S&S™
NORTHERN
snsnorthern.com

Gas Safety Controls
Product Catalogue

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

Ranges include; gas ventilation and 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.

GAS SAFETY IN EVERY ENVIRONMENT.

38 Years Industry Experience

Easy to Install Solutions

3 Year Product Warranty

24/7 Tech Back Up

Fully Trained Sales Engineers

Express Delivery Available

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.

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.

PAGES
8-17

Merlin 3000S System

Energy saving variable ventilation

Gas proving feature

Solid fuel protection

Designed to DW172, BS6173 & IGEM/UP19 standards

Extraction system that minimises heat loss

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 40

Carbon Monoxide detectors
Page 42-43

Optical Sensor
Page 53

Duct Thermostat
Page 54

TBX Gas Meter
Page 54

Inverter
Page 55

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

Merlin CT1750 System

Ventilation control for up to two fans

Gas proving feature*

Out of hours Solid fuel protection

Designed to DW172, BS6173 and IGEM/UP19 standards

Fire Alarm Input & BMS Output

External gas detector

OFTEN USED WITH

Gas Solenoid valve
Page 50

PM2+ Current Monitor
Page 52

CO2-X
Page 40

Carbon Monoxide detectors
Page 42-43

Inverter
Page 55

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.

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

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

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 CT1650+ has the facility to interlock with two additional fans via remote current monitors PM2+ / CS1-2) or air pressure differential switches. The CT1650+ 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 40

Emergency Stop
Page 48

Speed Controller
Page 55

Merlin CT1250 System

Monitor up to two fans

Built in 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 CT1250 System is a current monitoring interlock system for commercial kitchens. This comes with two built in current monitors. This is a simple, cost effective system.

Additional features
• Current Monitors parameters 03.amp to 20amp.

• 10 Second Nuisance Tripping Delay

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)

Gas Safety System
Model: CT1200S

Power
Gas On
EM Stop

Supply Fan
Extract Fan
Fan Fault
Service

EMERGENCY SHUT OFF

OFF
Mute
ON

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CE

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 2000S System

Monitor up to four fans

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 40

Merlin Gas Detectors
Page 42-43

PM2+ Current Monitor
Page 52

Air Pressure Differential Switch
Page 50

GAS SAFETY SYSTEM
MERLIN
2000S

Gas On
Testing
Test Fail
Pressure Low

Supply Fans
Extract Fans
Fan Fault

EM Stop
Gas Detected
CO₂High

EMERGENCY SHUT OFF

Isolate from Mains before removing this cover!

OFF
ON

CE

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The Merlin 2000S System is a ventilation interlock and gas proving system for commercial kitchens.

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

Additional features
• 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)

Merlin 1500S System

Integral Emergency Stop

Designed to BS6173 & IGEM/ UP19 standards

Fire Alarm Input & BMS Output

External gas detector

GAS INTERLOCK SYSTEM (4 FAN INPUTS)

Merlin 1500S System can be used with external current monitors or air pressure differential switches.

Additional features
• Facility to interlock with external current switches or air pressure differential switches (4 fans)

• Works with Carbon Dioxide and Carbon monoxide monitors

OFTEN USED WITH

Gas Solenoid valve
Page 50

Merlin CO2-X
Page 40

PM2+ Current Monitor
Page 52

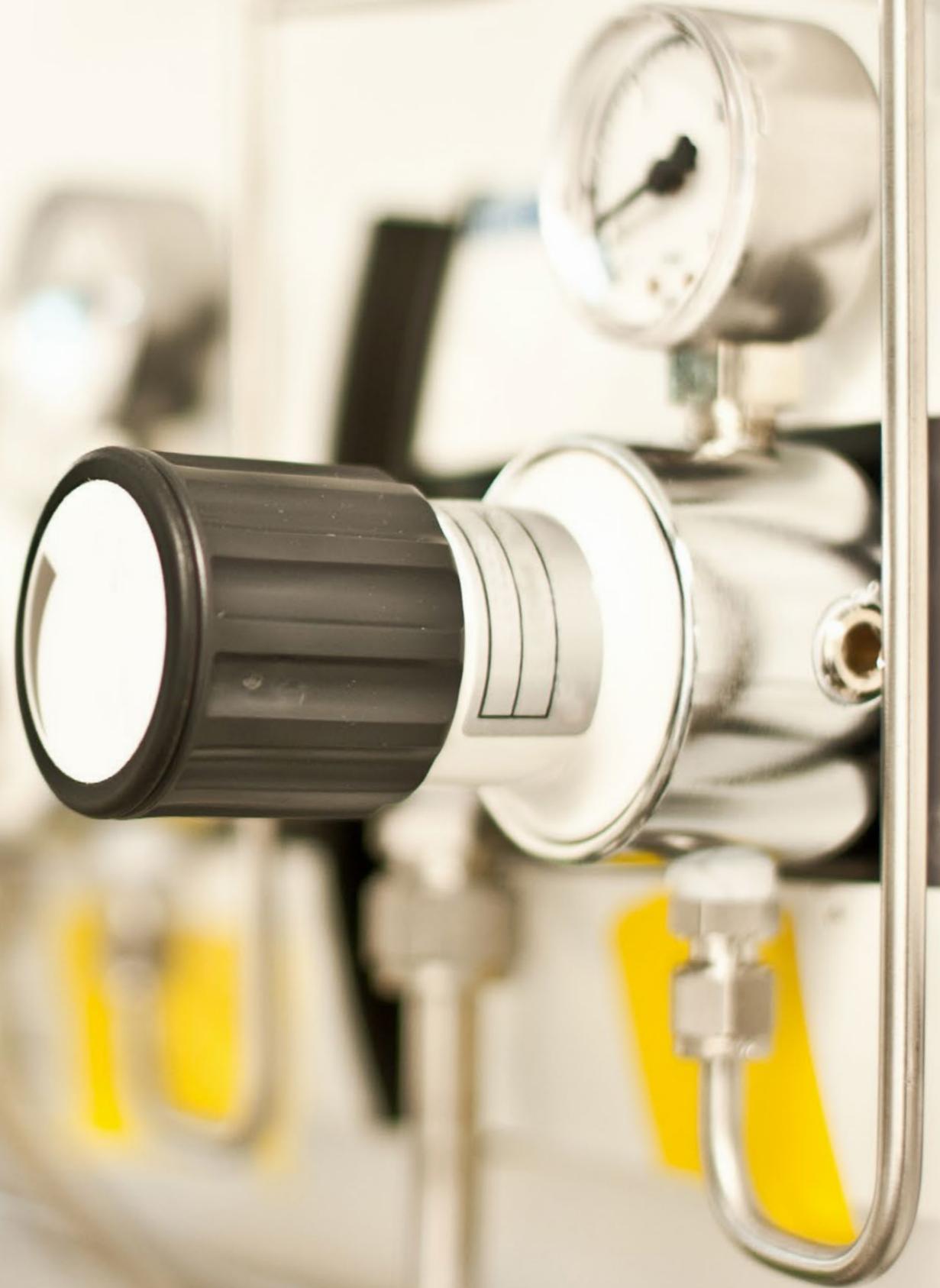Air Pressure Differential Switch
Page 50

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.
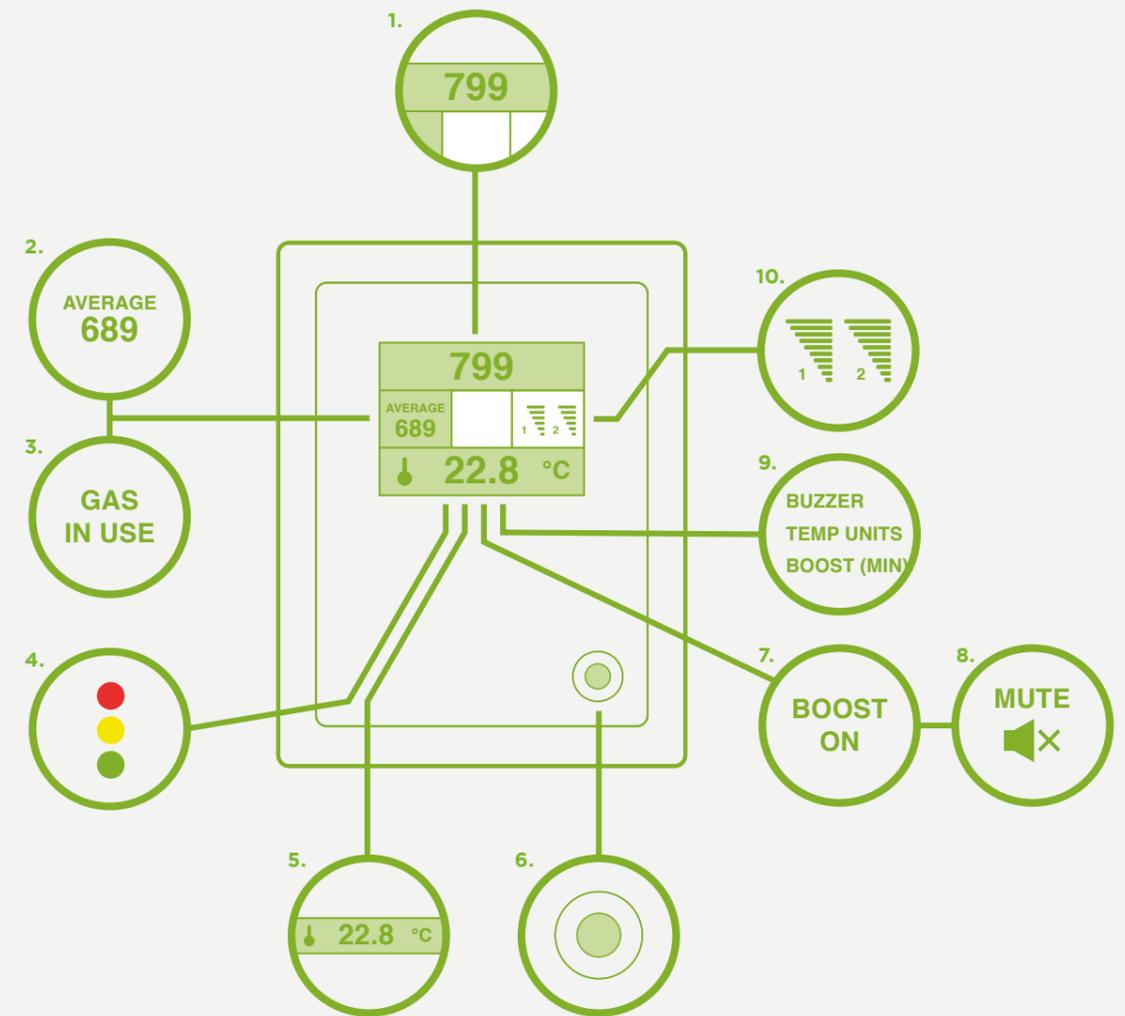
PAGES
36-45

SIMPLE, EFFICIENT & RELIABLE

Carbon Dioxide and temperature monitor

1.
799

2.
AVERAGE
689

3.
GAS
IN USE

4.

799
AVERAGE 689
22.8 °C

10.
1   2

9.
BUZZER
TEMP UNITS
BOOST (MIN)

7.
BOOST
ON

8.
MUTE

5.
22.8 °C

6.

✔ Dual power 230V AC or 12-24V AC/DC
✔ Modern design with a slim and compact enclosure

1. CO2 Levels
Displays current c02 gas levels in parts per million (ppm).

2. Average CO2 Levels
Average c02 readings over an 8 hour period when above 600ppm.

3. Gas in use
Indication when the gas is being used.

4. Traffic light indicator
Display changes colour dependent on the c02 levels and temperature. Green-Safe, Yellow-Attention, Red-Danger.

5. Temperature reading
Displays temperature levels over 30 minute periods.

6. Touch button
Used to activate 'Boost' or 'Mute'.

7. Boost on
Analogue outputs will run at optimum voltage (10V) to run a fan.

8. Mute
Sounder alarm mute indication.

9. Easy installation
Engineers settings menus for easy navigation

10. 0-10V Outputs
0-10V analogue outputs progress bars

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

OFTEN USED WITH

Merlin 2000S
Page 15

Merlin 1000VW+
Page 22

Merlin 1000S
Page 27

Merlin CO2-C1

Clear digital display with traffic light feature

Designed to IGEM/UP11 standards

Mains powered

OFTEN USED WITH

Merlin 2000S
Page 15

Merlin CT1650+
Page 12

Merlin 1000VW+
Page 22

Merlin 1000S
Page 27

The budget friendly Merlin CO2-C1 detector is a mains powered monitor to give the end user simplified analysis of the carbon dioxide levels in the surrounding area. The Merlin CO2-C1 has a traffic light colour system (red, amber, green) with high, medium, low indications.

Additional features
- Traffic light display to clearly indicate low, medium and high levels of CO2.
- Low voltage switch when levels of carbon dioxide increase
- Mains powered

CARBON DIOXIDE MONITOR (NO SCREEN)

OFTEN USED WITH

Merlin GDPX+
Page 18

Merlin GDP2X
Page 20

Merlin 1000BH
Page 21

0.0
NG   %LEL
ID:1 SN: 123456789123

S&S

PRE-CALIBRATED AND COMPACT

GAS SENSOR TYPE		MEASURING RANGE	
	NG: Semi-conductor		NG:300-10,000 PPM
	LPG: Semi-conductor		LPG:300-10,000 PPM
	H: Semi-conductor		H: 100-10,000 PPM
	CO: Electro-chemical		CO: 10-10,000 PPM
	O2: Electro-chemical		O2: 0-30%

GAS LEVEL PRE-ALARM		GAS LEVEL ALARM	
	NG: 8% LEL		NG: 10% LEL
	LPG: 8% LEL		LPG: 10% LEL
	H: 8% LEL		H: 10% LEL
	CO: 20 PPM		CO: 30 PPM @ 2 HOURS 50 PPM @ 1 HOUR 100 PPM @ 10 MINS 300 PPM @ 1 MINS
	O2: 18.5-19.5%		O2: <18.5% / >23%

EXPECTED SENSOR LIFE	
	NG: 10 Years
	LPG: 10 Years
	H: 10 Years
	CO: 5 Years
	O2: 3 Years

Gas Detectors

The S&S range of gas detectors are used in various applications such as boiler/plant rooms, hospitals, laboratories and high rise buildings.

1.
END OF **LIFE**

5.
SERVICE

0
| C0 | PPM |
C 11 SUM 850980

2.

4.
1

3.
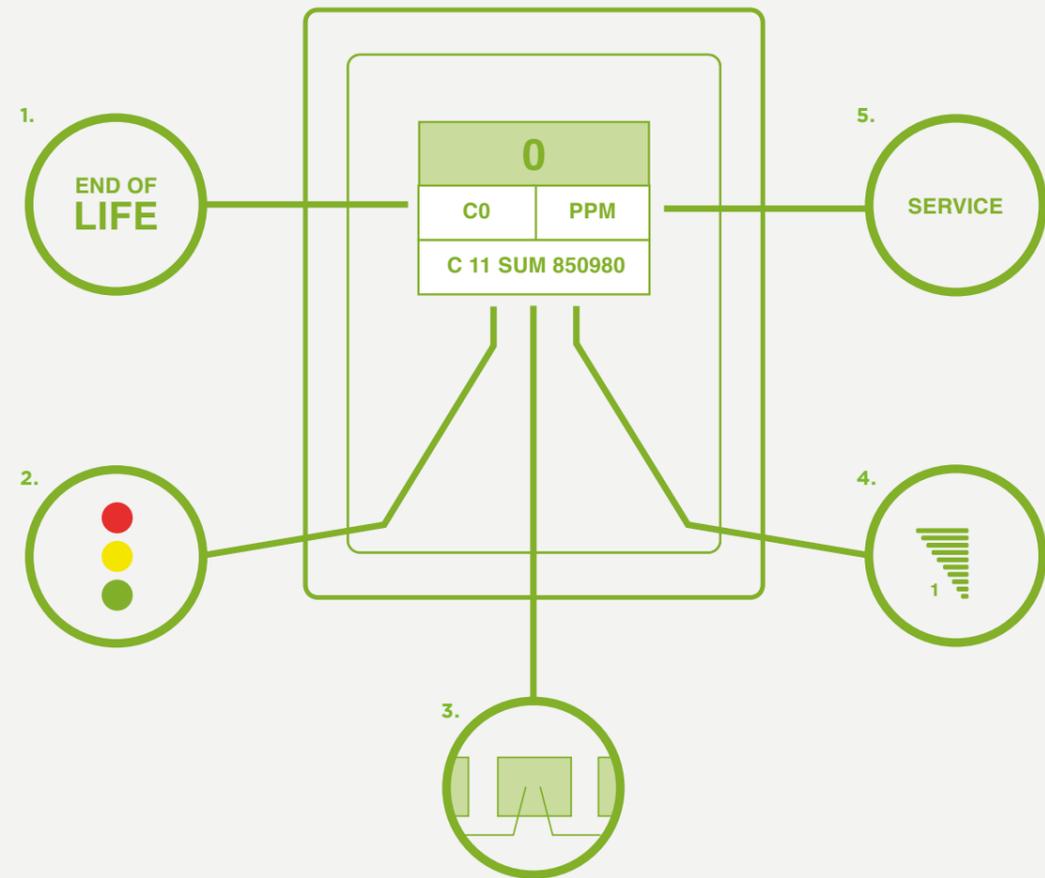
✔ Modern design with a slim and compact enclosure
✔ No calibration required - pre-calibrated in the factory
✔ Power supply 12-24V AC/DC
✔ Various outputs to work with control panels
✔ Connections available for Modbus outputs

1. End of life indicator
To alert the user that the detector has reached its expected operational lifecycle.

2. Traffic light indicator
To summarise gas levels: display changes colour dependent on live gas levels. Green-Safe, Yellow-Attention, Red-Danger.

3. Multiple detector chains
Individually identify each detector and the monitoring zone the detector is located.

4. Gas levels
Displays current gas levels in parts per million (ppm) or low explosion level (LEL) dependent on the gas detector type. Levels visible at all time.

5. Service & Maintenance
A service screen will intermittently flash every 30 seconds after one year of service.

Mini Merlin
CH4CO TFT

Clear digital display

Gas Level Indicator for both NG and CO

Low voltage input

COMBINED NATURAL GAS & CARBON MONOXIDE DETECTOR

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
• Can be used to shut off boilers via appliance limit circuits
• Low voltage inputs for remote emergency stops and fire alarms
• BMS system integration
• LPG & CO detector available

OFTEN USED WITH

Gas Solenoid Valve
Page 50

Emergency Stop
Page 48

Fusible Link
Page 49

Bump
Kits

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

• Carbon Monoxide
• Methane
• LPG
• Nitrogen

Others available on request.

GAS DETECTOR TESTING / CALIBRATION

Ancillaries

PAGES
46-55

FAB-1 Fire Alarm bypass

Merlin GDP-2 **Page 33**	Merlin 1000BH **Page 32**	**OFTEN USED WITH**

The Merlin FAB1 can be integrated with any of the Merlin products to give the operator the ability to temporarily bypass the S&S controller. With prior notice to a fire alarm test, the operator can turn the key to the on position giving an un-interrupted 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 by pressing the emergency gas shut off button on the fascia.

Emergency Stop

Merlin 2000S **Page 15**	Merlin 3000S **Page 10**	Merlin 1000VW+ **Page 22**	**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.

Fusible Link

OFTEN USED WITH	Merlin GDP2X **Page 31**	Merlin 1000BH **Page 32**	Merlin GDP2 **Page 33**	Merlin GDPX+ **Page 30**

The fusible link is most commonly used in a boiler room application. These are fitted as a mean 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.

Sounder Alarm Beacon

OFTEN USED WITH	Merlin GDP2X **Page 31**	Merlin GDPX+ **Page 30**	Merlin GDP2 **Page 33**

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.

Air Pressure Differential Switch

Merlin CT1200S Page 14	Merlin 1000V+ Page 23	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 to detect the airflow.

Gas Solenoid Valve

Merlin 1000BH Page 32	Merlin 1000S Page 27	Merlin 2000S Page 15	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.

Water Solenoid Valve

OFTEN USED WITH	Merlin 1000VW+ Page 22	Merlin 1000SW+ Page 25

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.

Pressure Transducer

OFTEN USED WITH	Merlin GDPX+ Page 30	Merlin 1000S Page 27	Merlin 2000S Page 15

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 2000S **Page 15**	Merlin 1000S **Page 27**	Merlin 1000BH **Page 32**	**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.

PM2+

Merlin 2000S **Page 15**	Merlin 3000S **Page 10**	Merlin CT1750+ **Page 11**	**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.

CS1/CS2

OFTEN USED WITH	Merlin CT1200S **Page 14**	Merlin 1000V **Page 24**	Merlin CT1650+ **Page 12**

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.
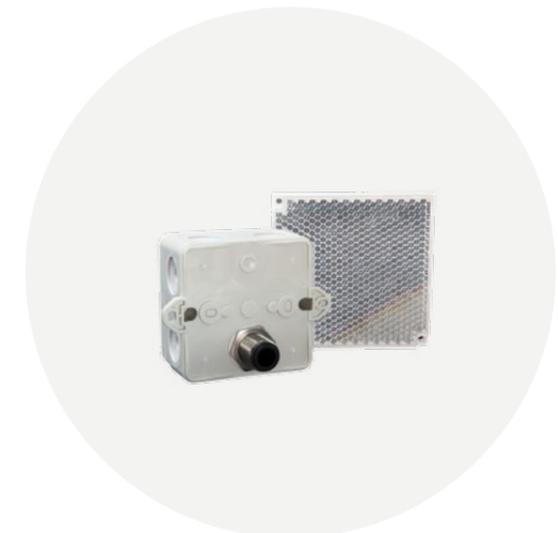
Optical Sensor

OFTEN USED WITH	Merlin 3000S **Page 10**

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 10

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

We can offer a range of single phase and three phase inverters. These can be used with our control panels such as the Merlin 1750 and Merlin 3000S. They offer an efficient method of controlling fan motors.

Speed Controller

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

TBX Gas Meter

The TBX gas meter is a precise way of monitoring the amount of gas being used in any application. The TBX provides a pulsed output which can be interpreted by our merlin control units or a BMS system.

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.

CIBSE CPD

The CPD session will cover the following 4 areas:

BB100 & IGEM UP/2 – GAS SAFETY IN BOILER HOUSES / PLANT ROOMS

IGEM UP/11 EDITION 3 (2018) – GAS CONTROL IN EDUCATIONAL ESTABLISHMENTS, SUCH AS FOOD TECHNOLOGY ROOMS AND LABORATORIES

BS6173:2009 & DW172 2018 – GAS INTERLOCKING FOR COMMERCIAL KITCHENS

IGEM UP/19 – CO_2 MONITORING FOR COMMERCIAL KITCHENS

SNSNORTHERN.COM/CPD

S&S Northern is a friendly family business proving top quality products and outstanding customer service.

S&S Northern is a friendly family business proving top quality products and outstanding customer service. S&S Northern has built a reputation in the UK that is second to none. Established in 1995, S&S Northern has become synonymous with designing and manufacturing gas pressure proving and gas detection equipment.

S&S Northern has achieved its position as the market leader as a result of its staff's dedication to supply top quality products that are safe, reliable and meet every client's individual requirements. Its aim is to always provide total satisfaction to those who specify, purchase and install S&S Northern products.

S&S Northern continually invests in training for every member of staff to ensure the customer receives the right product to meet their requirements at the right price and delivered on time. S&S Northern is committed to investing in research to improve its efficiency and the quality of its gas interlocking, gas ventilation and gas shut off systems and products. With bases in the North and South of the UK, S&S Northern is perfectly placed to respond to customer demand in any area and to respond immediately to requests for site visits or general enquiries.

Keep up to date with S&S Northern and industry news at
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