



# GAS SAFETY IN EVERY ENVIRONMENT.

**The UK's leading designer, manufacturer and supplier of  
the latest range of gas safety products.**

Ranges include; gas ventilation and gas interlock systems for use in commercial kitchens, gas pressure proving systems and gas detection systems for school laboratories and boiler houses.  
Designed and manufactured in the UK.



40+ Years Industry Experience



Easy to Install Solutions



3 Year Product Warranty



24/7 Tech Back Up



Fully Trained Sales Engineers



Express Delivery Available

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SCIENCE LAB



BOILER ROOM

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DETECTORS



WATER LEAK



ANCILLARIES

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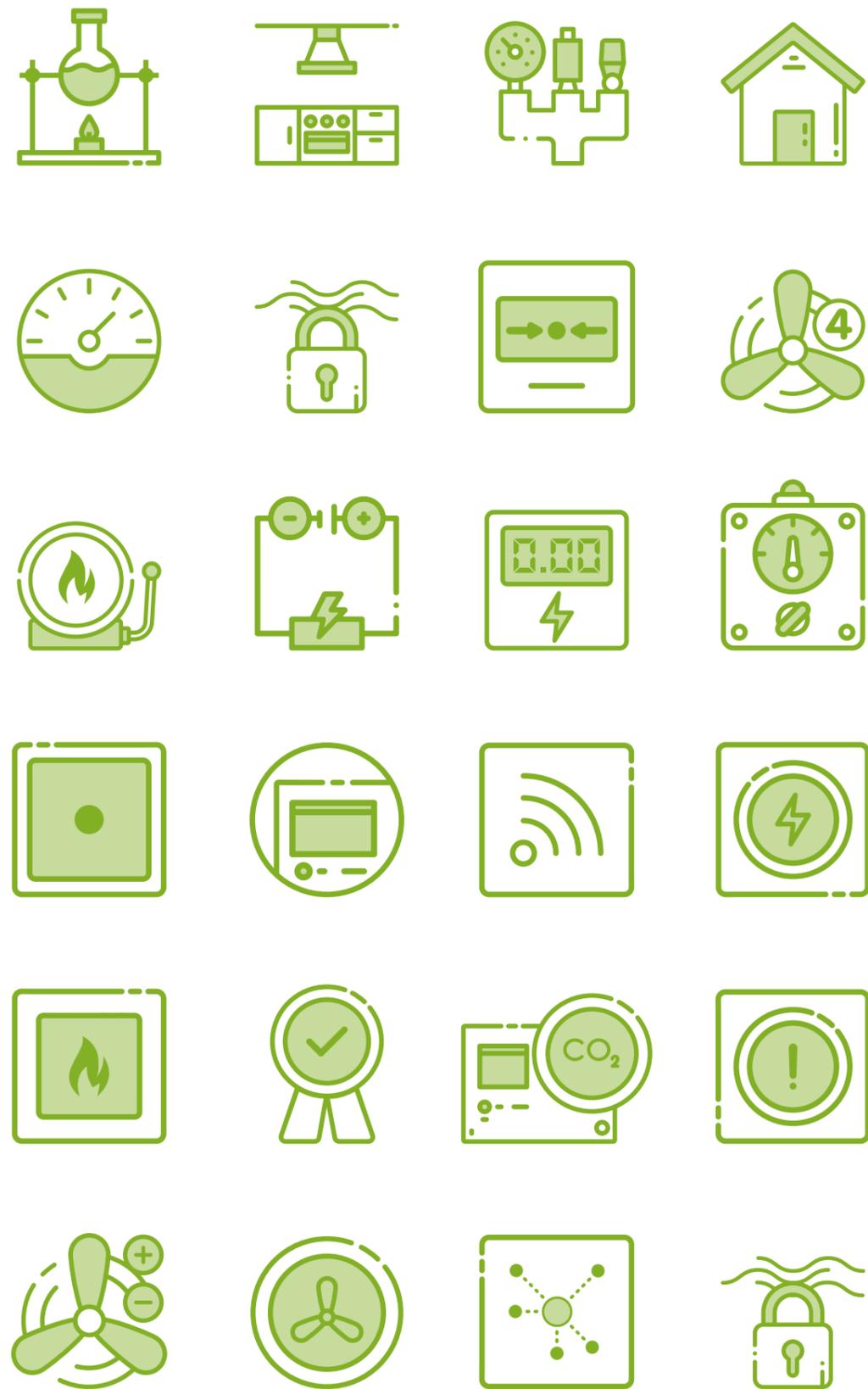
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# Product key features

The benefits of each of our products are illustrated in an icon format throughout this brochure, aiding you to select the product and design features most suited for your requirements.

The icons are located at the top of each product page with accompanying detail for ease of reference and comparison of the solutions we have available.

If you have any questions about any products and their features please contact [info@snsnorthern.com](mailto:info@snsnorthern.com).



### Kitchens

S&S Northern have a range of gas interlock and environmental monitors to meet all of the latest gas and ventilation regulations for commercial kitchens. We have industry leading range of products, from a simple gas interlock system to our advanced demand controlled kitchen ventilation systems and environmental monitors.



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# Merlin 3000S System



ENERGY SAVING  
DEMAND  
CONTROLLED  
VENTILATION  
SYSTEM



The Merlin 3000S energy saving system is a combined demand controlled ventilation system with built in gas interlock and optional gas proving.

The 3000S system automatically adjusts the speed of the ventilation based on the kitchen environment.

The ventilation is automatically controlled based on the carbon dioxide levels, smoke/steam present in the canopy, carbon monoxide, real time gas usage and temperature.

This system can offer large financial savings and short payback periods for any commercial kitchen.

#### Additional features

Saves energy by varying the ventilation speed via 0-10v DC output. This reduces manual ventilation control.

OFTEN  
USED  
WITH

Gas Solenoid  
valve  
Page 50

PM2+ Current  
Monitor  
Page 52

CO2-X  
Page 38

Carbon  
Monoxide  
detectors  
Page 32

Optical Sensor  
Page 53

Duct  
Thermostat  
Page 54

TBX Gas Meter  
Page 55

Inverter  
Page 54

\*Please note before ordering the ventilation system / inverter must accept a 0-10v DC control signal.

# Merlin CT1750 System



OFTEN  
USED  
WITH

Gas Solenoid  
valve  
Page 50

PM2+ Current  
Monitor  
Page 52

CO2-X  
Page 38

Carbon  
Monoxide  
detectors  
Page 32

Inverter  
Page 54



The Merlin CT1750 System is a gas interlock and manual ventilation control system designed for commercial kitchens. The Merlin CT1750 System comes with two variable fan speed controllers (0-10V output) to control the speed of 2 fans via an inverter.

The Merlin CT1750 System works with carbon dioxide monitors and carbon monoxide detectors to increase the speed of the ventilation when these gases are present, both in and out of working hours.

\*Please note before ordering the ventilation system / inverter must accept a 0-10v DC control signal.

Commonly used in kitchens with solid fuel appliances.

#### Additional features

Can control the ventilation via 0-10V output.

\*Transmitter supplied separately

SOLID FUEL  
GAS SAFETY  
SYSTEM

# Merlin CT1650+ System



Monitor up to four fans

Built in LCD current monitors

Suitable with both single phase and three phase fans

Designed to BS6173 & IGEM/UP19 standards

Fire Alarm Input & BMS output

## INTELLIGENT CURRENT MONITORING INTERLOCK SYSTEM



The Merlin CT1650+ System is a current monitoring interlock system for commercial kitchens. This comes with two built in intelligent current monitors.

The Merlin 1650+ has the facility to interlock with two additional fans via remote current monitors PM2+ / CS1-2) or air pressure differential switches. The 1650+ is commonly used with a carbon dioxide monitor.

### Additional features

- Intelligent Current Monitors to set "high" and "low" parameters.
- Current Monitors parameters 0.2amp to 20amp.
- Adjustable sensitivity threshold to reduce nuisance drop outs.
- Fan start stop output (12v output when on).

### OFTEN USED WITH

Gas Solenoid valve  
Page 50

CO2-X  
Page 38

Emergency Stop  
Page 48

Speed Controller  
Page 55

# Merlin CT1250X System



Monitor up to four fans

Built in LCD current monitors

Suitable with both single phase and three phase fans.

Designed to BS6173 & IGEM/UP19 standards

Fire Alarm Input & BMS Output

### OFTEN USED WITH

Gas Solenoid valve  
Page 50

Emergency Stop  
Page 48

Speed Controller  
Page 55



The Merlin CT1250X System is a current monitoring interlock system for commercial kitchens. This comes with two built in intelligent current monitors.

The Merlin CT1250X has the facility to interlock with two additional fans via remote current monitors (CS1-2) or air pressure differential switches.

### Additional features

- Intelligent Current Monitors to set "high" and "low" parameters.
- Current Monitors parameters 0.2amp to 18amp.
- Adjustable sensitivity threshold to reduce nuisance drop outs.

## CURRENT MONITORING INTERLOCK SYSTEM

# Merlin CT1200S System

-   
 Monitor up to two fans
-   
 Integral Emergency Stop
-   
 Designed to BS6173 & IGEM/UP19 standards
-   
 Fire Alarm Input & BMS output

**GAS INTERLOCK SYSTEM  
(2 FAN INPUTS)**



The Merlin CT1200S System is a gas interlock system for commercial kitchens. This can monitor ventilation using air pressure differential switches or external current switches.

**Additional features**

- Facility to interlock using current switches or air pressure differential switches.
- 10 Second Nuisance Tripping Delay

- OFTEN USED WITH
- Gas Solenoid valve  
**Page 50**
  - Air Pressure Differential Switch  
**Page 50**
  - Emergency Stop  
**Page 48**
  - Speed Controller  
**Page 55**

# Merlin 2000X System

-   
 Monitor up to four fans
-   
 Built in LCD current monitors
-   
 Gas proving feature\*
-   
 Designed to BS6173 & IGEM/UP19 standards
-   
 Fire Alarm Input & BMS Output
-   
 External gas detector

- OFTEN USED WITH
- Gas Solenoid valve  
**Page 50**
  - Merlin CO2-X  
**Page 38**
  - Merlin Gas Detectors  
**Page 32**
  - PM2+ Current Monitor  
**Page 52**
  - Air Pressure Differential Switch  
**Page 50**



The Merlin 2000X is a ventilation interlock and gas proving system for commercial kitchens and includes two built in intelligent current monitors.

The Merlin 2000X comes with a gas pressure transmitter included for commercial kitchens where gas appliances don't have lame failure devices. The Merlin 2000X System works with external current monitors or air pressure differential switches, the system can also interface with various gas detectors.

**Additional features**

- Intelligent Current Monitors to set "high" and "low" parameters.
- Current Monitors parameters 0.2amp to 20amp.
- Adjustable sensitivity threshold to reduce nuisance drop outs.
- Fan start stop output (12v output when on).
- Facility to interlock using external current switches or air pressure differential switches (4 fans)
- Works with gas detectors and Carbon monoxide monitors
- \*Transmitter included

**GAS PROVING SYSTEM  
(4 FAN INPUTS)**

### Science Lab

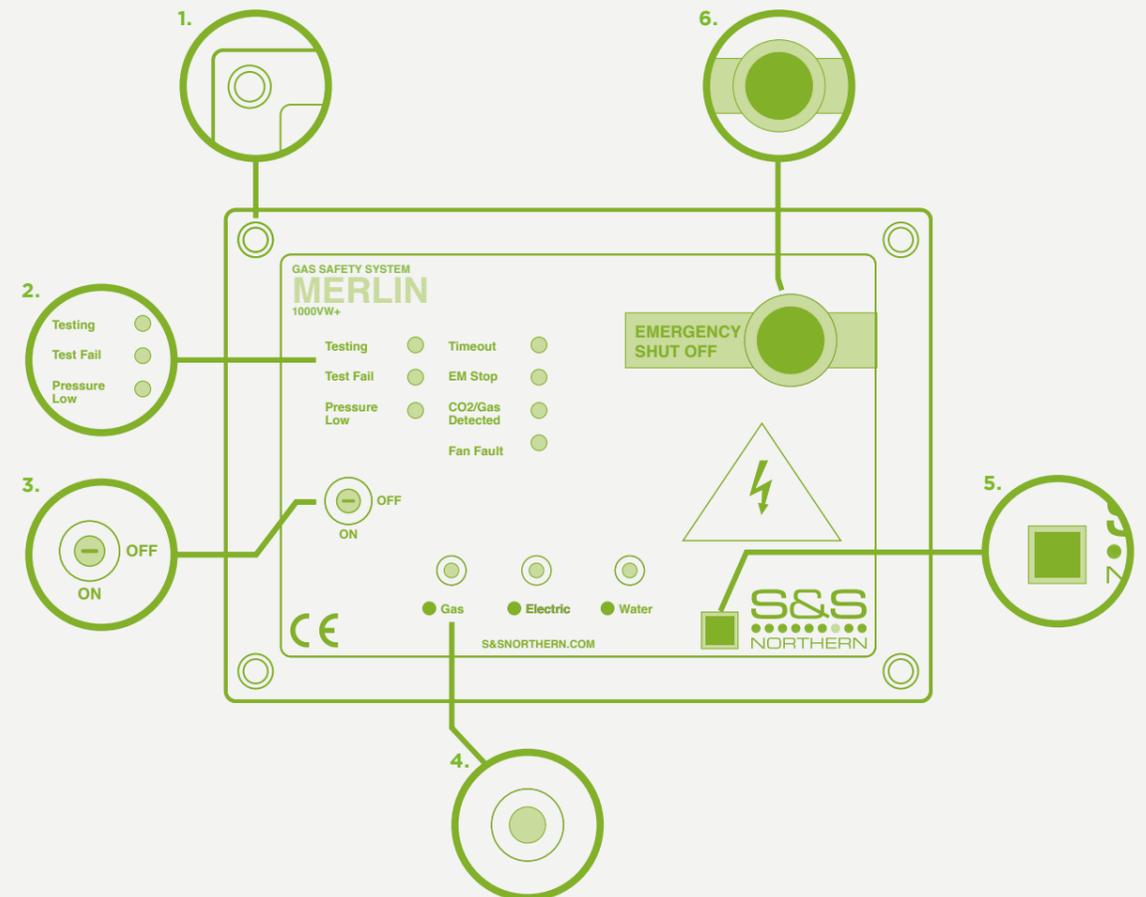
S&S Northern have a range of gas proving systems for educational establishments. Our systems protect Laboratories, food tech and design tech classrooms. We also have products that protect laboratories that have speciality or high pressure gases.



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**COMPACT,  
ROBUST &  
RELIABLE**

## Gas pressure proving systems



- ✓ Incredibly easy to use and install
- ✓ Adjustable time out facility
- ✓ Industrial grade polycarbonate material to withstand daily use
- ✓ Meets IGEM/UP11

### 1. Modern design

Slim compact enclosure

### 2. Clear status indication

For each utility

### 3. Quick operation

Keyed authority ON/OFF Alarm reset

### 4. Robust control

Touch sensitive buttons

### 5. Ease of access

Power indication and QR code for easy access to manuals

### 6. Emergency stop button

Recessed panic button eliminates accidental shut down

# Merlin 1000 VW+



Ventilation interlock



Integral Emergency Stop



Isolates gas, water and electric (via contactor)



Designed to IGEM/UP11 standards



Fire Alarm Input & BMS Output



Gas proving feature\*

GAS PROVING,  
ELECTRIC  
& WATER  
ISOLATION, FAN  
INTERLOCK



The Merlin 1000VW+ gas pressure proving, electric and water isolation system is designed specifically for use in educational buildings and Laboratories. The 1000VW+ can also interlock any mechanical ventilation.

#### Additional features

- Facility to interlock with the ventilation units.
- Gas valve output
- Low Pressure Monitoring for incoming gas supply
- Works with Carbon Dioxide Monitor

\*Gas pressure transmitter included

OFTEN  
USED  
WITH

Gas Solenoid  
valve  
**Page 50**

Water Solenoid  
Valve  
**Page 51**

Merlin CO2-X  
**Page 38**

Air Pressure  
Differential  
Switch  
**Page 50**

# Merlin 1000V+



Ventilation interlock



Integral Emergency Stop



Isolates gas and electric (via contactor)



Designed to IGEM/UP11 standards



Fire Alarm Input & BMS Output



Gas proving feature\*

OFTEN  
USED  
WITH

Gas Solenoid  
valve  
**Page 50**

Merlin CO2-X  
**Page 38**

Air Pressure  
Differential  
Switch  
**Page 50**

Emergency  
Stop  
**Page 48**



The Merlin 1000V+ gas pressure proving and electric isolation system is designed specifically for use in educational buildings and Laboratories with ventilation interlocking between the ventilation system and the gas solenoid valve. The system is compatible with external current monitors or air pressure differential switches in order to interlock with the ventilation units.

#### Additional features

- Facility to interlock with ventilation units.
- Gas valve output
- Low Pressure Monitoring for incoming gas supply
- Works with Carbon Dioxide Monitor

GAS PROVING,  
ELECTRIC  
ISOLATION, FAN  
INTERLOCK





## Boiler Room

S&S Northern have a solution for every commercial Plant room application. We offer a wide range of control panels, gas detectors, heat sensors and gas solenoid valves. Whether your project is a small residential application or a large scale plant room we have the knowledge and experience to offer the perfect products. Remote monitoring, Modbus and data logging are available on our GDPX Range.

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# Merlin GDPX+

-   
 Remote monitoring LAN connection
-   
 Integral Emergency Stop
-   
 Meets all latest standards
-   
 In built fire alarm bypass mode
-   
 Gas proving feature\*
-   
 Connections for BMS and Modbus outputs

**GAS PROVING & DETECTION WITH REMOTE MONITORING (16 DETECTORS)**



The Merlin GDPX+ is a multi-zone gas detection panel which can be used in many applications such as boiler house/ Plant rooms, factories, car parks and high rise. It can be used with up to 16 Merlin gas detectors for monitoring and detecting gas including carbon monoxide, LPG, Natural Gas, Oxygen and Hydrogen.

The GDPX+ can be remotely monitored from [www.snsnorthern.com](http://www.snsnorthern.com) so you can monitor the status of your sites from your computer or smartphone.

**Additional features**

- Internet enabled (LAN)
- Remote monitoring LAN connection using [snsnorthern.com](http://snsnorthern.com) portal
- Can be used with up to 16 gas detectors
- Connections for heat detectors/thermal links
- Two spare Input Connections (for additional detectors, fans, equipment)

\*Gas pressure transmitter included

**OFTEN USED WITH**

- Gas Solenoid valve **Page 50**
- Natural Gas – X Detector **Page 37**
- Carbon Monoxide – X Detector **Page 37**
- LPG – X Detector **Page 37**
- Fusible Link **Page 49**
- Emergency Stop **Page 48**

# Merlin GDP2X

-   
 Integral Emergency Stop
-   
 Meets all latest standards
-   
 Fire alarm input
-   
 Connections for heat detectors/thermal links

**OFTEN USED WITH**

- Gas Solenoid valve **Page 50**
- Natural Gas – X Detector **Page 37**
- Carbon Monoxide – X Detector **Page 37**
- LPG – X Detector **Page 37**
- Fusible Link **Page 49**
- Emergency Stop **Page 48**



The Merlin GDP2X is a 2 zone gas detection panel it can be used with up to 8 Merlin gas detectors (model X) for monitoring and detecting gas including carbon monoxide, LPG, Natural Gas, Oxygen and Hydrogen.

**Additional features**

- Gas valve output
- Can be used with up to 8 gas detectors
- Connection for sounder/strobe

**GAS DETECTION (8 DETECTORS)**

# Merlin 1000BH

-   
Integral  
Emergency  
Stop
-   
Meets all latest  
standards
-   
Gas proving  
feature\*
-   
Connections for  
heat detectors/  
thermal links



The Merlin 1000BH is a gas pressure proving and gas detection panel for use in plant rooms and boiler houses. This panel is to be used to carry out a gas proving test on the pipe work in order to highlight if there is a gas appliance open or a gas leak. The Merlin 1000BH is designed to give the user full control over the incoming gas supply with the lockable keyswitch operation.

- Additional features**
- Gas valve output
  - Can be used with two gas detectors
  - Connections for BMS
- \*Gas pressure transmitter included

**OFTEN USED WITH**

- Gas Solenoid valve  
**Page 50**
- Natural Gas Detector  
**Page 36**
- Carbon Monoxide Detector  
**Page 36**
- LPG Detector  
**Page 36**
- Fusible Link  
**Page 49**
- Emergency Stop  
**Page 48**

# Merlin GDP2

-   
Integral  
Emergency  
Stop
-   
Meets all latest  
standards
-   
Connections for  
heat detectors/  
thermal links

**OFTEN USED WITH**

- Gas Solenoid valve  
**Page 50**
- Natural Gas Detector  
**Page 36**
- Carbon Monoxide Detector  
**Page 36**
- LPG Detector  
**Page 36**
- Fusible Link  
**Page 49**
- Emergency Stop  
**Page 48**



The Merlin GDP2 is a two zone gas detection panel which can be used in many applications such as factories, car parks, shopping centres and most commonly - boiler houses.

- Additional features**
- Gas valve output
  - Can be used with up to 6 gas detectors
  - Connections for BMS
  - Connection for sounder/strobe



# Merlin 500S



Clear digital display for system indications



Meets all latest standards



Connections for heat detectors/thermal links

## UTILITY ISOLATION PANEL



The Merlin panel is designed to provide the user with an effective means of isolating the utility, via a key switch or in the event of an emergency, by operation of the emergency shut off button. The 500S has a fascia mounted emergency shut off button fitted as standard and the fascia mounted LEDs give simple and concise information to the operator. The panel is fully compatible with S&S Northern remote emergency stop terminals allowing a large number of emergency terminals to be connected in series and wired back to the panel.

### Additional features

- Easy installation
- Covered by S&S Northern Ltd 3 year warranty

### OFTEN USED WITH

Gas Solenoid valve  
Page 50

Fusible Link  
Page 49

Emergency Stop  
Page 48



## Detectors

S&S Northern manufacture a wide range of gas detectors for monitoring air quality, toxic gases, explosive and flammable gases. They are designed to be easy to install and maintained. Each target gas has unique characteristics and therefore the detector needs to be installed to suit the target gas, please contact us or have a look on our website for mounting height information and advice on installation.



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# Detector-iS



Clear digital display



Automatic alarm



24VAC/DC powered.



Fan controller enabled relay output



Traffic Light Indication Display



Automatic alarm



24VAC/DC powered.



Fan controller enabled relay output

GAS DETECTOR WITH VARIABLE OUTPUTS SUITABLE FOR BMS INTERFACE - TFT SCREEN



The Detector iS range is used in various applications such as boiler/ plant rooms, hospitals, laboratories and high rise buildings. These sensors are specifically built to work with all Merlin control panels and can also be used direct with BMS control panels.

The clear digital display allows the user to clearly see the current gas levels and the traffic light indicator will summarise the gas levels - Green Safe, Yellow - Attention, Red - Danger

#### Gases Available:

Natural Gas, Carbon Monoxide, LPG, CO<sub>2</sub>, Oxygen, NO<sub>2</sub>, Hydrogen

#### Additional features

- 24VAC/DC
- PPM/LEL on TFT screen with Traffic Light Colours
- Audible Alarm
- 2 x Relay Output: 1 x Pre Alarm, 1 x Alarm
- 1 x CL Connection for GDP Range
- 0-10V output linear scale to full range
- End of Life Reminder

CO<sub>2</sub> Version available as above with the following additions:

- 1 x Dipswitch to change linear 0-10V output between 2 ranges: 1-2000ppm and 0-5000ppm
- 2 x Dipswitches for Alarm Settings - 1000ppm, 1500ppm, 2800ppm and 4500ppm.
- 1 x Dipswitch for Audible Alarm On/Off
- 1 x Dipswitch - Latching - Enable / Disabled

# Detector-i



The Detector i range is used in various applications such as boiler/ plant rooms, hospitals, laboratories and high rise buildings. These sensors are specifically built to work with all Merlin control panels and can also be used direct with BMS control panels.

The traffic light indicator will summarise the gas levels – Green Safe, Yellow - Attention, Red - Danger

#### Gases Available:

Natural Gas, Carbon Monoxide, LPG, CO<sub>2</sub>, Oxygen, NO<sub>2</sub>, Hydrogen

#### Additional features

- 24VAC/DC
- Traffic Light Indication
- Audible Alarm
- 2 x Relay Output: 1 x Pre Alarm, 1 x Alarm
- 1 x CL Connection for GDP Range
- 0-10V output linear scale to full range
- End of Life Reminder

CO<sub>2</sub> Version available as above with the following additions:

- 1 x Dipswitch to change linear 0-10V output between 2 ranges: 1-2000ppm and 0-5000ppm
- 2 x Dipswitches for Alarm Settings - 1000ppm, 1500ppm, 2800ppm and 4500ppm.
- 1 x Dipswitch for Audible Alarm On/Off
- 1 x Dipswitch - Latching - Enable / Disabled

GAS DETECTOR WITH VARIABLE OUTPUTS SUITABLE FOR BMS INTERFACE - WITHOUT SCREEN

# Detector

-   
 Traffic Light  
 Indication Display
-   
 Designed to  
 ISEM/UP11  
 standards
-   
 Low voltage  
 input



GAS DETECTOR  
WITH VFC OUTPUT

The Detector range are used in various applications such as boiler/plant rooms, hospitals, laboratories and high rise buildings.

**Additional features**

- 24VAC/DC
- Audible Alarm
- 1 x VFC at High Level Alarm
- 1 x CL Connection for GDP Range

These sensors are specifically built to work with all Merlin control panels and can also be used direct with BMS control panels.

The traffic light indicator will summarize the gas levels:

- Green - Safe
- Yellow - Attention
- Red - Danger

**Gases Available:**

Natural Gas, Carbon Monoxide, LPG, CO2, Oxygen, NO2

# Detector X

-   
 Clear digital  
 display with  
 traffic light  
 feature
-   
 Automatic  
 alarm
-   
 24VAC/DC  
 powered.



GAS DETECTOR  
WITH VFC OUTPUT -  
WITH SCREEN

The Detector X range are used in various applications such as boiler/plant rooms, hospitals, laboratories and high rise buildings.

**Additional features**

- 24VDC
- Traffic Light Indication
- Audible Alarm
- 1 x Relay Output – 1 x Alarm
- 1 x CL Connection for GDP Range
- MODBUS Output
- Calibration Service and End of Life Reminder

These sensors are specifically built to work with all Merlin control panels and can also be used direct with BMS control panels.

The traffic light indicator will summarize the gas levels:

- Green - Safe
- Yellow - Attention
- Red - Danger

**Gases Available:**

Natural Gas, Carbon Monoxide, LPG, CO2, Oxygen, NO2

# CO2-X Monitor



Clear digital display



Designed specifically for BB101



Automatic alarm



12V DC, 24VDC or 230V AC powered.



Fan controller enabled relay output

CARBON  
DIOXIDE  
MONITOR



The CO2-X is a dual powered carbon dioxide and temperature monitor, which has the ability to show average readings over an 8 hour period.

#### Additional features

- Can automatically change alarm settings based on gas valve activation
- CO2 and temperature levels measured and displayed clearly.

- 2 x 0-10V Signal output.
- Displays average readings of CO2 concentration over an 8 hour period.
- End of life and fault notifications.
- Pre alarm and alarm output.
- Variable CO2 and temperature output



Analog or Digital Communications



Designed to IGEN/UP11 & Part F standards



Mains or 24V Powered



# Merlin RS Series



Monitor and measure carbon dioxide (CO2), temperature and relative humidity. Designed for all areas being directly connected to low or mains voltage supply, e.g., residential, public, commercial, and light industrial environments.

#### Key Features

- Analog: 3x 0-10V signals for CO2 (PPM), Temperature (°C) and Humidity (% Relative).
- Digital RS-485: Modbus RTU or BACnet MS/TP communication protocols.
- VFC Relay (CO2): 1x SPST 70mA Max.
- 10K3 Thermistor output for 3rd party temperature monitoring.

CARBON DIOXIDE,  
TEMPERATURE &  
HUMIDITY ROOM  
SENSORS

## CO2 Desktop - White



The Merlin CO2 Desktop White Detector is designed specifically for use in classrooms or offices to monitor the air and help improve ventilation.

This low cost unit provides teachers with a clear indication of the CO2 levels, humidity and temperature.

The sensor can be wall mounted or located on the teachers desk. Each unit comes with a 1 meter cable which can plug into the mains plug provided or via your PC USB drive.

### Additional features

- NDIR sensor
- Comes with 1m USB cable
- Monitors & displays CO2 levels, humidity & temperature thru a clear LCD display
- Built-in audible alarm
- Meets DfE specification for use in school classrooms

## CO2 Desktop - Black



The Merlin CO2 Desktop Black Monitor with NDIR sensor is designed specifically for use in classrooms, offices or any other occupied indoor area, to monitor the air quality and help improve ventilation.

This low cost unit comes complete with a 1 meter cable with a USB connection so it can be powered by your computer or connecting to a standard USB compatible plug.

This monitor provides teachers and end users with a clear indication of the CO2 levels, humidity and temperature and also has a rechargeable lithium battery built in so can be used as a portable device without the need for a constant power supply.

### Additional features

- NDIR sensor
- Rechargeable lithium battery back-up
- Comes with 1m USB cable
- Monitors & displays CO2 levels, humidity & temperature thru a clear LCD display
- Built-in audible alarm
- Meets DfE specification for use in school classrooms



Clear digital display with traffic light feature



Mains powered or 24VDC



Gas Level Indicator for both NG and CO

## Mini Merlin CH4CO TFT



The Mini Merlin CH4CO TFT for domestic applications.

The Mini Merlin CH4CO TFT is a dual gas sensor carefully designed and tested to monitor levels of natural gas- Methane (NG) and Carbon Monoxide (CO) in the air. If there is a dangerous build-up of gas or unsafe levels of carbon monoxide at the sensor, this device can shut off the gas supply via a gas safety valve.

### Additional features

- Dual sensor built into one controller
- End of life notification
- Shuts off gas when in high alarm
- Low voltage input to connect with emergency stops and fire alarms.
- Pre alarm and alarm output
- LPG & CO detector available

COMBINED  
NATURAL GAS &  
CARBON MONOXIDE  
DETECTOR

## Water Leak Detection

S&S Northern have a wide a range of water leak detection & control systems, including major water leak to achieve BREEAM 1.0 2018, permanent water leak, designed for rope & puck sensors and motion controlled water supplies for toilet areas.

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## Cold Water Meter



S&S offer a large range of cold water meters from small domestic type installations to large commercial and industrial properties.

The connections which come with the meters vary with the meter size & type, but connections are available to be added for all sizes for pulsed output, MBUS etc.

- **Compliance** - MID Approved, WRAS Approved
- **Communication Outputs Available** - Pulsed, MBUS, Wireless MBUS
- **Temperature** - Cold
- **Connection Size** - 15mm – 300mm

## Hot Water Meter



S&S offer a large range of hot water meters from small domestic type installations to large commercial and industrial properties.

The connections which come with the meters vary with the meter size & type, but connections are available to be added for all sizes for pulsed output, MBUS etc.

- **Compliance** - MID Approved, WRAS Approved
- **Communication Outputs Available** - Pulsed, MBUS, Wireless MBUS
- **Temperature** - Hot
- **Connection Size** - 15mm – 300mm

## Major Water Leak System

The Merlin WDP is a water leak monitoring system that has been specifically designed to help achieve the requirements of 2018: 1.0 BREEAM UK New construction (non-domestic buildings).

The WDP system will allow designers, M&E contractors and developers to achieve the 'Credit' available to reduce the impact of water leaks that may otherwise go undetected. All the leak detection water meters and solenoid valves are WRAS-approved.

The system is designed to monitor water flowing through a pulse water meter. If the volume of water reaches the pre-set limit (customer adjustable) the system can isolate the mains water pipe, therefore limiting the amount of water and leak damage.



- Achieves one credit from BREEAM WAT 03
- Timer & programmable clock built in
- Two stage monitoring for occupied and unoccupied buildings
- BMS output available
- 2 zone input for reading 2x water meters (boundary and incoming)
- Volt free normally closed input for emergency stop buttons, fire alarm & security systems
- Remote sounder strobe output
- 230VAC & 24VDC outputs for water solenoid valves

## PIR Sensor

A range of low cost PIR Sensors for surface, flush and wall mounting.

There are switched live and volt free output variants. The light level can be switched off if required. Mains and low voltage variants.

### Features

- Low cost solution
- Flush, surface or wall mounted
- Adjustable Timer
- Optional switched live or volt free outputs



# Water Leak Monitor



The Merlin WLM system is the new S&S Northern Ltd permanent water leak detection system aimed towards commercial properties and residential apartment blocks. The Merlin WLM can be used standalone or part of a larger multi-zone detection system and comes with a clear LED status display.

- BMS Communications
- Strobe Alarm Outputs
- Control Panel Connectivity
- Fault Detection
- Electronic Valve Control
- SMS Alerting (With Additional Product)

# WLMCP

## Water Leak Puck / Probe



The WLMCP is designed to identify water leaks, either at specific points or in larger areas. The puck/probe can be rotated on the mounting bracket and secured in place with a wing nut. The WLMCP puck/probe should be utilized with the WLM and should not be directly linked to a BMS controller. The cable excitation employed is an isolated AC signal, ensuring that the detector cable remains unaffected by oxidation or erosion over time. This helps prevent the degradation issues associated with DC systems.

- WLMCP is easy to lay and detects along its entire length
- More than one WLMCP can be connected to a WLM
- Detects water leaks under floors or isolated plant rooms
- Designed to avoid false alarms caused by condensation or high humidity
- Used with the WLM

# WLMC

## 2 Core Pre-Defined Length Water Leak Cable

The WLM 2 core sensing cables are capable of detecting the presence of water at any point along their length. When coupled with a WLM system, the cable swiftly identifies water intrusion and activates an alarm. The WLM 2 core is offered in various lengths to cater to specific coverage requirements, including custom pre-defined upon request.



The WLMC sensing cable is well-suited for a diverse range of applications, including data center sub-floors, telecommunication rooms, HVAC equipment locations, pipes, electrical vaults, storage areas, tanks, and roofs. Its compact, lightweight, and flexible design ensures straightforward installation. Additionally, the smooth construction allows for a rapid drying process.

- Identifies water presence along its entire length
- 2 core tape designed for water leak detection
- The WLMC cable is compact yet robust, displaying high resistance to abrasion and corrosion
- Features a sleek design that facilitates quick drying
- Comes in factory-terminated lengths, available in 2M, 5M, 10M, 15M & 25M
- Custom pre-defined lengths available upon request
- Used with the WLM

# WLMFC

## 4 Core Length Water Leak Cable With Fault Detection

The WLM 4 core sensing cables are capable of detecting the presence of water at any point along their length. When coupled with a Merlin WLM system, the cable swiftly identifies water intrusion and activates an alarm. The 4 core cable includes fault detection, indicating incorrect wiring or a faulty cable, offered in various lengths to cater to specific coverage requirements. Supplied with pre-installed plastic connectors that seamlessly plug together, the WLMFC sensing cable is well-suited for a diverse range of applications, including plant rooms, data center sub-floors, telecommunication rooms, HVAC equipment locations, pipes, electrical vaults, storage areas, tanks, and roofs. Its compact, lightweight, and flexible design ensures straightforward installation. Additionally, the smooth construction allows for a rapid drying process.



- Identifies water presence along its entire length
- 4 core tape designed for water leak detection
- Includes fault detection, indicating incorrect wiring or faulty cable
- The WLMFC cable is compact yet robust, displaying high resistance to abrasion and corrosion
- Features a sleek design that facilitates quick drying
- Comes in factory-terminated lengths with pre-installed connectors, available in 5M, 10M, 20M, 50M & 100M
- Lead wire not included
- Used with the WLM

Ancillaries

PAGES  
48-59

# FAB-1 Fire Alarm bypass



Merlin  
GDP2  
Page 29

Merlin  
1000BH  
Page 28

OFTEN  
USED  
WITH

The Merlin FAB1 can be integrated with any of the Merlin suite of products to give the operator the opportunity to temporarily bypass the gas isolation system. With prior notice to a fire alarm test, the operator can turn the key to the on position giving an uninterrupted gas supply for between 10 and 45 minutes.

During this time the system controlling the gas will ignore shut-off signals from the buildings fire alarm system and allow factors such as heating systems to remain operational. The bypass time can be adjusted using the blue switches inside the panel. During the bypass time gas can still be shut off, pressing the emergency gas shut off button will close the gas solenoid valve.

OFTEN  
USED  
WITH

Merlin  
GDP2X  
Page 27

Merlin  
1000BH  
Page 28

Merlin  
GDP2  
Page 29

Merlin  
GDPX+  
Page 26

The fusible link is most commonly used in a boiler room application. These are fitted as a means of fire protection, if the boiler room temperature reaches over 72 degrees then the fusible wire inside will melt and therefore send an electronic signal to isolate the gas supply. Multiple fusible links can be fitted in one area.

# Fusible Link



# Emergency Stop



Merlin  
2000X  
Page 11

Merlin  
3000S  
Page 6

Merlin  
1000VW+  
Page 20

OFTEN  
USED  
WITH

The Emergency Stop button is used to isolate the gas supply into an area in the event of emergency.

The button is fitted with a Perspex screen which should be pressed to activate, and then can be reset using a key (supplied with every emergency knock-off button) . This button can be linked with any Merlin gas safety system to give various means of isolation within an area.

OFTEN  
USED  
WITH

Merlin  
GDP2X  
Page 27

Merlin  
GDPX+  
Page 26

Merlin  
GDP2  
Page 29

The Sounder Alarm Beacon is a remote alarm beacon most commonly used outside a boiler room. This sounder alarm beacon can give both an audible and visual alarm in the event of an emergency. Various colours are available to suit the application.

# Sounder Alarm Beacon



## Air Pressure Differential Switch

Merlin  
CT1200S  
Page 10

Merlin  
1000V  
Page 22

OFTEN  
USED  
WITH



An air pressure differential switch is a mechanical switch fitted in ductwork which can be used to monitor and check airflow rates. These switches are adjustable and have a range from 20-300PA, they also come with a 1m duct kit to be fitted into the ductwork and detect the airflow.

## Water Solenoid Valve

OFTEN  
USED  
WITH

Merlin  
1000VW+  
Page 20



Our water solenoid valves are most commonly found in science laboratories where the teachers want full control of the water supply to the benches, but they can be used in a range of applications.

Similar to a gas solenoid valve, our water solenoid valves are normally closed, auto-reset and 230V so they can be controlled by the Merlin gas safety systems.

Once again, we have a full range of sizes available, WRAS approved and can offer specialist types on request.

## Gas Solenoid Valve

Merlin  
1000BH  
Page 28

Merlin  
1000V  
Page 22

Merlin  
2000X  
Page 11

OFTEN  
USED  
WITH



Our gas solenoid valves are 230V powered, normally closed, auto-reset and will most commonly be powered from our Merlin gas safety systems. In the event of an emergency, the Merlin gas safety system will take power away from the gas solenoid valve causing it to slam shut, and when power is re-instated this will then allow gas to flow through the pipework.

We have a full range of sizes available, both screwed and flanged, and can offer specialist gas valves on request.

## Pressure Transducer

OFTEN  
USED  
WITH

Merlin  
GDPX+  
Page 26

Merlin  
1000V  
Page 22

Merlin  
2000X  
Page 11



A transmitter used to check for leaks in the gas line, by detecting pressure drops from the downstream port of the gas solenoid valve.

# DPM2

Merlin 2000X Page 11  
 Merlin 1000V Page 22  
 Merlin 1000BH Page 28

OFTEN USED WITH



The DPM-2 is a dual pressure monitor which enables connection of two gas solenoid valves and two pressure sensors to any Merlin gas proving panels.

# CS1/CS2

OFTEN USED WITH

Merlin CT1200S Page 10  
 Merlin 1000V Page 22  
 Merlin CT1650+ Page 8



The Merlin CS1 & CS2 Current Switch is to be used in conjunction with the Merlin range of ventilation interlock systems and can be used as an alternative to air pressure differential switches.

# PM2+

Merlin 2000S Page 11  
 Merlin 1000V Page 22  
 Merlin CT1750+ Page 7

OFTEN USED WITH

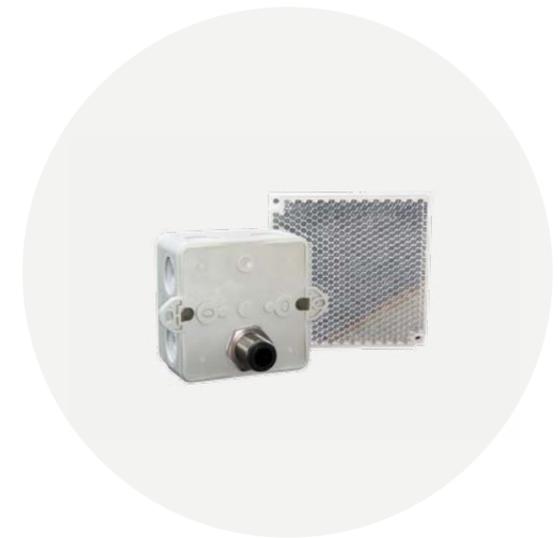


The Merlin PM2+ Current Monitor is a dual fan current monitor and is to be used in conjunction with the Merlin systems: the unit can be used as an alternative to an air pressure differential switch.

OFTEN USED WITH

Merlin 3000S Page 6

# Optical Sensor



The Optical Sensor emits a beam across the kitchen canopy, if the beam is interrupted by excess smoke/steam it will send a signal back to the control panel.

## Duct Thermostat



Merlin  
3000S  
Page 6

OFTEN  
USED  
WITH

The Duct Thermostat provides a control signal back to the Merlin control panel depending on the temperature in the duct work.

As the duct temperature becomes too hot the Merlin control system can increase ventilation.

## Inverter



S&S Northern Ltd offer a large range of invertors for use with our Merlin control panels, ventilation units & industrial pumps.

Our invertors are available in single phase & three phase and cover a range from 0.75KW up to 24KW so suitable from the smallest kitchen fan to very large industrial pumps.

## Speed Controller

We stock a full range Electronic fan speed controllers. This range of fan speed controllers can be used with most Fans / Motors which is single phase – 240 volts and fan speed controllable using either 2 or 3 wire control.



## Gas Meter

We offer gas meters to cover all domestic & commercial buildings from ¼" diaphragm gas meters, up to 6" inline quantometers.

Our gas meters come with a range of outputs, most commonly a pulsed output but there is the option for other communications such as MODBUS, MBUS etc.



## Water Meter



S&S offer a large range of cold water meters & hot water meters from small domestic type installations to large commercial and industrial properties.

The connections which come with the meters vary with the meter size & type, but connections are available to be added for all sizes for pulsed output, MBUS etc.

- **Compliance** -  
MID Approved, WRAS Approved
- **Communication Outputs Available** -  
Pulsed, MBUS, Wireless MBUS
- **Temperature** -  
Cold & Hot
- **Connection Size** -  
15mm – 300mm

## Heat Meter



As part of our metering range, we are also able to offer heat meters for domestic & commercial premises. These are available using both inline and clamp-on types and come with a range of communications available as standard.

## Gas Solenoid Valve CPI Switch

The closed position switch can be used on Goldseal gas solenoid valves to indicate position of the valve

### Type Numbers

- CPI-20/25 for valve size 3/4" & 1"
- CPI-32/40 for valve sizes 1.1/4" & 1.1/2"
- CPI-50 for valve size 2"
- CPI-65/80 for valve size 2.1/2" & 3" BSP & Flanged
- CPI-100 for valve size 4" Flanged



## Bump Test Kit

We offer a full range of bottled test gases and testing equipment. The Bump kits are used to check and maintain gas detectors.

- Carbon Monoxide
  - Methane
  - LPG
  - Nitrogen
- Others available on request



# Spec Wizard

[www.snsnorthern.com/spec-wizard/](http://www.snsnorthern.com/spec-wizard/)

## Ensure your project has the correct equipment

Here at S&S Northern we ensure your project is meeting all the latest gas regulations and recommendations.

As part of our dedication to continual progress and development, the S&S Northern team has developed the pioneering Spec Wizard. Spec Wizard is a dynamic resource that significantly reduces a consultant's workload by searching for and identifying the most appropriate equipment for a project, location or specification.

By simply answering questions from the drop down menu, Spec Wizard will instantly generate the ideal specification a consultant needs to meet various gas regulations on their project.

Spec Wizard will then create and email an equipment list which can then be directly used within a specification document, saving hours of time and money during the research and sourcing stages.

For help with the Spec Wizard or if you would like one of S&S Northern's technically trained sales engineers to explain the process over the telephone, please call us on +44 (0) 1257 470 983

## Book Your Free CIBSE Accredited Webinar

Do your projects include Boiler/PlantRooms? Laboratories? Commercial kitchens? Receive up to date knowledge of Gas Safety Regulations.



## Two CPD Sessions

### CPD 1

Gas Safety Guidelines  
For Commercial  
Buildings

- ✓ **CO2 Monitoring in schools & classrooms – ASHRAE / REVHA / CIBSE Guidance / DFE Guidance**
- ✓ **Gas Safety in School Boiler Houses / Plant Rooms – BS6644 & BB101**
- ✓ **Gas Safety & Utility Control with Science Classrooms – IGEM/ UP11**
- ✓ **Energy Saving & Demand Controlled Ventilation – DW172 & BS6173**

### CPD 2

Monitoring, Metering &  
Detection For  
Commercial Buildings

- ✓ **Major Water Leak Detection (BREEAM WAT 03)**
- ✓ **Water Monitoring (BREEAM WAT 02)**
- ✓ **Part L – 2022 Update (Monitoring & Sub-Metering)**
- ✓ **BREEAM HEA02 – Energy Saving & Indoor Air Quality**

# Safety Regulations

The Safety Regulations Our Panels Are Designed To Exceed

## Commercial Kitchens Refer to pages 8-15

### BS 6173:2020

- "Appliances shall be interlocked with any mechanical ventilation system that is fitted to enable their safe operation."
- "An interlock shall be provided which will cut off the gas supply or prevent the operation of appliances if the mechanical ventilation system provides an inadequate airflow rate for the safe operation of appliances and the safety of personnel."
- "An interlock on a new installation shall not be fitted with an override function."
- "Only detectors designed to operate in a commercial catering environment shall be installed. They shall give an audible alarm and be linked with an automatic gas shut-off system which is fail-safe and requires manual intervention to restore the gas supply."

### IGEM UP19

- "Actuation of an alarm when the CO2 level is above 2800ppm shall cause a visual or audible warning to occur. If the CO2 level rises above 5000ppm, any interlock shall cause lockout of the gas system to occur"
- "In accordance with BS6173 over-rides to interlocks and interlock systems are not permitted and, as appropriate the responsible person shall be advised accordingly including within any written report."
- "CO2 Monitoring alone is not acceptable as the main interlock for Type B appliances but may be used in conjunction with air flow, air pressure or fan power monitoring"
- "When a demand controlled or variable speed system is installed an environmental sensor such as a CO2, steam or temperature sensor shall be included as part of the gas interlock requirements specified in clause 5.2.1.1 and clause 5.2.1.2 or clause 5.2.1.3."

## Education Buildings Refer to pages 16-23

### IGEM UP11

- "Where an AIV is required the system shall include a downstream integrity check before can be re-opened."
- "Such automatic means of isolation shall, in the event of a shutdown, require manual re-setting to take place such that check is performed to prove that all the downstream gas isolation valves are closed."
- "High levels of CO2 shall cause an alarm at 2800ppm and shut down of gas supply at 5000ppm."

### BB101

- "CO2 levels should be measured at seated head height in all teaching and learning spaces."
- "Where only Type A appliances are used, interlocking may be achieved by environmental monitoring of carbon dioxide as described in IGEM UP 19."
- "When practical activities are not taking place and gas is not in use the ventilation in practical spaces should be controlled to meet the normal CO2 levels for teaching and learning spaces as described in section 2.4."
- "In these practical spaces, higher levels of CO2 are acceptable for the periods of time when Bunsen burners, cookers and other gas-fired appliances are in use as described in section 2.9"

## BREEAM & Water Leak Detection Refer to pages 42-45

### BREEAM WAT 02

- The aim of BREEAM WAT 02 is to ensure water consumption can be monitored and managed and therefore encourage reductions in water consumption offering one credit.

### BREEAM WAT 03

- BREEAM WAT 03 offers two credits in total both based around major water leak detection & water leak prevention.

## Boiler / Plant Rooms Refer to pages 24-31

### BB100

- "A means of automatically shutting off the fuel supply in the event of a fire. This should include an emergency shut-off push-button at the entrance to the boiler room."
- "In the event of a genuine alarm, the system should require manual resetting, but if it is purely a power failure and appropriate self-proving devices are in place, then automatic resetting is appropriate to prevent the risk of pipe freezing during weekends or holiday periods."
- "In addition, a carbon monoxide or carbon dioxide detection system is often required in boiler/plant rooms for all fuel types, particularly where a boiler/plant room forms part of the school building."
- "The detection system should both raise an alarm and isolate the fuel supply."

### IGEM UP/2

- "In the event of a genuine alarm, the system should require manual resetting, but if it is purely a power failure and appropriate self-proving devices are in place, then automatic resetting is appropriate to prevent the risk of pipe freezing during weekends or holiday periods."
- "A means of automatically shutting off the fuel supply in the event of a fire. This should include an emergency shut-off push-button at the entrance to the boiler room."
- "In addition, a carbon monoxide or carbon dioxide detection system is often required in boiler/plant rooms for all fuel types, particularly where a boiler/plant room forms part of the school building."
- "The detection system should both raise an alarm and isolate the fuel supply."

## CO2 Monitoring Refer to pages 32-41

### Part F - June 2022

- 1.21 In new buildings, the following types of occupiable rooms, unless they are rooms of the size described in paragraph 1.22, should have a means of monitoring the indoor air quality. This may be achieved using CO2 monitors or other means of measuring indoor air quality:
  - Occupiable rooms in offices.
  - Occupiable rooms where singing, loud speech or aerobic exercise or other aerosol generating activities are likely to take place. These may include rooms, for example, in gymnasiums, other indoor sports venues, dance studios, theatres, concert halls, public houses, nightclubs, places of assembly, as well as in other types of building.
  - Occupiable rooms where members of the public are likely to gather. These may include rooms, for example, in public buildings, hotels, gymnasiums, indoor sports venues, dance studios, theatres, concert halls, public houses, nightclubs, places of assembly, as well as in other type of building.
  - Occupiable rooms which are maintained at both low temperatures and low levels of humidity. These may include rooms used for chilled food processing and occupied cold stores.
- 1.22 The guidance in paragraph 1.21 does not apply to the following sizes of room. a. Small spaces up to 125m<sup>3</sup> volume, or 50m<sup>2</sup> floor area. b. Large spaces over 800m<sup>3</sup> in volume, or 320m<sup>2</sup> floor area. 1.23 Where CO2 monitors are used, they should meet all of the following:
  - Be non-dispersive infrared (NDIR) type CO2 monitors.
  - Be mains powered.
  - Be placed at breathing height and away from windows, doors or ventilation openings where practicable.
  - Be placed at least 500mm from people where practicable.

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