



CO₂ 2000ppm

WHEN AIR QUALITY IS CRITICAL

MAKE SURE IT IS SONTAY

CO₂ : 500



CAR PARK MONITORING

SMOKE DETECTION



VOC MONITORING

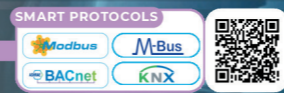


CO2 MEASURING



PM DETECTION

SMART SENSORS



AIR QUALITY & GAS SENSING

BENEFITS

HEALTH & SAFETY

Protect from poor air quality & harmful gases · Early warning for unsafe conditions ·



COMPLIANCE

· Support indoor air quality standards · Suitable for safety-critical environments

EFFICIENCY

Demand-controlled: Reduces energy waste · Ventilate only when and where needed ·



INTEGRATION

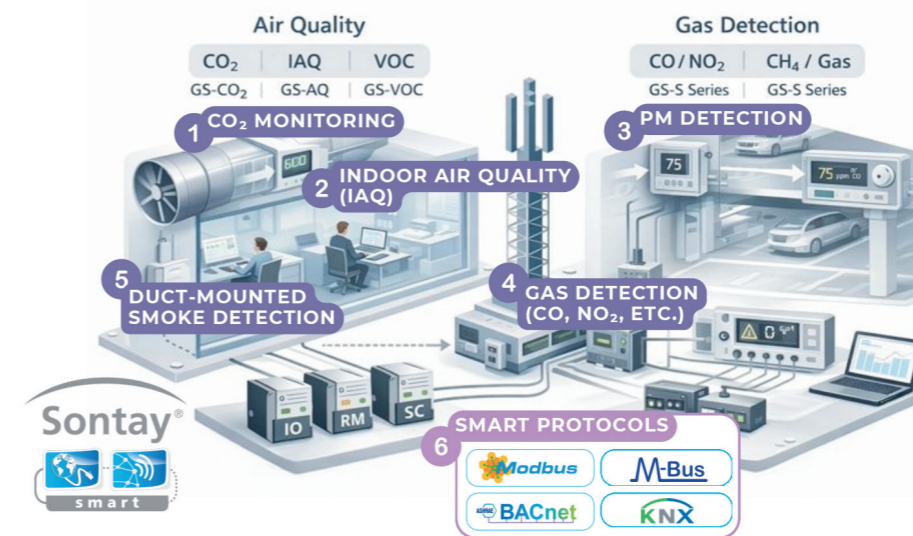
· Compatible with modern BMS architectures · SMART communication options available

SCAN HERE



Sontay Sensors for Air Quality & Gas Detection

Accurate sensing for airflow, liquid flow, and level detection.



Sensing for healthy, compliant indoor environments. Indoor air quality and gas detection play a vital role in protecting occupant health, supporting ventilation efficiency, and ensuring compliance with safety standards. From offices and schools to car parks and plant rooms, reliable sensing is essential wherever people and equipment share enclosed spaces.

Sontay's Air Quality & Gas Sensing range provides accurate monitoring of CO₂, IAQ parameters, VOCs, and hazardous gases, enabling smarter ventilation control, early fault detection, and safer building operation.

Key Application Areas

INDOOR AIR QUALITY

- CO₂ and IAQ monitoring for occupied spaces
- Demand-controlled ventilation

GAS DETECTION

- Monitoring of hazardous gases
- Health and safety protection

CAR PARK VENTILATION

- CO and NO₂ detection
- Automatic fan and alarm control

VENTILATION & AHU CONTROL

- Optimised fresh air intake
- Energy-efficient airflow management

| | Product Code | Applications |
|---|--------------|--|
| 1 | GS-CO2 | CO ₂ Monitoring |
| 2 | GS-AQ | Indoor Air Quality (IAQ) |
| 3 | GS-PM | PM Detection |
| 4 | GS-S | Gas Detection (CO, NO ₂ , etc.) |
| 5 | SD-D | Duct-Mounted Smoke Detection |
| 6 | SC | Smart Communication Protocols |



AIR QUALITY

- Monitor CO₂, IAQ and VOC levels
- Enable demand-controlled ventilation



GAS DETECTION

- Detect hazardous gases early
- Protect occupants and equipment



SMOKE DETECTION

- Detect smoke within ductwork
- Support safe system shutdown

GS-AQ Indoor Air Quality Space Sensors

The GS-AQ series of air quality transmitters determine the air quality through measurement of Total Volatile Organic Compounds (TVOC's).

This signal can be used to control fresh air fans and dampers according to the ventilation load. A valuable feature of this sensor is it automatically detects what the controller input is set to, 4-20mA or 0-10Vdc.

This removes the requirement for output jumpers that can be inadvertently set incorrectly.

FEATURES

- Auto detection 0-10Vdc or 4-20mA outputs, 3-wire only
- Direct thermistor options available
- Pluggable terminal blocks and tool free installation
- Optional set point, fan speed & momentary switch
- LCD display option
- Easy installation: 2-part, push-in spring terminals



SPACE SENSORS



| Part code | Description |
|-----------|--|
| GS-AQ-5 | Space Mounted Air Quality & Temperature Sensor |

SPECIFICATION

| | |
|-----------------------------------|---|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self detecting |
| Air quality output ranges | Index, 0 to 500 |
| Environmental Housing | 0 to 50°C |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | ABS (flame retardant) |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP30 |
| Setpoint optional passive outputs | 11-1kΩ/0-10kΩ linear |
| Temperature Output range | 0 to 40°C |
| Weight | 180g |

DUCT SENSORS



| Part code | Description |
|-----------|---|
| GS-AQ-D | Duct Mounted Air Quality & Temperature Sensor |

SPECIFICATION

| | |
|---------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3 wire) self detecting |
| Air quality output ranges | Index, 0 to 500 |
| Environmental Housing | -30 to +60°C 5 to 95% non-condensing |
| Environmental Media | -10 to +50°C |
| Housing Dimensions | 125 x 105 x 85mm |
| Housing Material | PC (Halogen free, flame retardant & UV stabilized) |
| Housing probe | 215 x 20mm dia |
| Optional passive output | PTC/NTC Element Any Sontay resistive |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP65 |
| Temperature Output range | -20 to +20°C |
| Weight | 250g |

| Part code | Description |
|-----------|---|
| -T | Direct resistive temperature output |
| -SP* | 11-1kΩ/0-10kΩ setpoint |
| -MS* | Momentary switch |
| -LCD | LCD display |
| -TR | Custom temperature output range -20 to 50°C |
| -5V | Output 0-5Vdc (instead of 0-10Vdc) |
| -BLK** | Black Space Housing |

| Part code | Accessories |
|-----------|--------------------------------|
| DECOR | Decorators trim plate |
| GASKET | Insulating gasket (pack of 10) |

Notes:
 * -T versions use a thermistor element. Please specify type when ordering. When using in space sensors, they are not compensated for self heating. Please see pages 90-93 for Thermistor Types and Compatibility Chart.
 * Only available on Space Sensor Types.
 ** Plain front, no user interface option available (SP/MS/LCD)

Data sheets online: www.sontay.com

GS-AQ-x-UN Single Output Indoor Air Quality Space Sensor

The GS-AQ-x-UN range offers a cost-effective single output for air quality measurement. These can also include a combination of familiar passive options such as temperature, set point adjustment & momentary switch plus an LCD display.

A unique feature of the sensor is its ability to automatically detect what sort of controller input it is connected to, 4-20mA or 0-10Vdc, removing the requirement for output jumpers which can be inadvertently set incorrectly. Just connect it to the controller input and it does the rest.

PCB LED indication of which output type is in operation is provided, with diagnostic LED patterns for determining faults.

SPACE SENSORS



| Part code | Description |
|------------|----------------------------------|
| GS-AQ-S-UN | Space Mounted Air Quality Sensor |

FEATURES

- Auto-detection 0-10Vdc or 4-20mA output, 3-wire only
- Fully configurable LCD Display
- Resistive temperature output option
- No jumpers or DIP-switches to select output type



SPECIFICATION

| | |
|-----------------------------------|---|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting |
| Environmental Housing | 0 to 50°C, 0 to 95% RH non-condensing |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | ABS (flame retardant) |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Output range | 0 to 10 (0=good / 10=poor) |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP30 |
| Setpoint optional passive outputs | 1-11kΩ |
| Weight | 200g |

DUCT SENSORS



| Part code | Description |
|------------|--------------------------------------|
| GS-AQ-D-UN | Duct Mounted Air Quality Transmitter |

SPECIFICATION

| | |
|-----------------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting |
| Environmental Housing | 0 to 50°C, 0 to 95% RH non-condensing |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | PC (Halogen free, flame retardant & UV stabilized) |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Output range | 0 to 10 (0=good / 10=poor) |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP30 |
| Setpoint optional passive outputs | 1-11kΩ |
| Weight | 250g |

| Part code | Description |
|-----------|-------------------------------------|
| -BLK** | Black Space Housing |
| -SP* | 1-11kΩ set point |
| -T | Direct resistive temperature output |
| -LCD | LCD display |
| -MS* | Momentary switch |

| Part code | Accessories |
|-----------|--------------------------------|
| DECOR | Decorators trim plate |
| GASKET | Insulating gasket (pack of 10) |

Notes:
 * -T versions use a thermistor element. Please specify type when ordering. When using in space sensors, they are not compensated for self heating. Please see pages 90-93 for Thermistor Types and Compatibility Chart.
 * Only available on Space Sensor Types.
 ** Plain front, no user interface option available (SP/MS/LCD)

Data sheets online: www.sontay.com

GS-CO2 Space Mounted CO2 Sensors

Using a NDIR (non-dispersive infrared) sensor for measuring CO₂ concentrations and utilizing ABC (Automatic Baseline Correction) ensures accurate and maintenance free operation. They are also fitted with a IAQ temperature outputs. A valuable feature of this sensor is, when in 3-wire mode, it automatically detects the controller input type, 4-20mA or 0-10Vdc. This removes the requirement for output jumpers. It also provides on-board LED indication for power up status and set output mode. The terminal blocks are pluggable and allow tool free installation (ferrules required).

FEATURES

- Robust sensor enclosure
- Easy installation with LED indication, test button and auto output mode detection (3-wire)
- Pluggable terminal blocks and tool free installation
- Energy saving by ventilating at the optimum CO₂ levels



SPECIFICATION

| | |
|-------------------------------|---|
| Active outputs | 0-10Vdc or 4-20mA (3 wire) self-detecting |
| CO ₂ accuracy | 400-2000ppm, ±70ppm ±3% |
| CO ₂ Output ranges | 0-2000ppm |
| Environmental Housing | -30 to +60°C, 0 to 95% RH non-condensing |
| Environmental Media | -10 to +50°C |
| Housing Dimensions | 125 x 105 x 85mm |
| Housing Material | ABS (flame retardant) |
| Housing probe | 215 x 20mm dia. |
| Optional AQ | Index, 0 to 500 |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Power Supply | 24Vac/dc±10% |
| Temperature Output range | 0 to 40°C |
| Weight | 200g |

SPACE SENSORS



| Part code | Description |
|--------------|---|
| GS-CO2-S | Space mounted CO ₂ and T sensor 0-2000ppm |
| GS-CO2-RHT-S | Space Mounted CO ₂ , RH and T Sensor 0-2000ppm |
| GS-CO2-AQ-S | Space Mounted CO ₂ , T and AQ Sensor 0-2000ppm |

SPECIFICATION

| | |
|-----------------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self detecting |
| CO ₂ accuracy | 400-2000ppm ±70ppm±3% |
| CO ₂ Output ranges | 0-2000ppm |
| Environmental Housing | 0 to 50°C, 0 to 90% RH non-condensing |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | PC (Halogen Free Flame Retardant, UV stabilized) |
| Optional AQ | 0 to 1000ppb TVOC |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Setpoint optional passive outputs | 11-1kΩ/0-10kΩ linear |

DUCT SENSORS



| Part code | Description |
|--------------|--|
| GS-CO2-D | Duct Mounted CO ₂ and T Sensor 0-2000ppm |
| GS-CO2-RHT-D | Duct Mounted CO ₂ , RH and T Sensor 0-2000ppm |
| GS-CO2-AQ-D | Duct Mounted CO ₂ , T and AQ Sensor 0-2000ppm |

| Part code | Suffixes (add to part code) |
|-----------|-------------------------------------|
| -T* | Direct resistive temperature output |
| -SP* | 11-1kΩ/0-10kΩ set point |
| -MS* | Momentary switch |
| -LCD | LCD display |
| -5V | Output 0-5Vdc (instead of 0-10Vdc) |
| -HR | 0 to 5000ppm CO ₂ range |
| -BLK** | Black space housing |

| Part code | Accessories |
|-----------|--------------------------------|
| DECOR | Decorators trim plate |
| GASKET | Insulating gasket (pack of 10) |

- Notes:**
- * -T versions use a thermistor element. Please specify type when ordering. When using in space sensors, they are not compensated for self heating. Please see pages 90-93 for Thermistor Types and Compatibility Chart.
 - * Only available on Space Sensor Types.
 - ** Plain front, no user interface option available (SP/MS/LCD)

Data sheets online: www.sontay.com

GS-CO2-x-UN Space Mounted Single Output Carbon Dioxide Sensors

The GS-CO2-x-UN range offers a cost-effective single output for CO₂ measurement. These can also include a combination of familiar passive options such as temperature, set point adjustment, momentary switch and fan speed, plus an LCD display.

A unique feature of the sensor is its ability to automatically detect what sort of controller input it is connected to, 4-20mA or 0-10Vdc, removing the requirement for output jumpers which can be inadvertently set incorrectly. Just connect it to the controller input and it does the rest.

PCB LED indication of which output type is in operation is provided, with diagnostic LED patterns for determining faults.

FEATURES

- Auto-detection 0-10Vdc or 4-20mA output, 3-wire only
- Fully configurable LCD Display
- Resistive temperature output option
- No jumpers or DIP-switches to select output type
- CO₂ self-calibration over full sensor lifetime achieved by ABC logic
- Traffic Light LED indication option



SPACE SENSORS



| Part code | Description |
|-------------|--|
| GS-CO2-S-UN | Space Mounted CO ₂ Sensor 0-2000ppm |

SPECIFICATION

| | |
|-----------------------------------|---|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting |
| CO ₂ accuracy | 400 to 2000ppm, ±25ppm ±3% of CO ₂ |
| Environmental Housing | 0 to 50°C, 0 to 95% RH non-condensing |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | ABS (flame retardant) |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Output range | 0 to 2000ppm |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP30 |
| Setpoint optional passive outputs | 1-11kΩ |
| Weight | 200g |

DUCT SENSORS



| Part code | Description |
|-------------|---|
| GS-CO2-D-UN | Duct Mounted CO ₂ Sensor 0-2000ppm |

SPECIFICATION

| | |
|--------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting |
| CO ₂ accuracy | 400 to 2000ppm ±25ppm ±3% of CO ₂ |
| Environmental Housing | -30 to +60°C 5 to 95% non-condensing |
| Environmental Media | -10 to +50°C |
| Housing Dimensions | 125 x 105 x 85mm |
| Housing Material | PC (Halogen free, flame retardant & UV stabilized) |
| Housing probe | 215 x 20mm dia. |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Output range | 0-2000ppm |
| Power Supply | 24Vac/dc±10% |
| Protection | IP65 |
| Weight | 250g |

| Part code | Description |
|-----------|---|
| -T* | Direct resistive temperature output |
| -SP* | 1-11kΩ set point |
| -MS* | Momentary switch |
| -LCD | LCD display |
| -LED | 3-Colour LED indication for CO ₂ |
| -BLK** | Black Space Housing |

| Part code | Accessories |
|-----------|--------------------------------|
| DECOR | Decorators trim plate |
| GASKET | Insulating gasket (pack of 10) |

- Notes:**
- * -T versions use a thermistor element. Please specify type when ordering. When using in space sensors, they are not compensated for self heating. Please see pages 90-93 for Thermistor Types and Compatibility Chart.
 - * Only available on Space Sensor Types.
 - ** Plain front, no user interface option available (SP/MS/LCD)

Data sheets online: www.sontay.com

GS-CO Space Mounted Carbon Monoxide Sensors

Using latest electro-chemical sensor technology with high repeatability and sensitivity to Carbon Monoxide gases in the ambient air, this sensor ensures accurate and maintenance free operation in residential and commercial environments.

The sensor modules have a catalytic ability to ensure years of operation with no chance of sensor life degradation as known from other electro-chemical sensors. The long life electrochemical Carbon Monoxide sensor makes it ideal for many applications including underground parking, loading bays and warehouses.

FEATURES

- Latest electro-chemical sensor technology with a lifetime up to 10 years
- Easy installation with LED indication, test button and auto output mode detection (3-wire)
- Auto detection 0-10Vdc or 4-20mA outputs, loop powering via DIP
- Direct thermistor options
- Easy installation: 2-part, push-in spring terminal blocks



SPACE SENSORS



| Part code | Description |
|-----------|-------------------------------|
| GS-CO-S | Space Mounted CO and T Sensor |

SPECIFICATION

| | |
|-----------------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting, 4-20mA (2-wire) via DIP |
| Carbon Monoxide output range | 0 to 500ppm |
| Environmental Housing | 0 to +50°C, 0 to 95% RH non-condensing |
| Housing Dimensions | 115 x 85 x 30mm |
| Housing Material | ABS (flame retardant) RAL9003 |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Override optional passive outputs | VFC |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP30 |
| Setpoint optional passive outputs | 11-1kΩ/0-10kΩ linear |
| Temperature Output range | 0 to 40°C |
| Weight | 200g |

DUCT SENSORS



| Part code | Description |
|-----------|------------------------------|
| GS-CO-D | Duct Mounted CO and T Sensor |

SPECIFICATION

| | |
|------------------------------|--|
| Active outputs | 0-10Vdc or 4-20mA (3-wire) self-detecting, 4-20mA (2-wire) via DIP |
| Carbon Monoxide output range | 0 to 500ppm |
| Environmental Housing | -30 to +60°C 5 to 95% non-condensing |
| Environmental Media | -10 to +50°C |
| Housing Dimensions | 125 x 105 x 85mm |
| Housing Material | PC (Halogen free, flame retardant & UV stabilized) |
| Housing probe | 215 x 20mm dia. |
| Optional passive output | PTC/NTC Element Any Sontay resistive type |
| Power Supply | 24Vac/dc ±10% |
| Protection | IP65 |
| Temperature Output range | 0 to 40°C |
| Weight | 250g |

| Part code | Description |
|-----------|---|
| -T | Direct resistive temperature output |
| -SP | 11-1kΩ/0-10kΩ setpoint |
| -MS | Momentary switch |
| -TR | Custom temperature output range -20 to 50°C |
| -5V | Output 0-5Vdc (instead of 0-10Vdc) |
| -BLK | Black Space Housing |

| Part code | Accessories |
|-----------|--------------------------------|
| DECOR | Decorators trim plate |
| GASKET | Insulating gasket (pack of 10) |

Notes:

- * -T versions use a thermistor element. Please specify type when ordering. When using in space sensors, they are not compensated for self heating. Please see pages 90-93 for Thermistor Types and Compatibility Chart.
- * Only available on Space Sensor Types.
- ** Plain front, no user interface option available (SP/MS/LCD)

IMPORTANT
The sensor is not designed, manufactured or intended for use or re-sale as control or monitoring equipment in environments requiring life safety performance, in which the failure of the sensor could lead directly to death, personal injury, or severe physical or environmental damage. Sontay and its suppliers specifically disclaim any express or implied warranty of fitness for life safety, and its suppliers specifically disclaim any express or implied warranty of fitness for life safety.

Data sheets online: www.sontay.com

GS-CO-P Carbon Monoxide Car Park Sensor



High-performance electro-chemical sensor technology ensures precise, repeatable carbon monoxide detection with exceptional long-term stability.

FEATURES

- 4-20mA or 0-10Vdc output, optional Modbus
- Replaceable electro-chemical cell, operating life up to 6 years
- Selectable CO ranges
- Selectable response times
- Optional relays, buzzer and LCD

| Part code | Description |
|-----------|---|
| GS-CO-P | Wall mounted Carbon Monoxide Sensor 0-10Vdc or 4-20mA Output, Multi Range Selectable: 0 to 100ppm, 300ppm, 500ppm & 1000ppm |



SPECIFICATION

| | |
|------------------------|---|
| Consumption | ±50ppm +3% of reading |
| Outputs | AO1: 4-20mA, 500Ω max. AO2: 0-10Vdc, 1000Ω max. Modbus: RTU (optional) Relay: 24Vac @ 1A |
| Electrical connections | 1.5mm² max. |
| Output ranges | 0 to 100ppm, 0 to 300ppm, 0 to 500ppm, 0 to 1000ppm |
| Accuracy | ±3% full scale |
| Sensor: | T90 <50 seconds, Life >6 years expected Drift <5% per year, Resolution 1ppm Repeatability <±2%, Base line <5ppm |
| Coverage | 762 to 2286m² typical |
| Protection | IP65 |
| Country of origin | UK |

| Part code | Description |
|-----------|--------------|
| -M | Modbus |
| -LCD | LCD display |
| -R1 | Relay x 1 |
| -R2 | R2 Relay x 2 |
| -B | Buzzer |

GS-S Gas Sensors



The GS-S range of 4-20mA loop powered gas sensors are fitted into a robust housing, to detect the following gases:

- Nitrogen dioxide (NO₂)
- Oxygen (O₂)
- Sulphur dioxide (SO₂)

FEATURES

- 4-20mA output
- Wide supply voltage range, 10 to 30Vdc
- Loop powered
- Tamperproof lid
- Excellent long term stability

SPECIFICATION

| | |
|-----------------------|--|
| Environmental Housing | -30 to +50°C, 15 to 90% RH non-condensing |
| Housing Material | ABS (flame retardant) only for internal mounting |
| Output | 4-20mA |
| Protection | IP65 |
| Supply | 7.5 to 35Vdc |
| Weight | 160g |

| Part code | Range |
|--|--|
| CO - Carbon Monoxide | |
| GS-S-CM-100 | CO ₂ - Carbon Monoxide Sensor 0-100ppm |
| GS-S-CM-1000 | CO ₂ - Carbon Monoxide Sensor 0-1000ppm |
| NO₂ - Nitrogen Dioxide Sensors | |
| GS-S-ND10 | NO _{a2} - Nitrogen Dioxide Sensors |
| O₂ - Oxygen Sensor | |
| GS-S-OX25 | O ₂ - Oxygen Sensor |
| SO₂ - Sulphur Dioxide Sensor | |
| GS-S-SD20 | SO ₂ - Sulphur Dioxide Sensor |



SD-D Duct Smoke Detector



The SD-D provides relay outputs on the detection of smoke or fault conditions. The alarm output relay can be either manual or auto reset.

FEATURES

- Manual or auto reset
- Fault relay output
- Self-test feature

SPECIFICATION

| | |
|-----------------------|--|
| Duct Size | 100 x 320mm (min.) 450 x 450mm (max.) |
| Environmental Housing | -30 to 60°C, 20 to 80% RH non-condensing |
| Environmental Media | 10 to 40°C |
| Housing Dimensions | 125 x 105 x 85mm |
| Housing Material | PC (Halogen Free Flame Retardant, UV stabilized) |
| LED indication | On in alarm |
| Probe Dimensions | 300 x 20mm dia. |
| Probe Material | Plastic |
| Protection | IP65 |
| Relay output | SPST 2A @48V (smoke & fault) |
| Reset | Manual or Auto rest (selectable) |
| Supply | 24Vac/dc ±20% |
| Weight | 350g |

| Part code | Description |
|-----------|---------------------|
| SD-D | Duct Smoke Detector |



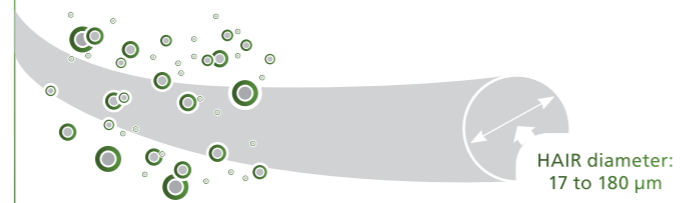
Data sheets online: www.sontay.com

PM2.5 & PM10

Room Particulate Matter Sensing

How to improve the health and wellbeing of building occupants indoors.

THE HUMAN BODY CAN BE NEGATIVELY AFFECTED BY FINE DUST UNSEEN BY THE HUMAN EYE



| Fine dust particles in proportion | | | |
|-----------------------------------|---|-----------------------|---|
| PM10* | ● | 10+ µm diameter | [Blocked by nose] |
| PM5.0 | ● | 2.5 to 10 µm diameter | [Blocked in mouth and throat] |
| PM2.5 | • | 2.5 µm diameter | [Can penetrate deep into the lungs, causing lung and cardiovascular diseases] |

The fine dust particles enter the nose, mouth and throat to cause breathing difficulties. Those particles can even penetrate deep into the lungs, can cause lung cancer and cardiovascular diseases.

WHERE DO INDOOR PM2.5 AND PM10 POLLUTANTS COME FROM?

Our indoor air quality can be impacted by many things. From outdoor air pollution coming in, to our activities indoors. Things like, cooking, cleaning, or even burning a candle can create particulate matter.



HOW CAN YOU IMPROVE INDOOR AIR QUALITY AND REDUCE PARTICULATE MATTER?

There are many ways that you can improve your air quality, and this is where monitoring levels can really help!

If your indoor air quality is poor and you know your outdoor air quality is good, the simple way to improve air quality would be to introduce fresh air from outside. However, **if the air quality outside is not good**, you would not want to introduce more particulate matter into the indoor environment. **You could then look at processes such as filtering and cleaning the air using many devices or systems available.**

The most effective filter against particulate matter is HEPA. You can also help to improve or prevent poor indoor air quality by paying attention to things like cleanliness, activities and products being used that emit particulate matter. Things like vacuuming regularly, using safer cleaning products, not smoking or removing coats or clothing worn when smoking outside can all have an impact in levels.

HOW CAN WE REDUCE OVERALL PARTICULATE MATTER?

This is down to us and the way we live our lives. We can all make small changes in things that we do that when multiplied amongst all of us can help to make a big difference.

The Building Controls industry has a great opportunity to be part of the difference. Take a look at the BCIA "One Small Change" campaign to see how we can all play our part. <https://bcia.co.uk/news/one-small-change-one-big-difference/>

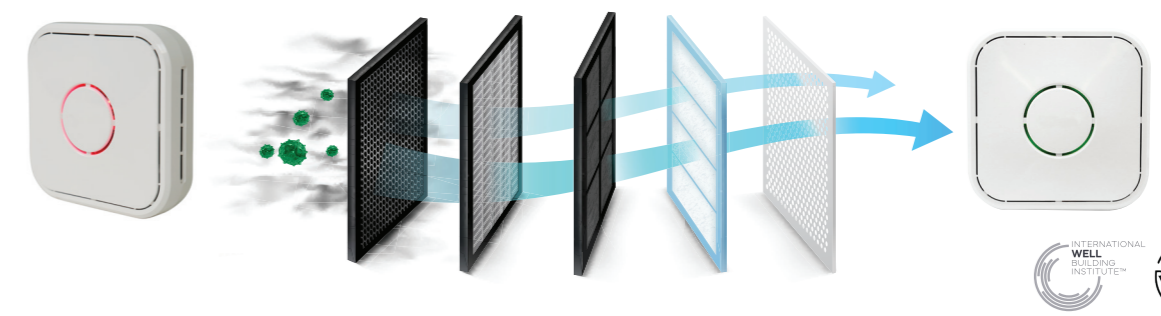


Data sheets online: www.sontay.com

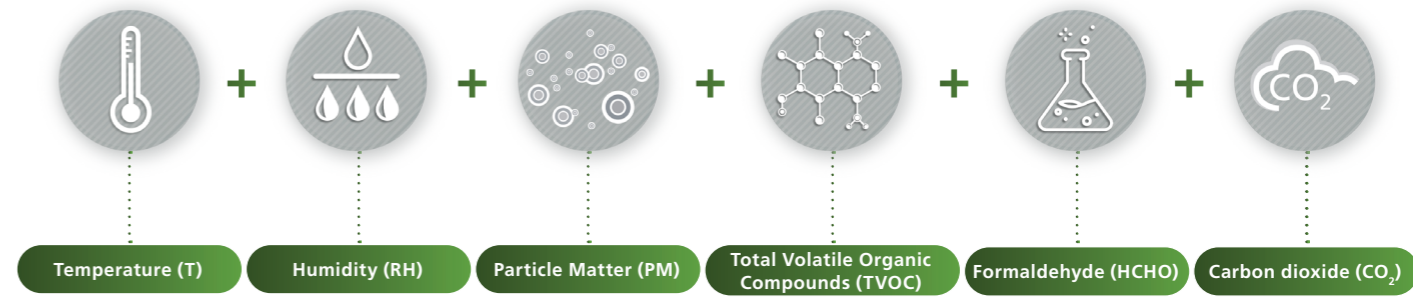
PM2.5 & PM10

PM2.5 & PM10 Sensing with the GS-PM and GS-IAQ Ranges

It is proven that particulate matter such as PM2.5 and PM10 particles can have major health impacts to us all when breathed in over a long term. We all know that pollution from things like road traffic and industry can reduce our overall air quality and have seen in recent years that there are links between quality and poor air.



MONITORING PARTICULATE MATTER



>>> It is proven that particulate matter such as PM2.5 and PM10 particles can have major health impacts to us all when breathed in over a long term. <<<

| APPLICATIONS | BENEFITS |
|------------------|--|
| Offices | Air purifying and ventilation to reduce fatigue and tiredness, resulting in higher productivity and better business results. |
| Schools | Filtering viruses and harmful matter to enhance health and wellbeing of pupils, resulting in improved academic results. |
| Hospitals | Controlling temperature and filtering viruses in air pollution, creates a break in cycle of secondary infections leading to increased recovery results. |
| Public buildings | Real time measurements of hazardous gases and filtering of harmful air pollutants to avoid mass outbreaks of illnesses. |
| Transport | High air pollution levels for commuters entering and exiting of vehicles may effect wellbeing. Monitoring and controlling pollutants demonstrates consideration to their health and wellbeing. |

Data sheets online: www.sontay.com

Air Quality & Gas Sensing

GS-PM Particulate Matter Sensor



SPECIFICATION

| | |
|---------------------------|--|
| Output | Modbus RTU 38400 baud rate |
| Power Supply | 24Vac/dc ±10% |
| Current Consumption | 1.2W (1200mA) |
| Warm Up Time | 60 seconds |
| PM2.5 Output Ranges | 0 to 600µg/m³ |
| Humidity Output ranges | 0 to 100%RH |
| Temperature Output range | -20 to +50°C |
| PM2.5 Accuracy | ±10µg/m + 10% of reading @ 15-35°C, 20-80%RH |
| Humidity Accuracy | <±3%RH (20-80%RH) |
| Temperature Accuracy | <±0.5°C @ 25°C |
| Operational life PM2.5 | >5 years (Avoid dust and bright lights) |
| Environmental temperature | 0 to 60°C |
| Environmental humidity | 5 to 95% non-condensing |
| Housing Material | PC/ABS |
| Housing Dimensions | 85 x 130 x 36.5mm |

| Part code | Description |
|-----------|---|
| GS-PM-S | Wall mount PM2.5, T and RH sensor with 6 colour LCD |

The GS-PM-S is for PM2.5, humidity and temperature measurement, they can be monitored via the Modbus RTU output or via the 6-colour LCD. The PM2.5 display reading is an average value of PM2 updated hourly, humidity & temperature measurements are real time. PM2.5 is sensed via a laser particle sensor, light scattering method, making these suitable for homes, offices, small ventilation systems etc.

Using unique technology of compensating method, and up to nine calibration points, to guarantee GS-PM-S measurements accuracy in different environments. PM2.5 display reading is an average value of PM2 updated hourly, humidity & temperature measurements are real time. PM2.5 is sensed via a laser particle sensor, light scattering method, making these suitable for homes, offices, small ventilation systems etc.

FEATURES

- Real time indoor PM2.5 via optical IR LED
- Compensating automatic re-calibration
- Humidity & temperature measurement
- Backlit 6 level LCD to indicate PM2.5 concentration levels
- Modbus RTU output

GS-PM-D Duct Mounted PM2.5, Humidity & Temp. Sensor



SPECIFICATION

| | |
|-------------------------|--|
| Outputs | Modbus RTU 9600 8NI (default) |
| Power Supply | 12-28Vdc or 18-27Vac |
| Current consumption | 2-15m/s |
| Air speed (within duct) | 60 seconds |
| Output ranges | PM2.5/10 0 to 500µg/m³ |
| | CO ₂ 0 to 2000ppm |
| | TVOC 0.01 to 4.00mg/m³ |
| | Humidity 0 to 99%RH |
| | Temperature -20 to +60°C |
| Accuracy | PM2.5 ±5µg/m + 10% of reading {0 to 300µg/m³ 10-30°C, 10-60%RH} |
| | CO ₂ ±50ppm + 3% reading |
| | TVOC <±0.05 mg/m³ + 15% of reading |
| | Humidity <±3.5%RH (10-60%RH) |
| | Temperature <±0.5°C@25°C |
| Environmental | Temperature -20 to 60°C |
| | Humidity 0 to 95% non-condensing |
| Housing | Material PC |
| | Dimensions 180 x 125 x 65.5mm |
| Pitot tube | 240 x 30.4mm dia. |
| Protection | IP30 |
| Certification | RESET, WELL |

| Part code | Description |
|-----------|---|
| GS-PM-D | Duct PM2.5, CO ₂ , TVOC, RH and T sensor |

The GS-PM-D is for PM2.5, humidity and temperature measurement, they can be monitored via the Modbus RTU output or via the 6-colour LCD. The PM2.5 display reading is an average value of PM2 updated hourly, humidity & temperature measurements are real time. PM2.5 is sensed via a laser particle sensor, light scattering method, making these suitable for homes, offices, small ventilation systems etc.

Using unique technology of compensating method, and up to nine calibration points, to guarantee GS-PM-D measurements accuracy in different environments. cle sensor, light scattering method, making these suitable for homes, offices, small ventilation systems etc.

FEATURES

- Real time indoor PM2.5 via optical IR LED
- Compensating automatic re-calibration
- Humidity & temperature measurement
- Backlit 6 level LCD to indicate PM2.5 concentration levels
- Modbus RTU output

GS-IAQ Indoor Air Quality Monitor



SPECIFICATION

| | |
|-------------------------------|-----------------------------------|
| Certification | RESET, Grade B WELL |
| CO ₂ Accuracy | ±50ppm +3% of reading |
| CO ₂ Output ranges | 0 to 5000ppm |
| Current Consumption | 1.9W (80mA) |
| Electrical connections | Rising cage to suit 0.2 to 1.5mm² |
| Environmental humidity | 5 to 90% non-condensing |
| Environmental temperature | 0 to 50°C |
| HCHO Accuracy | ±0.005 µg/m³ +5% of reading |
| HCHO Output ranges | 0 to 0.6mg/m³ |
| Housing Dimensions | 130 x 130 x 45mm |
| Housing Material | PC/ABS |
| Humidity Accuracy | <±4%RH (20-80% RH) |
| Humidity Output ranges | 0 to 99%RH |
| PM10 Output ranges | 0 to 800µg/m³ |
| PM2.5 Accuracy | 10% of reading, 0-300µg/m³ |
| PM2.5 Output Ranges | 0 to 500µg/m³ |
| Power Supply | 12-28Vdc or 18-27Vac |
| Protection | IP20 |
| Temperature Accuracy | <±0.6°C @ 25°C |
| Temperature Output range | -20 to +60°C |
| TVOC Accuracy | ±0.5µg/m³ +10% of reading |
| TVOC Output ranges | 0 to 3.5mg/m³ |

| Part code | Description |
|-----------|--|
| GS-IAQ-S | PM2.5/10, TVOC, HCHO, CO ₂ , RH & Temp. Monitor |

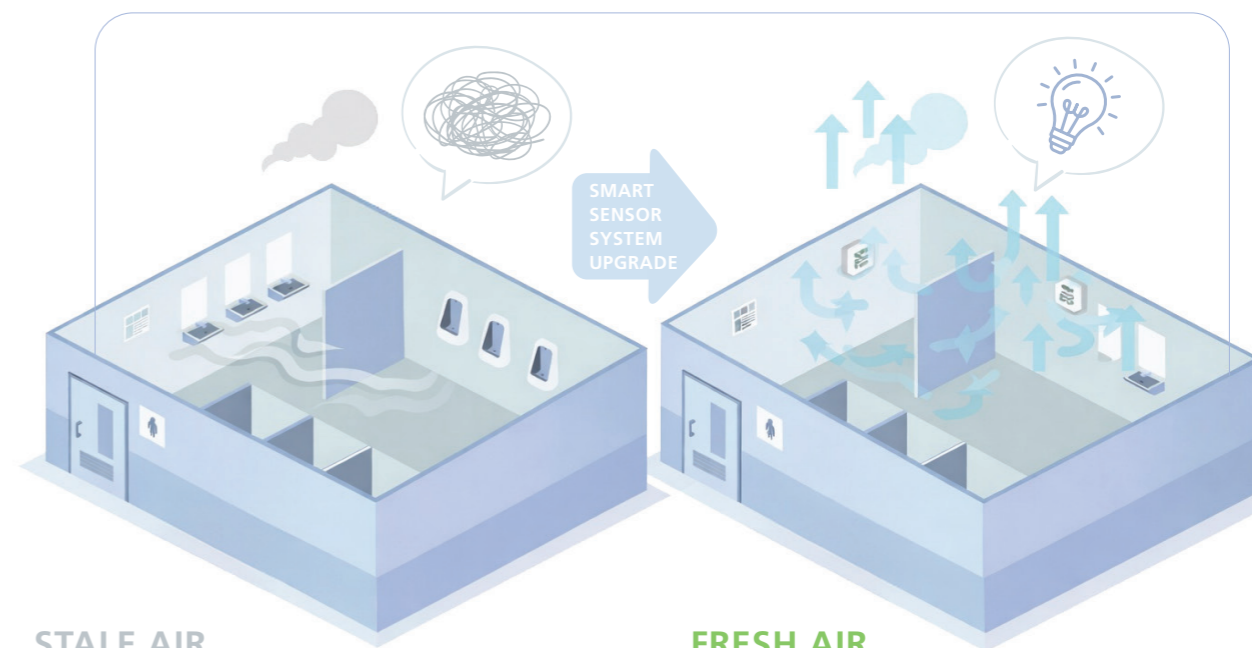
The GS-IAQ-S measures multiple different sensors types for all-round indoor air quality. Sensor types include is for PM2.5, PM10, TVOC, HCHO, CO₂, humidity & temperature measurement. All can be monitored via the Modbus RTU output, there is also a 3-colour LED ring indicating different indoor air quality levels.

A built-in large flow bearing blower and the control technology of a utomatic constant flow, the GS-IAQ-S has the much higher and long-term operation stability and life.

FEATURES

- Real time indoor air quality monitoring
- Multiple sensors, PM2.5, PM10, TVOC, HCHO, CO₂, humidity & temperature
- Three colour light ring indicating indoor air quality levels
- Ceiling or wall mounted
- Modbus RTU output

From Stagnant to Smart Airflow



STALE AIR

- Low Productivity
- High Energy Cost
- Health Issues (Headaches, Fatigue)

FRESH AIR

- Enhanced Productivity
- Reduced Energy Cost
- Improved Well-being (Focus, Comfort)

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