for diagnosing ventilation using carbon dioxide as the surrogate ventilation index. With the *pSENSE* data cable accessory can you simple log data for longer time.

| Art. no. | Product | Additional features |
|-----------|-------------------------------|--|
| 00-0-0016 | <i>pSENSE - RH</i> | Grey |
| 00-0-0017 | <i>Calibration KIT RH</i> | Only for <i>pSENSE RH</i> |
| 00-0-0024 | <i>USB-cable and software</i> | For <i>pSENSE</i> and <i>pSENSE RH</i> |
| 100534 | <i>Power Supply pSENSE</i> | Net adaptor 9V/100-240VAC for <i>pSENSE</i> and <i>pSENSE RH</i> |



aSENSE™ Duct MIII



aSENSE™ MIII

aSENSE™ MIII - Disp (Standard Configuration)

| | |
|--------------------------------------|--|
| Measurement range (CO ₂) | 0 to 2000 ppm |
| Measurement range (CO) | 0 to 100 ppm |
| Power Supply | 24 VAC/DC |
| OUT1 linear output | 0 to 10 V DC (CO) |
| OUT2 linear output | 0 to 10 VDC (CO ₂) |
| OUT3 relay | Closed <30ppm CO <1400ppm (CO ₂) Open >35ppm CO >1500ppm (CO ₂) |
| OUT 4 open collector | Error detection |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 142 x 84 x 46 mm |
| Accuracy CO ₂ | ± 30 ppm ± 3 % of reading |
| Accuracy CO | ± 10 ppm |

aSENSE™ MIII is a controller with built-in sensors to monitor carbon dioxide and carbon monoxide simultaneously. With these parameters, the programmable unit can control for example ventilation rates and generate alarm signals. The sensor can be configured with the UIP Software.

| Art. no. | Product | Additional features |
|------------|---------------------------------|--------------------------------|
| 040-8-0064 | <i>aSENSE™ MIII - Disp</i> | Display |
| 040-8-0066 | <i>aSENSE™ MIII Duct - Disp</i> | Display, (probe length 245 mm) |

Agriculture/ OEM Modules

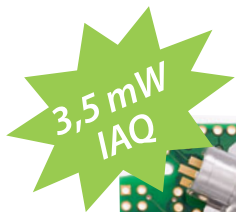


aSENSE™ GH - Disp (Standard Configuration)

| | |
|------------------------|---|
| Measurement range | 0 to 2000 ppm |
| Power supply | 24 V AC/DC |
| OUT1 linear output | 0/2 to 10 V DC or 0/4 - 20 mA, (CO ₂) |
| OUT2 linear output | 0/2 to 10 V DC or 0/4 - 20 mA, (°C) |
| OUT3 relay | Closed/open <900ppm >1000ppm (CO ₂) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 142 x 84 x 46 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

Model *aSENSE™ GH* "Green House" is a transmitter for installation in the climate zone. The special coated PCB and extra dust/water protection filter make *aSENSE™ GH* suited for all kinds of greenhouses, incubators and similar environments. The unit measures both temperature and carbon dioxide concentration.

| Art. no. | Product | Additional features |
|------------|------------------------------|---|
| 040-8-0063 | <i>aSENSE™ GH - Disp</i> | Display |
| 040-7-0027 | <i>aSENSE™ GH 4% - Disp</i> | Display, 0 to 4% _{vol} (CO ₂) |
| 040-3-0003 | <i>aSENSE™ GH 10% - Disp</i> | Display, 0 to 10% _{vol} (CO ₂) |



CO₂ Engine® LP (Standard Configuration)

| | |
|--------------------------------------|--|
| Measurement range (CO ₂) | 0 to 5000 ppm (CO ₂) |
| Power supply | 5-12 V DC |
| Communication | I ² C/UART (Modbus) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 14 mm x 57 mm x 51 mm |
| Power Consumption | 1.5 mA (30 sec measurement interval) 0.74 mA down to 3,5 mA (60 sec measurement interval) |
| Accuracy | 86 uA (15 min measurement interval) 52 uA (1/60 min measurement interval) ± 30 ppm ± 3% of reading |

CO₂ Engine® LP is a low-power module that fits in any application where power consumption is important to keep at a minimum without sacrificing the performance. The adjustable measurement interval, results in average power consumption that can be reduced to less than 52 uA (measurement 1/60 min). The platform is designed for integration into host apparatus, such as battery operated products, sensors with radio transmitters.

| Art. no. | Product | Additional features |
|------------|----------------------------------|---------------------|
| 033-8-0008 | <i>CO₂ Engine® LP</i> | Low power module |

OEM Modules



CO₂ Engine® K30 (Standard Configuration)

| | |
|------------------------|----------------------------------|
| Measurement range | 0 to 5000 ppm (CO ₂) |
| Power supply | 4.5 to 14.0 VDC |
| OUT1 linear output | 0 to 4 V DC, 0 to 2000 ppm |
| OUT2 linear output | 1 to 5 V DC, 0 to 2000 ppm |
| OUT3 digital output | High > 800, low < 700 ppm |
| OUT4 digital output | High > 1000, low < 900 ppm |
| Communication | I ² C/UART (Modbus) |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 14 mm x 57 mm x 51 mm |
| Accuracy | ± 30 ppm ± 3 % of reading |

CO₂ Engine® K30 can be customized for a variety of sensing and control applications. This platform is designed to be an OEM module for built-in applications in a host apparatus. K30 is a flexible product with 2 analog outputs and 2 digital outputs that can be configured with SADK or other custom software to meet your requirement.

| Art. no. | Product | Additional features |
|------------|---------------------------------|--|
| 030-8-0006 | CO ₂ Engine® K30 STA | Standard configuration |
| 030-7-0001 | CO ₂ Engine® K30 3% | 0 to 3% _{vol} (CO ₂) |
| 030-8-0010 | CO ₂ Engine® K30 FR | Fast response time (T ₉₀ 2 seconds @ 0,5 l/min tube gas flow) |



CO₂ Engine® ICB (Standard Configuration)

| | |
|------------------------|--|
| Measurement range | 0 to 30% _{vol} (CO ₂) |
| Power supply | 4.5 to 12.0 V DC |
| OUT 1 PWM | 0 to 20% _{vol} (CO ₂) |
| OUT 2 linear output | 0 to 5 V DC, 0 to 20% _{vol} (CO ₂) |
| Communication | I ² C/UART (Modbus) |
| Operation temperature | 0 to 50°C |
| Dimensions (H x W x D) | 14 mm x 57 mm x 51 mm (ICB) 19 mm x 57 mm x 51 mm (ICB-F) |
| Accuracy | ± 0,2% _{vol} ± 3% of reading |

The CO₂ Engine® ICB platform can be customized for a variety of sensing, control and alarm applications. This platform is designed to be an OEM module for built-in applications in a host apparatus.

| Art. no. | Product | Additional features |
|------------|-------------------------------|---|
| 033-9-0001 | CO ₂ Engine® ICB | PWM (pulse width modulation) |
| 033-9-0006 | CO ₂ Engine® ICB-F | PWM (pulse width modulation), tube in/out (gas sampling) |

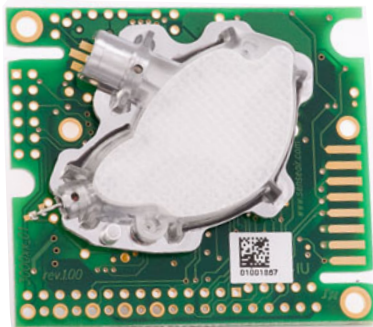


CO₂ Engine® BLG

| | |
|--------------------------------------|--|
| Measurement range (CO ₂) | 0 to 30% _{vol} (CO ₂) |
| Measurement range (RH) | 0 to 100% |
| Measurement range (C°) | -40 to 60 |
| Power supply | 4.5 to 12.0 V DC |
| Communication | I ² C/UART (Modbus) |
| Operation temperature | 0 to 50°C for CO ₂ |
| Dimensions (H x W x D) | 14 mm x 57 mm x 51 mm (BLG) 19 mm x 57 mm x 51 mm (BLG-F) |
| Accuracy | ± 0,2% _{vol} ± 3% of reading |

CO₂ Engine® BLG is designed to measure and store records of environmental parameters such as CO₂, RH and temperature. The sensor can be used in a wide range of applications; in food transportation, storage, incubators and other high range applications.

| Art. no. | Product | Additional features |
|------------|-------------------------------|---|
| 033-9-0002 | CO ₂ Engine® BLG | Internal logger, RH+temp, stand by mode |
| 033-9-0009 | CO ₂ Engine® BLG-F | Internal logger, RH+temp, stand by mode, tube in/out (gas sampling) |



CO₂ Engine® ELG

| | |
|--------------------------------------|----------------------------------|
| Measurement range (CO ₂) | 0 to 5000 ppm (CO ₂) |
| Measurement range (RH) | 0 to 100% |
| Measurement range (C°) | -40 to 60 |
| Power supply | 4.5 to 12.0 V DC |
| Communication | I ² C/UART (Modbus) |
| Operation temperature | 0 to 50°C for CO ₂ |
| Dimensions (H x W x D) | 14 mm x 57 mm x 51 mm |
| Accuracy | ± 30 ppm ± 3% of reading |

CO₂ Engine® ELG is suitable for low power applications as the unit can put into sleep-mode between measurements. The sensor measure and store records of environmental parameters such as CO₂, RH and temperature.

| Art. no. | Product | Additional features |
|------------|-----------------------------|---|
| 033-8-0007 | CO ₂ Engine® ELG | Internal logger, RH+temp, stand-by mode |

OEM Modules



SenseAir® S8

Art.no. 004-0-0050

| | |
|-------------------------------|--|
| Measurement range | 0.04 to 2% volume CO ₂ |
| Power supply | 4.5 V to 5.25 V DC |
| Alarm output (open collector) | Open >8500 ppm, closed <6500 ppm |
| PWM output | 0 to 2% duty cycle for 0 to 20 000 ppm |
| Communication | UART (Modbus) |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 8.5 mm x 33.5 mm x 20 mm |
| Accuracy | ±0.02% volume CO ₂ ±3% of reading |

SenseAir® S8 is a miniature safety switch that can be used in control and alarm applications. The sensor can be integrated in a wide range of different alarm applications where you want to detect CO₂, such as leakage detection.

| Art. no. | Product | Additional features |
|------------|---------------------|-------------------------------|
| 004-0-0050 | <i>SenseAir® S8</i> | For connection by pin headers |



SenseAir® S8

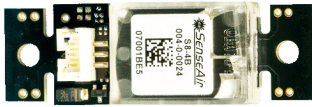
Art.no. 004-0-0013

| | |
|-------------------------------|---|
| Measurement range | 400 to 2000 ppm (0 to 10000 ppm extended) |
| Power supply | 4.5 V to 5.25 V DC |
| Alarm output (open collector) | Open >1000 ppm, closed <800 ppm |
| PWM output | 0 to 100% duty cycle for 0 to 2000 ppm |
| Communication | UART (Modbus) |
| Operation temperature | 5 to 30 °C |
| Dimensions (H x W x D) | 8.5 mm x 33.5 mm x 20 mm |
| Accuracy | ±70 ppm ± 3% of reading |

SenseAir® S8 is the ideal choice for indoor ventilation control and CO₂ monitoring in residential applications. The sensor consumes a minimum amount of energy and is based on modern infrared technology (NDIR). The *SenseAir® S8* is designed for easy integration.

| Art. no. | Product | Additional features |
|------------|---------------------|-------------------------------|
| 004-0-0013 | <i>SenseAir® S8</i> | For connection by pin headers |

LNE approved



Art. no. 004-0-0024

| SenseAir® S8 4B Art.no. 004-0-0024 | |
|---|--|
| Measurement range | 0.04 to 3,2% volume CO ₂ |
| Power supply | 4.5 to 7.0 V DC |
| Alarm output (open collector) | Open >8000 ppm, closed <6500 ppm |
| Operation temperature | 0 to 50 °C |
| Dimensions (H x W x D) | 8.5 mm x 60.5 mm x 20 mm |
| Accuracy | ±1000ppm (at alarm points between 7000 and 9000 ppm) |

SenseAir® S8 4B is a miniature low power LNE approved safety switch .SenseAir® S8 4B main application area is to serve as a CO₂ safety switch when build into equipment such as kerosene heaters and other equipment generating potential hazardous levels of CO₂ gas. Because of low current consumption the sensor is suitable for battery applications and has an average current consumption of 2 mA.

| Art. no. | Product | Additional features |
|------------|--------------|---------------------|
| 004-0-0024 | SenseAir® S8 | |



| SADK - SenseAir Development Kit | |
|---|---|
| FEATURES | THE PACKAGE INCLUDE: |
| <ul style="list-style-type: none"> • Log data • Configure outputs • Configure ABC function • Configure signal filter etc. | <ul style="list-style-type: none"> • SADK bridge • USB with UIP 5 Software • USB cable • Instruction manual |

The SADK is a configuration and test utility to assist you in your work with your CO₂ Engine® and eSENSE™. The program gives you access to the main features of the connected product. What you can do varies depending on connected model. (The sensor in the image is not included).

| Art. no. | Product | Additional features |
|-----------|---------|--|
| 00-0-0012 | SADK | Supports; K22, K30, BLG/ELG, ICB, S8 and eSENSE™ |



| Zero Calibration Kit | |
|----------------------------------|-------------------------------|
| Dimensions (H x W x D) | 26 x 156 x 89 |
| Rechargeable battery | Li-Ion 7.2 V 1550mAh |
| CO ₂ cartridge filter | 10 cartridge filters included |
| Charger | 110/240 V |

The Zero Calibration Kit produces a calibration gas, free of CO₂ through chemical adsorption. It can be used to calibrate the zero point of any SenseAir® CO₂ sensor. The Zero Calibration Kit offers a fast, cost-effective and simple calibration.

| Art. no. | Product | Additional features |
|-----------|--|---------------------|
| 00-0-0022 | Zero Calibration Kit | |
| 100471 | Data Cable (aSENSE™) | |
| 00-0-0049 | Communication cable USB-UART (aSENSE™ and eSENSE™) | |

*“World-leading manufacturer
of cost-effective gas sensors”*



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