



ANNIVERSARY



GAS SAFETY & CONTROL



Welcome to our 2020 brochure

Phillip Wild - Managing Director



We are celebrating our 25th anniversary this year here at Duomo. It only seems like yesterday that we formed Duomo and embarked on this journey.

These politically uncertain times have thrown up many challenges for companies within the sectors we inhabit. Our success is due to the efforts of our fantastic team here in Droitwich, the loyalty of our customers and our ability to diversify, adapt and evolve.

Gas Safety and Control remain our reasons to be. Moving into the next 25 years Duomo will embrace new technology and innovation. Duomo will continue to provide the most appropriate equipment, on time and at the right price.

This great new catalogue has been designed to ease product selection and add some background information regarding standards and compliance. I hope that you find it useful.

Thank you so much for your support.

DUOMO COMBUSTION

Duomo are also heavily involved in the combustion industry and represent ESA Pyronics in the UK.

Our Sales Director, Jonathan Farmer has more than 22 years' application experience within the combustion industry, with project work in both high and low temperature combustion applications.

We offer a huge selection of products including burners, burner management boxes, mixers, valves and ignition transformers. Our products are supplied to a diverse customer base from biscuit baking to metals processing.

Duomo offer innovative combustion solutions for temperature uniformity, energy recovery and combustion control. Further information can be found in our ESA Pyronics Catalogue.



HISTORY

Duomo (UK) Ltd was born in 1994 to meet the requirement for enhanced gas safety in boiler plant rooms and commercial kitchens. The company founders were Keith Morris, Phillip Wild and Derek Wild. Keith supplied the commercial knowledge and sales activity; Phillip was responsible for research and development as well as technical support and Derek provided the team to manufacture and test the products.

Duomo secured large contracts with major local authorities and this led into the more commercial market.

The word spread; the gas safety equipment led to different product sectors too. We started to sell carbon dioxide sensors and process burner controls, the latter as a result of our prior experience in industrial combustion and its control.

Duomo grew and needed more space, doubling its capacity within six years and then redoubling that again in 2014. The Duomo design, manufacturing and testing facility in Droitwich, Worcestershire has been conceived to bring new products onto the market as quickly as trends and standards change.

OUR VISION

Safe, protected environments for everybody everywhere.

OUR MISSION

- To conceive gas safety and control equipment which conforms with and exceeds the requirements of current, relevant standards.
- To manufacture products which are easy to install and easy to use.
- To provide honest sales advice and comprehensive technical support.
- To give after sales support to customers and end users on site.



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GAS DETECTION



GAS PROVING



AIR MONITORING



HANDHELD GAS DETECTION



FLARE & PURGE UNITS



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GAS DETECTION



BOILER / PLANT ROOM GAS DETECTION

Duomo manufacture gas detection and safety systems as well as controls for boiler plant rooms, industrial facilities, car parks and many other applications.

We can assist with design, installation, commissioning and ongoing periodic servicing and re-calibration.

1. CHOOSE YOUR GAS DETECTION CONTROLLER

							
	BX150	GS100M	GS300M	GS300Mc	BX444Mc	BX316	BXI32 *
Channels	1	1	3	3	4	2	4
Maximum Sensors	1	1	3	3	4	16	32
Addressable	-	-	-	-	-	-	✓
Display	-	-	-				
Mounting	Panel	Wall & Panel	Wall & Panel	Wall & Panel	Wall & Panel	Wall	Wall
Power	12V or 230V	230V	230V	230V	230V	230V	110V or 230V
4-20mA Input	✓	✓	✓	✓	✓	✓	✓
Self-Diagnostic	✓	✓	✓	✓	✓	✓	✓
Manual Test	✓	✓	✓	✓	✓	✓	✓
Internal Alarm	✓	✓	✓	✓	✓	✓	✓
Emergency Stop Function	-	-	-	✓	✓	✓	-
Alarm Stages	Pre-Alarm Main Alarm	1 st Alarm 2 nd Alarm Main Alarm	1 st Alarm 2 nd Alarm Main Alarm	1 st Alarm 2 nd Alarm Main Alarm	1 st Alarm 2 nd Alarm Main Alarm	Pre-Alarm Main Alarm	Pre-Alarm Main Alarm
O ₂ Monitoring	-	-	-	✓	✓	✓	✓
Positive Safety	✓	✓	✓	✓	✓	✓	✓
IP Rating	IP42	IP44	IP44	IP44	IP44	IP65	IP65
Extended Guarantee *	3 years	3 years	3 years	3 years	3 years	3 years	3 years

*BXI32 Addressable: The BXI32 is an Addressable system and requires addressable sensors.

*Extended Guarantee: The standard guarantee for these products is 2 years, extended to 3 years by registering product online.

GAS DETECTION

2. GAS SENSOR SELECTION

							
	CO233/A	CO100AR	HCF100	SGM595	SG895	SG500	SGF104
Gas(es) Detected	Carbon Monoxide	Carbon Monoxide	Refrigerant Gases	LPG Natural Gas	10+ Gases	10+ Gases	Oxygen
Sensor Technology	Electrochemical	Electrochemical	Semiconductor	Catalytic	Pellistor	Catalytic	Optical
Display		-	-	-	-	-	-
4-20mA Output	✓	✓	✓	✓	✓	✓	✓
IP Rating	IP65	IP66	IP55	IP55	IP65	IP30	IP64
* Extended Guarantee	3 years	3 years	3 years	3 years	3 years	3 years	3 years

*Addressable Sensors: Please note these sensors are not compatible with the BXI32 Addressable system. Please call Duomo (UK) Ltd for compatible sensors on 01905 797989.

*Extended Guarantee: Please note the standard guarantee for these products is 2 years, extended to 3 years by registering product online.

3. PERIPHERALS

Duomo Gas Collector Cone



Sensor Guard



KOB21 Stop Button



AF126 Sounder/Beacon



Calibration Gas



12l or 110l Cannisters

Test Gas Flow Valves



Versions suitable for both 12l and 110l

DFL10 Thermal Fusible Link



VMR/VMH Auto Reset Solenoid Gas Valve



VMR ½" to 6"
VMH 8" to 12"

EVRM Manual Reset Solenoid Gas Valve



EVRM ½" to 12"



Duomo (UK)
Gas Detection

duomo.co.uk

See the full range of Duomo Gas Detection products by scanning the QR code.

Nationwide Calibration and Installation Service Now Available

Duomo OnSite engineers are qualified and experienced in installing, commissioning and servicing any Duomo products.

01905 797989

www.duomo.co.uk
sales@duomo.co.uk

GAS DETECTION

BX150 1 Channel Panel Mounted Gas Detection Controller

1

Channel

Panel Mounted Only

Manual test
Self-diagnostic

4-20mA

IP42



FEATURES

- Single channel protection
- 230VAC or 12VDC supply
- Panel mounted only
- Positive safety option
- Internal audible alarm
- Manual test function
- Self-diagnostic
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL
- 4-20mA signal input
- 2 alarm stages - Pre-alarm and main alarm
- Sensor fault relay output
- IP42 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The BX150 is a single channel, panel mounted gas detection controller. It can be connected to toxic and explosive sensors.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the BX150. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to failsafe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The BX150 controller is compatible with all the Duomo conventional sensors shown on the gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% max 2.2Ah
Battery Charger	Charger capacity 2.2Ah
Power Consumption	12V - 2.5W Maximum 230V - 9W Maximum
Relay Contact Range	10A resistive

Alarm Settings

Pre-Alarm No.1	13% LEL / 200ppm
Pre-Alarm No.2	N/A
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 48mm Height 96mm Depth 110mm
Display	N/A
Mounting	Panel mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<2 seconds
Working Temperature	-10°C to 40°C
Start-up Self-Diagnostic Delay	120 seconds
Protective Rating	IP42

Configuration

Positive Safety	Yes (ON/OFF)
Main Alarm Relay Actuation	Yes (Latching/Temporary Alarm)
Gas Type Selection	Yes (Toxic/Explosive)
Timed Sensor Test Facility	No
Emergency Stop Connections	No
O ₂ Compatibility as Standard	No

Peripheral Specification

No. of Remote Sensors	1
Maximum Sensor Distance	100m
Cable Diameter for Sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

GS100M 1 Channel Gas Detection Controller

1

Channel

Conventional

Positive Safety

4-20mA

IP44



FEATURES

- Single channel protection
- 230VAC supply
- Wall or panel mounted
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL /
- 4-20mA signal sensor input
- 3 alarm stages - 1st & 2nd pre-alarm and main alarm
- IP44 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The GS100M is a 230V single channel, wall or panel mounted gas detection controller. It can be connected to toxic and explosive sensors. An LED display indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the GS100M. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The GS100M controller is compatible with all the Duomo conventional sensors shown on the Gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% Max 2.2Ah
Battery Charger	Charger Capacity 2.2Ah
Power Consumption	13.8V - 11W Maximum
Relay Contact Range	10A resistive

Alarm Settings

Pre-Alarm No.1	8% LEL / 120ppm
Pre-Alarm No.2	13% LEL / 200ppm
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 144mm Height 144mm Depth 110mm
Display	N/A
Mounting	Wall or panel mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<10 seconds
Working Temperature	-10°C to 40°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP44

Configuration

Positive Safety	Yes (ON/OFF)
Main Alarm Relay Actuation	Yes (Latching/Temporary Alarm)
Gas Type Selection	Yes (Toxic/Explosive)
Timed Sensor Test Facility	No
Emergency Stop Connections	No
O ₂ Compatibility as Standard	No

Peripheral Specification

No. of Remote Sensors	1
Maximum Sensor Distance	100m
Cable Diameter for Sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

GAS DETECTION

GS300M 3 Channel Gas Detection Controller

3

Channel

Conventional

Positive Safety

4-20mA

IP44



FEATURES

- Three channel protection
- 230VAC supply
- Wall or panel mounted
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL
- 4-20mA signal sensor input
- 3 alarm stages - 1st & 2nd pre-alarm and main alarm
- IP44 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The GS300M is a 230V three channel and sensor wall or panel mounted gas detection controller. It can be connected to toxic and explosive sensors. An LED display indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the GS300M. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The GS300M controller is compatible with all the Duomo conventional sensors shown on the Gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% Max 2.2Ah
Battery Charger	Charger Capacity 2.2Ah
Power Consumption	13.8V - 11W Maximum
Relay Contact Range	10A resistive

Alarm Settings

Pre-Alarm No.1	8% LEL / 120ppm
Pre-Alarm No.2	13% LEL / 200ppm
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 144mm Height 144mm Depth 110mm
Display	N/A
Mounting	Wall or panel mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<10 seconds
Working Temperature	-10°C to 40°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP44

Configuration

Positive Safety	Yes (ON/OFF)
Main Alarm Relay Actuation	Yes (Latching/Temporary Alarm)
Gas Type Selection	Yes (Toxic/Explosive)
Timed Sensor Test Facility	No
Emergency Stop Connections	No
O ₂ Compatibility as Standard	No

Peripheral Specification

No. of Remote Sensors	1-3
Maximum Sensor Distance	100m
Cable Diameter for Sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

GS300MC 3 Channel Gas Detection Controller

3

Channel

Timed Test Facility

Emergency Stop Connections

8888
Colour Change Digital Display

IP44



FEATURES

- Three channel protection
- 230VAC supply
- Wall or panel mounted
- Digital display with colour change feature
- Emergency stop connections
- Timed sensor test facility
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL / Oxygen (O₂) 0-25%
- 4-20mA signal sensor input
- 3 alarm stages - 1st & 2nd pre-alarm and main alarm
- IP44 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The GS300Mc is a 230V three channel and sensor wall or panel mounted gas detection controller. It can be connected to toxic and explosive sensors. A colour change digital display indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the GS300Mc. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The GS300Mc controller is compatible with all the Duomo conventional sensors shown on the Gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% Max 2.2Ah
Battery Charger	Charger Capacity 2.2Ah
Power Consumption	12V - 4W Maximum 230V - 8.3W Maximum
Relay Contact Range	10A resistive 250VAC, 5A 30VDC Resistive

Alarm Settings

Pre-Alarm No.1	8% LEL / 120ppm
Pre-Alarm No.2	13% LEL / 200ppm
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 144mm Height 144mm Depth 110mm
Display	Digital display with colour change feature
Mounting	Wall or panel mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<2 seconds
Working Temperature	-10°C to 60°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP44

Configuration

Positive Safety	Yes (ON/OFF)
Main Alarm Relay Actuation	Yes (Latching/Temporary Alarm)
Gas Type Selection	Yes (Toxic/Explosive)
Timed Sensor Test Facility	Yes
Emergency Stop Connections	Yes
O ₂ Compatibility as Standard	Yes - Increase/Depletion

Peripheral Specification

No. of Remote Sensors	1-3
Maximum Sensor Distance	100m
Cable Diameter for Sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

GAS DETECTION

BX444MC 4 Channel Gas Detection Controller

4

Channel

O₂

Monitoring

8888
Colour Change
Digital Display

Positive
Safety

IP44



FEATURES

- Four channel protection
- 230VAC supply
- Wall or panel mounted
- O₂ depletion or excess monitoring
- Digital display with colour change feature
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL / Oxygen (O₂) 0-25%
- 4-20mA signal sensor input
- 3 alarm stages - 1st & 2nd level and main alarm
- IP44 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The BX444Mc is a 230V four channel wall or panel mounted gas detection controller. It can be connected to toxic and explosive sensors. A colour change digital display indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the BX444Mc. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The BX444Mc controller is compatible with all the Duomo conventional sensors shown on the Gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% Max 2.2Ah
Battery Charger	Charger Capacity 2.2Ah
Power Consumption	12V - 5W Maximum 230V - 9.3W Maximum
Relay Contact Range	10A resistive 250VAC, 5A 30VDC resistive

Alarm Settings

Pre-Alarm No.1	8% LEL / 120ppm
Pre-Alarm No.2	13% LEL / 200ppm
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 144mm Height 144mm Depth 110mm
Display	Digital display with colour change feature
Mounting	Wall or panel mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<2 seconds
Working Temperature	-10°C to 60°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP44

Configuration

Positive Safety	Yes (ON/OFF)
Main Alarm Relay Actuation	Yes (Latching/Temporary Alarm)
Gas Type Selection	Yes (Toxic/Explosive)
Timed Sensor Test Facility	Yes
Emergency Stop Connections	Yes
O ₂ Compatibility as Standard	Yes - Increase/Depletion

Peripheral Specification

No. of Remote Sensors	1-4
Maximum Sensor Distance	100m
Cable Diameter for Sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

BX316 2 Channel / 16 Sensor Gas Detection Controller

2 Channel
16 Sensor

Conventional

8888
Illuminated
Digital Display

4-20mA

IP65



FEATURES

- Sixteen sensors (Across one or two channels)
- 230VAC supply
- Wall mounted
- Illuminated digital display
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL
- 4-20mA signal sensor input
- Detection of Toxic / Explosive Gas(es)
- 2 alarm stages - Pre-alarm and main alarm
- IP65 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The BX316 is a 230V two channel, sixteen sensor wall mounted gas detection controller. It can be connected to toxic and explosive sensors. An illuminated digital display allows configuration and indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the BX316. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The BX316 controller is compatible with all the Duomo conventional sensors shown on the Gas sensors selection (page 3).

SPECIFICATION

Power

Power Supply	230VAC 50Hz ± 10%
Secondary Battery	12VDC ± 10% Max 2.2Ah
Battery Charger	Charger Capacity 2.2Ah
Power Consumption	12V - 25W Maximum 230V - 30W Maximum
Relay Contact Range	10A resistive 230VAC, 5A 30VDC resistive

Alarm Settings

Pre-Alarm No.1	Can be set from 3% LEL (45ppm) to 16% LEL (240ppm)
Pre-Alarm No.2	N/A
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 360mm Height 320mm Depth 135mm
Display	Illuminated digital display
Mounting	Wall mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<2 seconds
Working Temperature	-10°C to 45°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP65

Configuration

Positive Safety	Yes (General functions menu)
Main Alarm Relay Actuation	Yes (General functions menu)
Gas Type Selection	Yes (Sensors menu)
Timed Sensor Test Facility	Yes
Emergency Stop Connections	Yes
O ₂ Compatibility as Standard	Yes (Sensors menu) - Increase/Depletion

Peripheral Specification

No. of Remote sensors	16 sensors (Over 1 or 2 Channels)
Maximum Sensor distance	100m
Cable Diameter for sensors	1mm ² CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

GAS DETECTION

BXI32 4 Channel / 32 Sensor Addressable Gas Detection Controller

4 Channel
32 Sensor

Addressable

8888
Illuminated
Digital Display

4-20mA

IP65



FEATURES

- 4 channel (32 Sensor max) Protection
- 230VAC supply
- Wall mounted
- Illuminated digital display
- Positive safety option
- Detection of Toxic 0-300ppm / Explosive Gas(es) 0-20%LEL
- 4-20mA signal sensor input
- 2 stages of alarm - Pre-alarm and main alarm
- IP65 protective rating
- CE certified and approved to EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
- 2 years guarantee - 3 years by registering at duomo.co.uk

OVERVIEW

The BXI32 is a 230V addressable four channel zone, thirty-two sensor wall mounted gas detection controller. It can be connected to toxic and explosive sensors. An illuminated digital display allows configuration and indicates sensor status and faults.

If the remote sensor senses the presence of gas, it sends a proportional 4-20mA signal back to the BXI32. When the first alarm level is reached the pre-alarm relay is activated (See Alarm Settings). If the level continues to rise the main alarm relay will be energised.

For explosive or toxic gases, the electrical supply to the safety shut off valve is broken when the main alarm threshold is reached. A general alarm is sounded.

Should the controller enter fault condition the safety shut off valve closes to fail safe. A self-diagnostic feature looks for return sensor voltage and ensures correct functionality.

The BXI32 controller is addressable and is not compatible with Duomo conventional sensors. Please call Duomo for advice and assistance.

SPECIFICATION

Power

Power Supply	110V / 230VAC 50Hz ± 10%
Secondary Battery	12.7V ± 10% max 2.2Ah
Battery Charger	Charger capacity 2.2Ah
Power Consumption	12V - 30W maximum 230V - 25W maximum
Relay Contact Range	10A resistive 250VAC, 5A 30VDC resistive

Alarm Settings

Pre-Alarm No.1	Can be set from 3% LEL (45ppm) to 16% LEL (240ppm)
Pre-Alarm No.2	N/A
Main Alarm	Fixed at 20% LEL / 300ppm
Sensor Fault	Short circuit, interruption, sensor deterioration

Technical Specification

Dimensions	Width 330mm Height 340mm Depth 160mm
Display	Illuminated digital display
Mounting	Wall mounted
Input Signal	4-20mA
Device Precision	1% FS
Reaction Time	<2 seconds
Working Temperature	-10°C to 60°C
Start-up Self-Diagnostic Delay	90 seconds
Protective Rating	IP65

Configuration

Positive Safety	Yes (General functions menu)
Main Alarm Relay Actuation	Yes (General functions menu)
Gas Type Selection	Yes (Sensors menu)
Timed Sensor Test Facility	Yes
Emergency Stop Connections	Yes
O ₂ Compatibility as Standard	Yes (General functions menu) - Increase/Depletion

Peripheral Specification

No. of Remote Sensors	32 Maximum (4 Channel)
Maximum Sensor Distance	1000m
Cable Diameter for Sensors	0.5mm2 CSA (Screened and earthed at the controller end)

Compatibility

Sensor Compatibility	All Duomo Sensors
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Approvals, Certifications and Guarantee

Approvals	EN 61010-1, EN 50270, EN 50271, EN 45544-3, EN 60079-29-1, EN 50104
Guarantee	2 years as standard 3 years by registering at www.duomo.co.uk

CO233A CO Sensor

CO

4-20mA



IP65



Technical Specification

Gas(es) Detected	Carbon monoxide
Dimensions	Width 100mm Height 100mm Depth 60mm
Display	6 Colour Digital Display
Sensor Technology	Electrochemical
Settings	Preset to TWA and STEL Standards
Output Signal	4-20mA
Sensor Range	0-300ppm
Working Temperature	-20°C to +50°C
Autosetting	Yes
Protective Rating	IP65
Approvals	EN 50270, EN 50271 & EN 45544-1-3 compliant

CO100AR CO Sensor

CO

4-20mA

IP66



Technical Specification

Gas(es) Detected	Carbon monoxide
Dimensions	Width 100mm Height 100mm Depth 60mm
Display	N/A
Sensor Technology	Electrochemical
Settings	Preset to TWA and STEL Standards
Output Signal	4-20mA
Sensor Range	0-300ppm
Working Temperature	-20°C to +50°C
Autosetting	Yes
Protective Rating	IP66 (Enclosure) IP65 (Sintered Head)
Approvals	EN 50270, EN 50271 & EN 45544-1-3 compliant

CO100P CO Sensor - For Car Parks

P
CAR PARKS

CO

4-20mA

IP66



Technical Specification

Gas(es) Detected	Carbon Monoxide
Dimensions	Width 100mm Height 100mm Depth 60mm
Display	N/A
Sensor Technology	Electrochemical
Settings	Preset to TWA (Alarm 1 and 2) & STEL Standards (Alarm 3)
Output Signal	4-20mA
Sensor Range	0-300ppm
Working Temperature	-20°C to +50°C
Autosetting	Yes
Protective Rating	IP66 (Enclosure) IP65 (Sintered Head)
Approvals	EN 50270, EN 50271 & EN 50545-1 compliant

SG895 ATEX Sensor

10+
Gases

4-20mA

IP65



Technical Specification

Gas(es) Detected	Natural gas, LPG, Ammonia, Hydrogen, Acetylene, Gasoline, Methanol, Ethanol, White Spirit, Acetone, Hexane, Ethyl Acetate, Toluene
Dimensions	Width 100mm Height 133mm Depth 70mm
Sensor Technology	Pellistor
Settings	0-20% LEL (0-300ppm for Carbon Monoxide)
Output Signal	4-20mA
Sensor Range	0 - 100% of LEL or diff. in ppm
Working Temperature	-10°C to +70°C
Autosetting	Yes
Protective Rating	IP65
Approvals	EN 50270, EN 50271, EN 60079-0, EN 60079-1, EN 60079-31, EN 60079-29-1

GAS DETECTION

HCF100 Refrigerant Gas Sensor

Refrigerant
Gases

4-20mA

IP55



Technical Specification

Gas(es) Detected	Freons (Inc R134A, R404A, R407C, R410A)
Dimensions	Width 76mm Height 150mm Depth 58mm
Display	N/A
Sensor Technology	Semiconductor
Settings	N/A
Output Signal	4-20mA
Sensor Range	0-300ppm
Working Temperature	-10°C to +60°C
Autosetting	Yes
Protective Rating	IP55
Approvals	EN 50270, EN 378-1, (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014

SGM595 Natural Gas or LPG Sensor

Natural
Gas

Propane

4-20mA

IP55



Technical Specification

Gas(es) Detected	Natural gas and LPG
Dimensions	Width 73mm Height 108mm Depth 57mm
Display	N/A
Sensor Technology	Catalytic
Settings	N/A
Output Signal	4-20mA
Sensor Range	5% to 20% LEL
Working Temperature	-10°C to +60°C
Autosetting	Yes
Protective Rating	IP55
Approvals	EN 50270, EN 50271, EN 60079-29-1

SGF104 Oxygen Sensor

O₂

4-20mA

IP64



Technical Specification

Gas(es) Detected	Oxygen
Dimensions	Width 100mm Height 100mm Depth 60mm
Sensor Technology	Optical (Fluorescence based)
Settings	19.5 or 18.5% of O ₂ (depletion), 22.5, 23.5% (excess)
Output Signal	4-20mA
Sensor Range	0-25%
Working Temperature	-30°C to +60°C
Autosetting	Yes
Protective Rating	IP64
Approvals	EN 50270, EN 50271, EN 50104

SG500 Natural Gas or LPG Sensor

Natural
Gas

LPG

4-20mA

IP30



Technical Specification

Gas(es) Detected	Natural gas or LPG
Dimensions	Width 110mm Height 50mm Depth 35mm
Sensor Technology	Catalytic
Settings	N/A
Output Signal	4-20mA
Sensor Range	0-20% LEL
Working Temperature	-0°C to +40°C
Autosetting	No
Protective Rating	IP30 (Enclosure)
Approvals	EN 50270, EN 50271, EN 60079-29-1

GS920 – Seismic activity and Natural Gas/L.P.G. Detector

Natural Gas

LPG



Seismic activity

IP42



FEATURES

- Natural gas or LPG detection and Seismic activity
- Catalytic sensor
- 3-axis Accelerometer
- Audible Alarm
- Sensor Active Indicator
- EN50194 compliant
- 2 years guarantee - 3 years by registering at duomo.co.uk

DESCRIPTION

The GS920 is a standalone gas detector for detecting Natural Gas or LPG sensor (specify at order stage) with an integrated seismic detector that utilise output functions in the event of seismic activity making it an ideal sensor in areas prone to earthquakes.

With a built-in relay the GS920 can be used to shut off a gas valve in the event of a leak or operate remote sirens and beacons to alert those nearby of a potential hazard.

Technical Specification

Gas(es) Detected	Natural gas or LPG
Power Supply	230VAC 50/60Hz +/- 10%
Secondary Battery	12VDC - 1.2Ah +/- 10%
Power Consumption	2W (at 230V)
Sensor Technology	Catalytic
Earthquake Technology	6th degree of Mercalli Scale, 3 Axis Accelerometer
Dimensions	Width 115mm Height 150mm Depth 52mm
Alarm Settings	10% of LEL
Working Temperature	-10°C to +40°C
Mounting	External wall mount or embedded box
Protective Rating	IP42
Approvals	EN 50194, EN 50270, EN 61010, EN 50244

CHCO – Natural Gas & Carbon Monoxide Detector

CO

Natural Gas

IP42



FEATURES

- Natural gas & CO Alarm Relay SPDT
- Catalytic sensor for Natural Gas
- Electrochemical Sensor for CO
- Audible Alarm
- Sensor Active Indicator
- EN50194 for Gas and EN50291 for CO
- 2 years guarantee - 3 years by registering at duomo.co.uk

DESCRIPTION

The Duomo CHCO detects the presence of Natural gas and carbon monoxide using dual sensor technology. It is a fixed, wall mounted system with a permanently connected 230 volt electrical supply.

The CHCO is fitted with an output function for triggering ancillary devices, for example a gas shut-off valve. In homes equipped with gas appliances, the output signal may be used for triggering a shut-off valve on the incoming mains gas pipe. Such a valve should require a manual action for resetting to the open position EVRM Valves. For CO detection in addition to shutdown of the incoming gas supply, the CHCO can also start a ventilation fan.

Technical Specification

Gas(es) Detected	Natural gas & Carbon monoxide
Power Supply	230VAC 50/60Hz +/- 10%
Power Consumption	3.5W (at 230V)
Sensor Technology	Catalytic and Electrochemical
Dimensions	Width 115mm Height 150mm Depth 52mm
Alarm Settings	10% of LEL
Working Temperature	-10°C to +40°C
Mounting	External wall mount or embedded box
Protective Rating	IP42
Approvals	EN 50194, EN 50291, EN 50270, EN 61010, EN 50244

GAS DETECTION

VMR Auto Reset Solenoid Gas Valve



FEATURES

- Available from 1/4" BSP to 6" flanged valve
- Valve assembly, pressure tested and certified
- 230V Supply (Also available in 110V and 24V)
- Up to 200mbar inlet pressure, 6bar version available
- Suitable for Natural Gas or LPG
- EN 161

DESCRIPTION

The VMR Auto Reset Solenoid Valve is suitable for air or gas blocking and releasing controls, required in gas power burners, atmospheric gas boilers, furnaces and other gas consuming appliances.

The VMR type valves are made in accordance with EN161 standard. With sizes available from 3/8" to 6" and pressure range of 0-6 bar has become the preferred choice of quality conscious specifiers world-wide.

SPECIFICATION

Available Options

VMR12OTN - 1/2"	VMR12 - 1/2"	VMR22 - 3/4"	VMR32 - 1"
VMR352 - 1 1/4"	VMR42 - 1 1/2"	VMR62 - 2"	VMR72 - 2 1/2"
VMR82 - 3"	VMR92 - 4"	VMR932 - 5"	VMR952 - 6"

Compatibility

Compatible Controllers	All controllers
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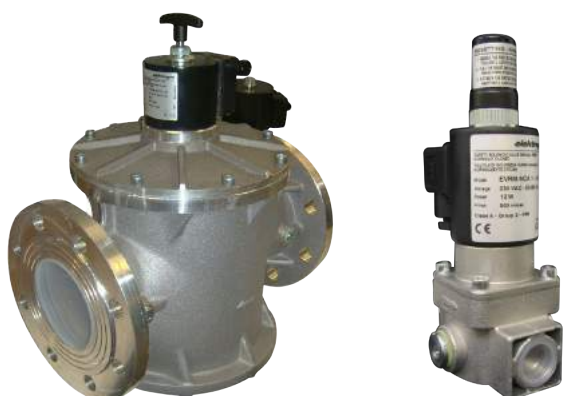
Technical Specification

Protective Rating	IP54 (IP65 available as special order)
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Approvals, Certifications and Guarantee

Approvals	EN 161
Guarantee	3 years

EVRM Manual Reset Solenoid Gas Valve



FEATURES

- Available from 3/8" to 12" flanged BSP
- Valve assembly, pressure tested and certified
- 230V Supply (Also available in 110V and 24V)
- Optional G1/8" connection for closed position indicator micro switch (on request from 3/4" to 6")
- Suitable for Natural Gas or LPG
- Fine mesh filter incorporated to prevent dirty contamination of the seal (except brass models)
- 600 mbar standard, 6 bar version available
- EN161

DESCRIPTION

The EVRM Manual reset safety valve that is normally closed. The EVRM type valves are made in accordance with EN161 standard. Sizes from 3/8" up to 12" and pressure ranges up to 6 bar.

SPECIFICATION

Available Options

EVRM12 - 1/2"	EVRM22 - 3/4"	EVRM32 - 1"	EVRM35 (1 1/4")
EVRM42 - 1 1/2"	EVRM62 - 2"	EVRM72 - 2 1/2"	EVRM82 - 3"
EVRM92 - 4"	EVRM93 - 5"	EVRM95 - 6"	EVRM98 - 8"
EVRM910 - 10"	EVRM910 - 12"		

Compatibility

Compatible Controllers	All controllers
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Technical Specification

Protective Rating	IP54
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Approvals, Certifications and Guarantee

Approvals	EN 161
Guarantee	3 years

KOB 21 Stop Button



FEATURES

- Twist to reset
- Double insulated
- Shroud version available
- Preformed 20mm knockouts
- 600V 10A normally closed contact
- Breaks control circuits in emergencies
- IP65 protective rating

DFL10 Thermal Fusible Link



FEATURES

- 72°C protection temperature
- 250VAC 10A maximum load
- 20mm cable entry
- For installation above heat generating devices in boiler rooms
- Breaks the electrical supply to a gas safety shut off valve in the event of high ambient temperatures
- IP30 protective rating
- 2 years guarantee - 3 years by registering at duomo.co.uk

AF126



FEATURES

- 24V supply voltage and low power consumption
- Sounder maximum output 100dB(A)
- Sounder effective range 30m @ 1KHz
- Flash rate 1Hz (60fpm)
- 2 stage alarm
- Volume control
- Operational temperature from -25°C to 55°C
- Storage temperature from -40°C to 70°C
- 10 selectable tones
- IP66 protective rating

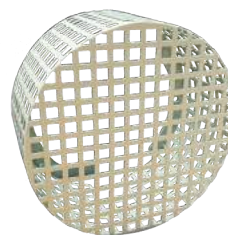
Collector Cone



FEATURES

- For lighter than air gases only
- Enhances target flow over sensor head
- Lightweight, robust design
- Simple installation
- Aluminium construction

Sensor Guard



FEATURES

- Duomo gas sensor compatible
- Powder coated mild steel material
- Simple and secure installation
- Vandal Proof RATING 4b

GAS PROVING

COMMERCIAL KITCHENS

This section of the catalogue clarifies when gas proving systems are required to check that manual isolation valves are turned off prior to start up. It also provides guidance on the requirements to interlock mechanical supply and extract ventilation with the gas supply to gas appliances within commercial catering establishments.



Commercial Catering Gas Proving System Guide



Start with the Stop

A twist to reset emergency stop type KOB21 or shrouded is required by each exit from the kitchen.

Further Reading

BS6173:2009

Gas safety in catering and hospitality.

IGEM/UP/19

Design and application of interlock devices and associated systems used with gas appliance installations in commercial catering establishments.

Choosing a suitable valve and controller

? Are flame failure devices fitted to all kitchen gas appliances?

YES Flame failure devices are fitted to all kitchen gas appliances

VMR Auto Reset or EVRM Manual Reset Valve with KS20 Control panel



duomo.co.uk

NO Flame failure devices are **NOT** fitted to all kitchen gas appliances

G161 Pipe Test System KS22 V6 Control panel



OR

G621 Pipework Integrity System Valve KS21 OR KS22 safestart controller



? How do I interlock the ventilation with the gas supply in a commercial kitchen?


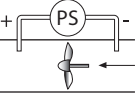


We need to know what type of appliances are in the kitchen - Type A or Type B.

Type A

An appliance not intended for connection to a flue or to a device for evacuating the products of combustion to the outside of the room in which the appliance is installed. (from PD CEN TR 1749-2).

Type B

An appliance intended to be connected to a flue that evacuates the products of combustion to the outside of the room containing the appliance. The combustion air is drawn directly from the room (from PD CEN TR 1749-2).

	Option	Specification	Suitability by Appliance Type	
	Air Pressure Switch	Air pressure switch (ADP10 or ADP65)	Type A ✓	Type B ✓
	Air Flow Switch	Air flow switch ADP's fitted differentially across fan proving air flow. (ADP10 or ADP65)	Type A ✓	Type B ✓
	Current Monitor	FP45 Current Monitor (S - Single D - Double T - Triple)	Type A ✓	Type B ✓
	Carbon Dioxide Monitoring	Carbon Dioxide monitor (CO ₂ MC or CO ₂ Alarm)	Type A ✓	

? Can I use CO₂ sensors to vary the speed of the extract system?

YES Carbon Dioxide monitoring can be used to control ventilation rates on a demand basis. This reduces power use and can also reduce a draught effect of cold incoming air in winter. aSENSE, tSENSE, TLD1.

Note: The ventilation system must maintain balance with regard to supply and extract ratios.

aSENSE

CO₂ Temp



Maintenance Free

Wall Mounted

LCD Digital Display

tSENSE

CO₂ Temp %RH




Maintenance Free

Wall Mounted

Colour Touch Display

TLD1

CO₂ Temp



MODBUS Connectivity

Wall Mounted

Traffic light display

? When commissioning a commercial kitchen ventilation system, how do I measure the CO₂?

Duomo Ventcheck

CO₂ Temp



Duomo Ventcheck Plus

CO₂ Temp %RH



Duomo Ventcheck Pro

CO CO₂ Temp



GAS PROVING



LABORATORIES

For compliance with IGEM/UP/11 Edition 3 Gas Solenoid valves installed into teaching environments shall incorporate pressure proving.

This ensures closure of all the downstream outlets prior to restoration of the gas supply.

Laboratory Gas Proving System Guide



Start with the Stop

A twist to reset emergency stop type KOB21 or shrouded is required by each exit from the laboratory.

Further Reading

IGEM/UP/11 Edition 3
Gas installations for educational establishments.

Choosing a suitable valve and controller

Option 1

G161 Pipe Test System KS23 V6 Labstart Control panel



Option 2

Pipework Integrity System Valve KS23 Labstart Control panel



Optional Water Isolation Valve



ZS Water valves (½" - 2" BSP)

The Duomo KeyStart 23 Controller has an output to start and stop the water valve. The status of the valve is displayed to the user via the KS23 panel.


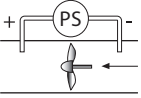


For technical advice or assistance please call Duomo UK on:

**01905
797989**

www.duomo.co.uk
sales@duomo.co.uk

? How do I interlock the ventilation with the gas supply in a science laboratory?

The options available are shown in the table below:

	Option	Specification
	Air Pressure Switch	Air pressure switch (ADP10 or ADP65)
	Air Flow Switch	Air flow switch ADP's fitted differentially across fan proving air flow. (ADP10 or ADP65)
	Current Monitor	FP45 Current Monitor (S - Single D - Double T - Triple)
	Carbon Dioxide Monitoring	Carbon Dioxide monitor (CO ₂ MC or CO ₂ Alarm)

? Can I use CO₂ sensors to vary the speed of the extract system?

YES Carbon Dioxide monitoring can be used to control ventilation rates on a demand basis. This reduces power use and can also reduce a draught effect of cold incoming air in winter. aSENSE, tSENSE, TLD1.

Note: The ventilation system must maintain balance with regard to supply and extract ratios.

aSENSE

CO₂

Temp



Maintenance Free

Wall Mounted

LCD Digital Display

tSENSE

CO₂

Temp

%RH



Maintenance Free

Wall Mounted

Colour Touch Display

TLD1

CO₂

Temp



MODBUS Connectivity

Wall Mounted

Traffic light display

? When commissioning a laboratory ventilation system, how do I measure the CO₂?

Duomo Ventcheck

CO₂

Temp



Duomo Ventcheck Plus

CO₂

Temp

%RH



Duomo Ventcheck Pro

CO

CO₂

Temp



19



GAS PROVING

KeyStart 20 Controller for use with VMR in Commercial Kitchens - KS20



Air



Gas

VMR
Compatible

Illuminated
Display

IP66



FEATURES

- For commercial kitchens where all gas appliances have flame safeguards.
- For use with VMR Automatic Isolation Valve (AIV)
- Touchpad control panel
- Unique, programmable key code
- Continuously monitors ventilation interlocks
- Can be used to start ventilation systems
- IGEN UP/2 compliant for UP/19 and BS6173 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz ± 15%
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	3A
Max out breaking capacity	2500VA

Technical Specification

Dimensions	Width 200mm Height 110mm Depth 60mm
Secure Start	Keypad Numeric Code (re-settable)
Operating temperature	0 to 60°C
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
Yes	No	No

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/19 and BS6173 compliance
Guarantee	2 years

KeyStart 21 Controller for use with G621 in Commercial Kitchens - KS21



Air



Gas

G621
Compatible

Illuminated
Display

IP66



FEATURES

- For use with G621 Gas Proving System Safeguards.
- Key start control panel
- Continuously monitors ventilation interlocks
- Can be used to start ventilation systems
- IGEN UP/2 compliant for UP/19 and BS6173 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	4A

Technical Specification

Dimensions	Width 182mm Height 180mm Depth 111mm
Secure Start	Keylock control panel
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
No	No	Yes

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/19 and BS6173 compliance
Guarantee	2 years

KeyStart 22 Controller for use with G621 in Commercial Kitchens - KS22



Air



Gas

G621
Compatible

Illuminated
Display

IP66



FEATURES

- For use with G621 Gas Proving System
- Visually displays failure type (Air or Gas)
- Automatically isolates gas supply at low pressure
- Touchpad control panel
- Unique, programmable access code
- Continuously monitors ventilation interlocks
- Can be used to start ventilation systems
- IGEM UP/2 compliant for UP/19 and BS6173 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz ± 15%
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	3A
Max out breaking capacity	2500VA

Technical Specification

Dimensions	Width 200mm Height 110mm Depth 60mm
Secure Start	Keypad Numeric Code (re-settable)
Operating temperature	0 to 60°C
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
No	No	Yes

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/19 and BS6173 compliance
Guarantee	2 years

KeyStart 22 V6 Controller for use with G161 in Commercial Kitchens - KS22V6



Air



Gas

G161
Compatible

Illuminated
Display

IP66



FEATURES

- For use with G161 Gas Proving System
- Visually displays failure type (Air or Gas)
- Automatically isolates gas supply at low pressure
- Touchpad control panel
- Unique, programmable access code
- Continuously monitors ventilation interlocks
- Can be used to start ventilation systems
- IGEM UP/2 compliant for UP/19 and BS6173 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz ± 15%
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	3A
Max out breaking capacity	2500VA

Technical Specification

Dimensions	Width 200mm Height 110mm Depth 60mm
Secure Start	Keypad Numeric Code (re-settable)
Operating temperature	0 to 60°C
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
No	Yes	No

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/19 and BS6173 compliance
Guarantee	2 years

GAS PROVING

KeyStart 23 KS23 Gas Proving Controller for use in Science Laboratories

-  Power
-  Water
-  Gas
- G621
Compatible
- IP66



FEATURES

- For use with G621 Gas Proving System
- Visually displays failure type (Water or Gas)
- Automatically isolates gas supply at low pressure
- Touchpad control panel
- Unique, programmable access code
- IGEN UP/2 compliant for UP/11 edition 3 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz ± 15%
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	3A
Max out breaking capacity	2500VA

Technical Specification

Dimensions	Width 200mm Height 110mm Depth 60mm
Secure Start	Keypad Numeric Code (re-settable)
Max operating pressure	50 mbar
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
No	No	Yes

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/11 edition 3 compliance
Guarantee	2 years

KeyStart 23 V6 KS23V6 Gas Proving Controller for G161 in Science Laboratories

-  Power
-  Water
-  Gas
- G161
Compatible
- IP66



FEATURES

- For use with G161 Gas Proving System
- Visually displays failure type (Water or Gas)
- Automatically isolates gas supply at low pressure
- Touchpad control panel
- Unique, programmable access code
- IGEN UP/2 compliant for UP/11 edition 3 compliance

SPECIFICATION

Power

Power Supply	230VAC 50Hz/60Hz ± 15%
Power Consumption	7 VA Max
Max out switching voltage	250VAC / 100VDC
Max out current (all relays)	3A
Max out breaking capacity	2500VA

Technical Specification

Dimensions	Width 200mm Height 110mm Depth 60mm
Secure Start	Keypad Numeric Code (re-settable)
Max operating pressure	50 mbar
Protective Rating	IP66

Compatible with all Duomo ventilation interlocks

Valve Compatibility

VMR	G161	G621
No	Yes	No

Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/11 edition 3 compliance
Guarantee	2 years

G621 Gas Proving System



FEATURES

- Weep proving system for kitchens and laboratories
- Simple to install and easy to operate
- Available from 1/2" BSP to 4" flanged
- Valve assembly is pre-wired, pressure tested and certified
- 230V Supply
- Up to 50 mbar inlet pressure
- Suitable for natural gas or LPG
- Union or compression connections
- IGEM UP/2 compliant for UP/11 edition 3 compliance

DESCRIPTION

The Duomo Gas Safestart (G621) is fully assembled, painted and pre-wired weep bypass system which conforms with IGEM UP/2 and UP/11.

The G621 weep bypass system, securely isolates and safely re-establishes the gas supply to any area which relies on manual isolation of gas outlets.

The Duomo Gas Safestart is used in hotels, restaurants, schools, colleges, laboratories and canteens throughout Europe. Safestart protects personnel and property from damage caused by gas leaks. In accordance with the requirements of BS6173:2009, the Duomo Safestart system securely isolates and checks the integrity of the downstream pipe work and safely re-establishes the gas supply to any area which relies on manual isolation of gas outlets.

SPECIFICATION

Available Options

1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP
1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP
4" BSP			

Compatibility

Compatible Controllers	KS21, KS22 and KS23
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Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/11 edition 3 compliance
Guarantee	2 years

G161 Gas Proving System



FEATURES

- Pipework integrity system for kitchens and laboratories
- Simple to install and easy to operate
- Available from 1/2" BSP to 3" flanged
- Valve assembly is pre-wired, pressure tested and certified
- 230V Supply
- Up to 50 mbar inlet pressure
- Suitable for natural gas or LPG
- Required by IGEM/UP/11 for laboratories where automatic gas isolation is used

DESCRIPTION

The Duomo G161 is a valve and switch assembly, pre-wired pressure test system which conforms to IGEM UP/10 and UP/11

The G161 Safestart is a pipework integrity system for kitchens and laboratories that checks all downstream pipework is secure before initiating the gas supply. In accordance with the requirements of BS6173:2009, the Duomo Safestart system securely isolates and checks the integrity of the downstream pipe work and safely re-establishes the gas supply to any area which relies on manual isolation of gas outlets.

SPECIFICATION

Available Options

1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP
1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP

Compatibility

Compatible Controllers	KS22V6 and KS23V6
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Approvals, Certifications and Guarantee

Approvals	IGEM UP/2 compliant for UP/11 edition 3 compliance
Guarantee	2 years

GAS PROVING

VMR Auto Reset Solenoid Gas Valve



FEATURES

- Available from 1/2" BSP to 6" flanged valve
- Valve assembly, pressure tested and certified
- 230V Supply (Also available in 110V and 24V)
- Up to 200mbar inlet pressure, 6bar version available
- Suitable for Natural Gas or LPG
- EN 161

DESCRIPTION

The VMR Auto Reset Solenoid Valve is suitable for air or gas blocking and releasing controls, required in gas power burners, atmospheric gas boilers, furnaces and other gas consuming appliances.

The VMR type valves are made in accordance with EN161 standard. With sizes available from 3/8" to 6" and pressure range of 0-6 bar has become the preferred choice of quality conscious specifiers world-wide.

SPECIFICATION

Available Options

VMR120TN 1/2"	VMR12 1/2"	VMR22 3/4"	VMR32 1"
VMR352 1 1/4"	VMR42 1 1/2"	VMR62 2"	VMR72 2 1/2"
VMR82 3"	VMR92 4"	VMR932 5"	VMR952 6"

Compatibility

Compatible Controllers	KS20
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Technical Specification

Protective Rating	IP54 (IP65 available as special order)
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Approvals, Certifications and Guarantee

Approvals	EN 161
Guarantee	3 years

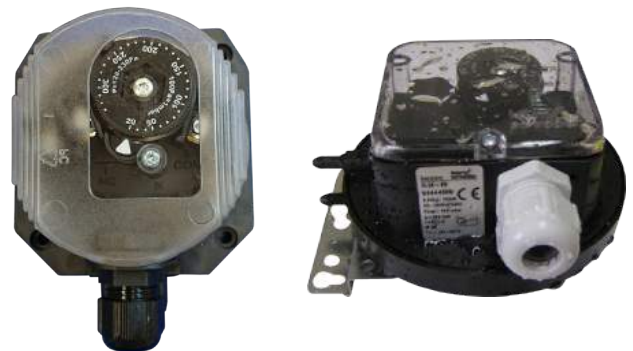
FP45 Current Monitor



FEATURES

- Digital display
- Monitors extract or supply fans
- Adjustable thresholds
- Single, double, triple or quadruple models available
- Operation band high and low cut off
- IP65 Protective rating (when supplied with enclosure)
- Conforms with EN50022
- 3 years guarantee

ADP10 and ADP65 Air Pressure Switch



FEATURES

- Optional tubing and pitot connections
- Adjusting range: 20 - 300 Pa
- Maximum inlet pressure: 5000 Pa
- Switching hysteresis: 8 - 18 Pa
- ADP10 - IP54, ADP65 - IP65 rating
- Compliant with 73/23/EEC

and breathe...



CO₂ Temperature and Relative Humidity Air Monitoring products from Duomo UK



AIR MONITORING

tSENSE Family - CO₂ Temperature and Relative Humidity Transmitters

CO₂

Temp

%RH

Maintenance Free

Wall Mounted

Colour Touch Display



FEATURES

- CO₂ Temperature and relative humidity outputs
- Maintenance free
- 3 sensors in one housing
- Colour touch display with possibility of customizable GUI
- Flexibility - Temperature and/or Humidity optional
- Improved housing design for effective measurement
- 5 years guarantee

The tSENSE is an advanced and versatile 3-in-1 transmitter designed for installation in the air-conditioned zone. The EFA version is designed to operate in accordance with the Department for Education publication BB101.

It measures CO₂ concentration, temperature and humidity in the ambient air accurately without need for additional compensation – true read. The data transmits to a BMS system or stand-alone controller using industry standard output signals and communication protocols.

APPLICATIONS

tSENSE combines all the necessary elements for effective climate control in commercial office buildings, hospitals, hotels, schools and other facilities.

Using CO₂ monitoring for demand control ventilation (DCV) allows healthy, comfortable and cost-effective environment for the occupants. It is flexible in design with temperature control and combination of humidity control optional.

SPECIFICATION

Power

Power Supply	12VDC, 24VDC or 24VAC (50 - 60Hz) ±20%
Power Consumption	<2W Maximum Non Display: <0.35W (Average) Display: <0.6W (Average)

Technical Specification

Dimensions	tSENSE EFA & tSENSE T RH RL: Width 85mm Height 125mm Depth 22mm
Display	Configurable colour LCD with CO ₂ (ppm) Temperature (°C) and Humidity (%RH)
CO ₂ Specification	Sensor Technology: NDIR Non dispersive infrared Sampling Method: Diffusion Response Time: <3 minutes Measurement range: 0 - 2000ppm Accuracy: ±50ppm (@1000ppm, 17 to 28°C and 30 to 60%RH) Typical full range: ±30ppm +3% of measured value Pressure Dependence: +1.58% reading per kPa deviation from normal pressure, 101.3kPa Measurement Interval: 15 seconds
Temperature Specification	Range: -10~50°C Accuracy: ±0.5°C (@ 17~28°C), ±1.0°C (@ 0~50°C) Repeatability: ±0.25°C (@ 17~28°C) Response Time: <6min (Air velocity of 0.15m/s) Measurement Interval: 15 seconds
Humidity Specification	Range: 0-100% RH Accuracy: ±5%RH (@ 20~80%RH) Hysteresis: ±1%RH (@ 20~80%RH) Response Time: <6min (Air velocity of 0.15m/s) Annual Drift: <±0.5%RH Repeatability: ±0.25%RH (@ 17 to 28°C) Response Time: <6min (Air velocity of 0.15m/s) Measurement Interval: 15 seconds
Operating Specification	Range of 0~50°C 0~95% RH (avoid condensation)
Sensor Life Expectancy	>15 years
Maintenance Interval	Maintenance free
Self-Diagnostics	Complete function-check of the sensor module
Warm up Time	<1min (15minutes at Full Specs)

Outputs

OUT1 CO ₂	0-10VDC, 0-2000ppm (adjustable)
OUT2 Temperature	0-10VDC, 0-50°C (adjustable)
OUT3 Relative Humidity	0-10VDC, 0 - 100%RH (adjustable)
Digital Output : Relay	On ≥1000ppm, Off ≤900ppm, CO ₂ (adjustable)

Approvals, Certifications and Guarantee

Approvals	- EMC directive 2004/108/EC - RoHS directive 2011/65/EU
Guarantee	5 years

aSENSE Family - CO₂ and Temperature Transmitters

CO₂

Temp

Maintenance Free

Wall Mounted

8888
LCD Digital Display



FEATURES

- CO₂ and Temperature outputs
- Maintenance free
- Contributes to lower energy costs
- Available in different carbon dioxide measurement ranges and different housings
- RS485 communication as option
- 5 year guarantee

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

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

The aSENSE MIII meets the latest sensor requirements for car park ventilation control. It has dual sensor technology measuring both Carbon Dioxide and Carbon Monoxide and providing proportional outputs to control and boost ventilation systems.

APPLICATIONS

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

SPECIFICATION

Power

Power Supply	24VAC ±20%, 50/60Hz (half-wave rectifier input)
Power Consumption	<1W Average

Technical Specification

Dimensions	aSENSE D & aSENSE RL: Width 83mm Height 120mm Depth 31mm Duct and m III: Width 84mm Height 142mm Depth 47mm
Display (On Display model)	4 Digits, 7 segments LCD with ppm indicator
CO ₂ Specification	Sensor Technology: NDIR Non dispersive infrared waveguide technology with ABC automatic background calibration algorithm Sampling Method: Diffusion Response Time: <3 minutes Measurement range: 0-2000ppm Accuracy: ±30ppm +3% of measured value Pressure Dependence: +1.6% reading per kPa deviation from normal pressure, 100kPa
Temperature Specification	Range: -20~60°C Accuracy: ±1°C (TBD) / 0.1°C on display, 0.01°C by UART
Operating Specification	Range of 0~50°C 0~85% RH (avoid condensation)
Sensor Life Expectancy	>15 years
Maintenance Interval	Maintenance free
Self-Diagnostics	Complete function check, yellow LED and LCD error indication (display model Disp)
Warm up Time	<1min (5minutes at Full Specs)

Outputs

OUT1 linear output	0/2 - 10VDC, 0 - 2000ppm CO ₂ 0/4 - 20mA, 0 - 2000ppm CO ₂ aSense MIII 0-10VDC, 0-100ppm CO
OUT2 linear output	0/2 - 10VDC, 0 - 50°C 0/4 - 20mA, 0 - 50°C aSense MIII 0 - 10VDC, 0 - 2000ppm CO ₂
Accuracy	CO ₂ ±30ppm ±3% of reading, CO ±10ppm
Relay (RL version)	SPST Relay max 1A Rated load 0.5A at 125VAC, 1A at 24VDC Max switching voltage: 125VAC, 60VDC Max switching current: 1A+

Approvals, Certifications and Guarantee

Approvals	- EMC 2004/108/EC directive - EN 61326-1:2006, Class B equipment, Table 1 - Basic immunity test requirements - RoHS directive 2011/65/EU
Guarantee	5 years

aSENSE INDUSTRIAL IP65



aSense Duct



aSense Duct with display



aSense MIII

AIR MONITORING

eSENSE Family - CO₂ Transmitters

CO₂

Maintenance Free

Wall Mounted

8888
LCD Digital Display



FEATURES

- CO₂ measurement (Temperature via passive thermistor bead on TR version)
- Maintenance free
- Available in different carbon dioxide measurement ranges and different housings
- Colour touch display with possibility of customizable GUI
- Internal automatic self-diagnostics
- Cost-optimized for connection to DDC:s
- Low cost
- 5 years guarantee

The eSENSE is a simple, low cost, state-of-the-art, infrared and maintenance free carbon dioxide transmitter for installation in the climate zone or in the ventilation duct.

eSENSE is used to decrease environment energy consumption while creating a healthier indoor climate!

eSENSE measures the carbon dioxide concentration in the ambient air up to 2000 ppm and transforms the data into an analogue output.

APPLICATIONS

eSENSE™ is an extremely cost-optimized sensor solution. By controlling the ventilation based on actual demand, it helps you to decrease the energy consumption and to have a healthy indoor climate in both residential and commercial buildings. eSENSE™ family is also available for applications or environments requiring control of CO₂ at higher concentrations.

SPECIFICATION

Power

Power Supply	24VDC or 24VAC ±20%, 50Hz (half-wave rectifier input)
Power Consumption	<1W Average

Technical Specification

Dimensions	eSENSE FAI & eSENSE TR: Width 79mm Height 100mm Depth 27mm Duct: Width 84mm Height 142mm Depth 47mm
Display (On Display model)	4 Digits, 7 segments LCD with ppm indicator
CO ₂ Specification	Sensor Technology: EQC (Eternal Quality Coating) technology with Automatic Background Calibration (ABC) and passive gas diffusion (no moving parts) Sampling Method: Diffusion Response Time: <3 minutes Measurement range: 0~2000ppm Accuracy: EQC ±30ppm ±3% of reading Annual Zero Drift: <±10ppm Pressure Dependence: +1.6% reading per kPa
Operating Specification	Range of 0~50°C 0~95% RH (non condensing)
Sensor Life Expectancy	>15 years
Maintenance Interval	Maintenance free
Self-Diagnostic	Complete function-check LCD error indication (display model Disp)
Warm up Time	<1min (15minutes at Full Specs)

Outputs

OUT1	0 - 10V for 0 - 2000ppm ±2% of reading ±50mV
OUT2	2 - 10V (or 4 - 20mA) for 0 - 2000ppm ±2% of reading ±50mV
Accuracy	±30ppm ±3% of reading

Approvals, Certifications and Guarantee

Approvals	- EMC 2004/108/EC directive - EN 61326-1:2006, Class B equipment, Table 1 – Basic immunity test requirements - RoHS directive 2011/65/EU
Guarantee	5 years



eSense Duct



eSense Duct with display

CO₂MC Carbon Dioxide Monitor with Temp & Relative Humidity



Relay Output
Traffic light display
IP30

SPECIFICATION

Power

Power Supply	100-240VAC - (24V Model also available)
Power Consumption	3.5V - 2.5W Average
Relay contact range	10A resistive 230VAC, 5A 30VDC Resistive

Technical Specification

Dimensions	Width 85mm Height 130mm Depth 37mm
Display	Three colour LCD backlight
Mounting	Wall Mounted
CO ₂ Specification	Range: 0~5000ppm Accuracy: ± 60ppm ± 3% of reading
Temp. Measurement range	-20°C~60°C
Humidity Measurement range	0~99% RH
Working Temperature	-0°C~50°C
Protective Rating	PC/ABS fire-proof IP30 protection

Outputs

Relay Output (Optional)	One volt-free relay output. Make or break at set threshold Max. 3A @ 250VAC note: Relay actuation requirement must be specied at order stage.
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Approvals, Certifications and Guarantee

Approvals	EN 50194 / EN 50291
Guarantee	2 years as Standard 3 years by Registering at www.duomo.co.uk

DESCRIPTION

The Duomo CO₂MC monitors levels of Carbon Dioxide in offices, schools or kitchens. The backlit display can be set to change from Green/Yellow/Red progressively as CO₂ levels increase. Available in three different versions to suit application (K/Kitchen - R/Classroom - L/Laboratory).

Automatic ventilation systems are not always installed. The CO₂MC allows occupants to determine when additional ventilation is required; putting control back into the hands of the user.

TLD1 Carbon Dioxide Monitor with Temp



MODBUS Connectivity
Traffic light display
IP30

SPECIFICATION

Power

Power Supply	24VDC or 24VAC
Power Consumption	1.8V Maximum - 1.2W Average
Analogue Outputs	Two analogue outputs (CO ₂ and temperature)-0-10VDC or 2 - 10VDC (selectable via jumper)

Technical Specification

Dimensions	Width 85mm Height 130mm Depth 37mm
Display	Three colour LCD backlight
Mounting	Wall Mounted
CO ₂ Specification	Range: 0~2000ppm Accuracy (at 25°C): ±30ppm ±3% of reading
Temp. Measurement range	-20°C~60°C
Working Temperature	-0°C~50°C
Protective Rating	PC/ABS fire-proof IP30 protection

Outputs

Analogue Outputs	Two analogue outputs (CO ₂ and temperature) - 0 - 10VDC or 2 - 10VDC (selectable via jumper)
RS485 interface	RS-485 with Modbus protocol, 19,200bps rate, 1 5KV antistatic protection, independent base address

Approvals, Certifications and Guarantee

Guarantee	2 years as Standard 3 years by Registering at www.duomo.co.uk
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DESCRIPTION

The Duomo TDL1 is a cost effective 24V carbon dioxide sensor with RS485 Modbus capabilities.

The unit has a 3-colour LED screen to give you a great visual indication of the current CO₂ level as well as analogue outputs for both CO₂ and temperature. Wall mountable, it is perfect for a variety of applications. Suitable for airports, train stations, shopping centres, offices, classrooms etc.

AIR MONITORING

CO₂ Alarm AF126 / F126

CO₂

Wall Mounted

8888
LCD Digital
Display



FEATURES

- 100 - 277VAC Supply Voltage
- Two pre-configured alarm and control thresholds
- Thresholds factory set to customer requirements
- NDIR Non dispersive Infrared sensing technology
- Optional Internal audible alarm
- Optional Beacon
- Digital display of Carbon Dioxide Levels (ppm)
- Alarm status Indicator lights
- Sensor fault Indication

SPECIFICATION

Power

Power Supply	100 / 277VAC
Relay Outputs	1 x 230V & 1 x Volt Free

Technical Specification

Dimensions	Width 155mm Height 123mm Depth 38mm (Dimensions without Sounder or Beacon)
Display	Digital display
Mounting	Wall Mounted
CO ₂ Specification	0~10000ppm CO ₂
CO ₂ Alarm Levels	Two alarm levels which preset to any required levels from 0~10000ppm CO ₂

Approvals, Certifications and Guarantee

Guarantee	2 years as Standard 3 years by Registering at www.duomo.co.uk
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CO₂ Sensors for PCBs



If you want to embed a CO₂ sensor onto your own printed circuit board Duomo has a wide range of PCB CO₂ elements that are suitable for a large variety of sensing and control applications.

CO₂, temperature and relative humidity sensing options available along with different output options that can be configured to suit your needs.

Additionally, little to no maintenance is required on most of the devices that have self-correcting functionality. These devices also prove that accuracy can be achieved alongside low average power consumption.

For advice on how to integrate these OEM modules please call our Technical Department.

AVAILABLE FEATURES

- Range of output functionality available
- Low power & ultra low power consumption
- Self correcting functionality can allow a maintenance free 15 year plus lifespan
- High precision
- Solid State for tough or explosion risk environments
- CO₂ relative humidity and temperature options available

CellAir Carbon Dioxide Detector with Remote display

CO₂

Temp

50,000ppm
Measuring Range

Up to 3
Remote
Displays

Large LCD
Display

IP54



FEATURES

- NDIR (Non-Dispersive Infrared) sensor
- Measures up to 50,000ppm
- Large LCD display
- Can handle up to 3 remote display units; 1 up to 25m away, 3 up to 8m apart
- CO₂ concentration and temperature
- Relay output to automatically control a fan to ventilate confined spaces
- Audible and visual alarm indications
- IP54 water proof protection

OPERATION

The Duomo CellAir CO₂ monitor is designed to detect the presence of excessive carbon dioxide in the ambient air to protect people in confined spaces.

A high concentration of CO₂ in a confined space is dangerous and may lead to health problems ranging from headaches and fatigue to asphyxiation and death. CellAir has an audible alarm and visual indication which activates when CO₂ the concentrations reach a pre-set level.

Detection of high levels of CO₂ will also activate a relay that could be used start a ventilation fan or sound an alarm.

CellAir can be widely used in CO₂ storage areas, breweries, wineries, cellars, beverage dispensing areas and fast food outlets.

SPECIFICATION

Power

AC Adapter	110 / 220VAC
Power Supply	100 / 240VAC, 50/60Hz
AC Output	6VDC, 1.8 W
Relay Output	30VDC or 250VAC, max. 2A, SPST, NO

Alarm Settings

Alarm No.1	0.5 / 1 / 1.5 / 2% CO ₂ in air
Alarm No.2	1.5 / 2 / 2.5 / 3 / 3.5 / 4% CO ₂ in air

Technical Specification

Dimensions	Width 85mm Height 118mm Depth 34mm
Display	LCD display
Mounting	Wall Mounted
Working Temperature	0°C~40°C Humidity range - 0~95%RH
CO ₂ Measurement range	0~50,000ppm ±100ppm or 5% of reading
Temp Measurement range	0°C~50°C
Protective Rating	IP54

Guarantee

Guarantee	1 year
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For technical information or assistance on available products please contact Duomo UK on:

01905 797989

www.duomo.co.uk
sales@duomo.co.uk

HANDHELD GAS DETECTION

Vent Check – Portable CO₂ & Temp. Sensor (CO₂)

CO₂

Temp

Backlight & Audible Alarm

EN 50543



FEATURES

- Dual reading and display of CO₂ & temperature
- NDIR sensor for CO₂ detection
- Statistics of time weighted averages
- Backlight for working in dark areas
- Audible CO₂ warning alarm
- With hard case and power adaptor
- Easy manual fresh air correction on CO₂

SPECIFICATION

Power

Power Supply	DC adapter, 4 x AA batteries (rechargeable option)
Battery Life	>10hours (Alkaline)

Technical Specification

Display	LCD display
CO ₂ Specification	Range: 0~9999ppm (max alarm threshold 9900ppm) Resolution of 2ppm Accuracy: ±75ppm± 5% of reading
Temperature Specification	Range: -10~60°C Resolution of 0.1°C Accuracy: ±0.6°C
Operating condition	Range of -0~50°C 0~95% RH (avoid condensation)

Approvals, Certifications and Guarantee

Approvals	EN 50543
Guarantee	1 year



Vent Check Plus – Portable CO₂ Temp. & Relative Humidity Sensor

CO₂

Temp



Backlight & Audible Alarm

EN 50543



FEATURES

- Triple reading and display of CO₂ Temperature & RH
- NDIR sensor for CO₂ detection
- Statistics of time weighted averages
- Backlight for working in dark areas
- Audible CO₂ warning alarm
- With hard case and power adaptor
- Easy manual fresh air correction on CO₂

SPECIFICATION

Power

Power Supply	DC adapter, 4 x AA batteries (rechargeable option)
Battery Life	>10hours (Alkaline)

Technical Specification

Display	LCD display
CO ₂ Specification	Range: 0~9999ppm (max alarm threshold 9900ppm) Resolution of 2ppm Accuracy: ±30ppm ±5% of reading
Temperature Specification	Range: -10~60°C Resolution of 0.1°C Accuracy: ±0.6°C
Humidity Specification	Range: 0~99.9% Resolution of 0.1% Accuracy: ±3%(10-90%) ±5%(others)
Operating condition	Range of -20~50°C 0~95% RH (avoid condensation)

Approvals, Certifications and Guarantee

Approvals	EN 50543
Guarantee	1 year

HANDHELD GAS DETECTION

Ventcheck Pro – Portable CO₂ CO & Temp. Sensor

CO

CO₂

Temp

Backlight &
Audible Alarm

EN 50543



FEATURES

- Triple reading and display of CO₂ CO & Temperature
- NDIR sensor for CO₂ detection
- Datalogging capability (downloadable via USB)
- Statistics of time weighted averages
- Backlight for working in dark areas
- Audible CO₂ warning alarm
- With hard case and power adaptor
- Easy manual fresh air correction on CO₂

SPECIFICATION

Power

Power Supply	DC adapter, 4 x AA batteries (rechargeable option)
Battery Life	>10hours (Alkaline)

Technical Specification

Display	LCD display
CO ₂ Specification	Range: 0~9999ppm Accuracy: ±30ppm ±5% of reading Reaction Time: <30 seconds
CO Specification	Range: 0~1000ppm Accuracy: ±10ppm at <100ppm, ±10% at 101~500ppm ±20% at >501 Reaction Time: <60 seconds
Temperature Specification	Range: -20~60°C Accuracy: ±0.6°C Reaction Time: <2 minutes
Operating condition	Range of -20~50°C 0~95% RH (avoid condensation)

Approvals, Certifications and Guarantee

Approvals	EN 50543
Guarantee	1 year

Gas Leak Detector (HHGAS) – Portable Natural Gas & Propane Sensor

Natural
Gas

Propane

Flexible
probe

Auto
Calibration

<10 second
response



FEATURES

- Detects Natural Gas and Propane Gases
- Quick to pinpoint gas leaks with 440mm flexible probe
- Automatically calibrates at power on
- Auto power off function
- 5 level LED alarm
- Less than 10 second response time
- Built in earphone jack and mute function

SPECIFICATION

Power

Power Supply	4 x AA batteries (rechargeable option) DC adapter (not supplied)
Battery Life	>14hours (Continuous working)
Auto Power off	10minutes from power on

Technical Specification

Display	LCD display
Natural Gas Specification	Range: 40~640ppm
Propane Specification	Range: 35~580ppm sensitivity of 35ppm
Operating condition	Range of 5~45°C
Probe Length	447mm
Warm Up Time	60 seconds

Guarantee

Guarantee	1 year
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HANDHELD GAS DETECTION

CO Detector (HHCO) – Portable Carbon Monoxide Sensor

CO

Auto
Power off

Auto
Calibration

<10 second
response



SPECIFICATION

Power

Power Supply	3 x AAA batteries (supplied)
Battery Life	250 hours without backlight, 35 hours when on

Alarm Settings

Alarm Thresholds	25, 30, 35, 45, 50, 70, 100 and 200ppm
Fresh Air Correction	Can be corrected to 0, 100 and 500ppm

Technical Specification

Display	LCD display
CO Specification	Range: 0~999ppm Resolution: of 1ppm Accuracy: ±20% at <100ppm, ±15% at 101~500ppm
Operating condition	Range of -20~50°C 0~95% RH (avoid condensation)

Guarantee

Guarantee	1 year
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FEATURES

- Dual digital displays of current and maximum carbon monoxide levels
- Adjustable CO warning level with “Geiger counter” style audible indicator
- Low battery indicator
- Auto power off function
- Backlight for working in dark areas
- Supplied with wrist strap, batteries and soft carry case

Aircheck - Bluetooth Air Flow Meter

Air
Velocity

CO₂

Temp



Bluetooth

5 HVAC
parameters

10cm
Vane

SPECIFICATION

Power

Power Supply	4 x AAA batteries (supplied)
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Technical Specification

Dimensions	Width 269mm Height 106mm Depth 51mm
Weight	~200g
Air Velocity Specification	Range: 0.2~30.00m/s Accuracy: (±1.5% + 0.3m/s) for under 20m/s (±3% + 0.3m/s) for above 20m/s
CO ₂ Specification	Range: 0~9999ppm (5001~9999ppm out of scale range) Accuracy: ±30ppm ±5% of reading (0~5000ppm)
Temperature Specification	Range: -20~60°C Accuracy: ±0.6°C Resolution: 0.1°C/°F
Humidity Specification	Range: 0.1~99.9% Resolution: of 0.1% Accuracy: ±3% (at 25°C, 10-90% RH) ±5% (others)
Operating condition	Range of 0~50°C 0~80% RH (avoid condensation)
Storage condition	Range of -10~50°C 0~90% RH (avoid condensation)

Guarantee

Guarantee	1 year
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FEATURES

- Bluetooth - Check & adjust simultaneously with Nice Flow App on IOS or Android device.
- App: Record settings, Search, Rename and Share.
- History data in CSV format to send to your PC/Laptop.
- 5 HVAC parameters
- 10cm Vane
- Average calculations (Multi point Avg. & Time Avg.)
- Optional airflow cone & extension stick and phone holder

FLARE AND PURGE UNITS

Flare Units - Single SFU and Twin TFU Head Flare Units



DESCRIPTION

Single or twin burner flare units, designed for the direct flaring of natural gas and LPG. The burner can operate at pressure up to 100mbar for NG and up to 2bar for LPG and if necessary higher pressure supplies can be regulated to this pressure.

The flare burner unit (with a constant ignition source) enables the unit to burn off any vented gas, where the vented gas could cause a problem due to the location. Some sites will not permit gas to be vented, so flaring is the only option.

SPECIFICATION

Power

Power Supply	110V (Source via a safety transformer) 2 x 110V supplies for TFU
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Technical Specification

Maximum Pressure	2 bar (can be regulated to higher pressures if necessary)
Box Materials	Vinyl coated Wooden and Aluminium framed box

Flare Unit Components

SFU Components	Instruction Booklet & Danger Sign 1 x 110V supply 1 x Spark Plug 4 x 15mm Steel Pipes (1 with flame Arrestor) 1 x Burner Heads 1 x Gas Inlet Assembly
TFU Components	Instruction Booklet & Danger Sign 2 x 110V supplies 2 x Spark Plug 8 x 15mm Steel Pipes (2 with flame Arrestors) 2 x Burner Heads 2 x Gas Inlet Assembly



Purge Units - Small SPU, Medium MPU and Large LPU Purge Units



DESCRIPTION

The range of purge units is designed for the direct purging of pipework up to 250mm bore from air to low pressure natural gas up to 100mbar. They can also be used for natural gas to air purging, an Air Fan Unit must be used which is available as an optional extra.

The purge units contain a flow meter for checking the purge flowrate and a connection point for a Gascoseeker to measure the gas concentration. The units are supplied with anti-static hose and camlock connectors for connecting to pipework.

The purge units can be used for setting up meter regulators under flow conditions. Air Fan Units are used to push the gas out of an installation, in conjunction with a purge or flare unit. The air fan units can also be used to pressurise installations for testing. All Soundness Testing and Purging must be carried out as per the Institution of Gas Engineers and Managers publications UP/1 or UP/1A.

SPECIFICATION

Power

Power Supply	Not applicable
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Technical Specification

Maximum Pressure	100mbar
Suitable Pipework Bore	SPU: Up to 100mm bore (4") MPU: Up to 150mm bore (6") LPU: 100mm to 250mm bore (4" to 10")
Box Materials	Vinyl coated Wooden and Aluminium framed box

Flare Unit Components

Standard Components	Instruction Booklet, Danger Sign & No Smoking Labels 1 x Flexible Hose (5m)
Stacks	SPU: 3 MPU: 6 LPU: 4
Purge Assembly	1 x Purge Assembly
Flame Arrestor	SPU: 1 MPU: 2

Gascoseeker 2-500



The Gascoseeker 2-500 is a recognised industry standard device for checking gas concentrations under purging and flaring conditions.

The two button operation means the Gascoseeker 2-500 is easy to use and operator training can be conducted quickly, the rugged design allows the Gascoseeker 2-500 to be used in harsh environments.

NEW PRODUCTS

MSD MultiSense Duct - Duct Mounted Air Quality Monitor

CO₂

CO

Temp

%RH

TVOC & Particle Data



24 Hour Online IAQ

WiFi
Ethernet
RS485

SPECIFICATION

Power

Power Supply 24VDC or 24VAC or 100-230VAC optional

Technical Specification

Dimensions	Width 180mm Height 125mm Depth 66mm
CO ₂ Specification	Range: 0~2000ppm Accuracy: ±50ppm +3% of the reading or ±75ppm (whichever is greater) (25°C, 10%~80%RH)
CO Specification	Range: 0-200ppm Accuracy: ±1ppm +5% of the reading (25°C, 10%~60%RH)
Temperature Specification	Range: -20~60°C Accuracy: ±0.8°C
Humidity Specification	Range: 0~99%RH Accuracy: 3.5%RH
TVOC Specification	Range: 0~3.5mg/m3 Accuracy: ±0.02mg +10% of reading (25°C, 10%~60%RH)
Particle Specification	Range: PM2.5: 0~500µg/m ³ PM10: 0~1000µg/m ³ Accuracy: <±2.5µg/m ³ +10% reading (25°C, 10~80%RH)
Operating condition	Range of -20~60°C 0~99% RH (non-condensation)

Approvals, Certifications and Guarantee

Approvals	CE
Guarantee	1 year

FEATURES

- Suitable for use in return air duct
- Automatic fan speed regulation
- CO₂, CO, TVOC, Temperature, humidity and particle data
- 24VDC/VAC or 100-230VAC optional
- Communication interface is optional: RS485 Modbus, WIFI, RJ45 Ethernet

MSI MultiSense Indication - Indoor Air Quality Monitor with Display

CO₂

Temp

%RH

TVOC & Particle Data



24 Hour Online IAQ

OLED Display

WiFi
Ethernet
RS485

SPECIFICATION

Power

Power Supply 18-24VDC or 24VAC ±10%

Technical Specification

Display	OLED Display (optional)
Dimensions	Width 94mm Height 117mm Depth 36mm
Sensor Technology	Non-Dispersal Infrared Detector (NDIR), Temp/Humidity Sensor, TVOC module, Laser Particle Sensor
CO ₂ Specification	Range: 400~2000ppm Accuracy: ±75ppm or 10% of the reading (whichever is greater) (25°C, 10%~50%RH)
Temperature Specification	Range: -20~60°C Accuracy: ±0.5°C (at 25°C)
Humidity Specification	Range: 0~99%RH Accuracy: <±3.0°C (20%~80%RH)
TVOC Specification	Range: 0~3.5mg/m3 Accuracy: ±0.02mg +10% of reading (25°C, 5%~50%RH)
Particle Specification	Range: PM2.5: 0~600µg/m ³ PM10: 0~600µg/m ³ Accuracy: <±15µg/m ³ (25°C, 10~50%RH)
Operating condition	Range of 0~50°C 0~99% RH
Protective Rating:	IP30

Approvals, Certifications and Guarantee

Guarantee	1 year
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FEATURES

- 24 hour online real-time detecting indoor air quality
- Optional OLED display
- CO₂, CO, TVOC, Temperature, humidity and particle data
- 18-24VDC or 24VAC
- Communication interface is optional: RS485 Modbus, WIFI, RJ45 Ethernet

MSR MultiSense Room - Indoor Air Quality Monitor

CO₂
Temp
TVOC
HCHO



24 Hour
Online IAQ



WiFi
Ethernet
RS485

SPECIFICATION

Power

Power Supply 18-24VDC or 100-240VAC

Technical Specification

Dimensions Width 130mm | Height 130mm | Depth 45mm

CO₂ Specification **Range:** 0~5000ppm
Accuracy: ±40ppm +3% of the reading (25°C, 10%~60%RH)

Temperature Specification **Range:** -20~60°C
Accuracy: ±0.5°C (at 25°C)

TVOC Specification **Range:** 0~3.5mg/m3
Accuracy: ±0.05mg +10% of reading (25°C, 10%~60%RH)

Formaldehyde (HCHO) Specification **Range:** 0-0.6mg/m3
Accuracy: ±0.05mg +10% of reading (25°C, 10%~60%RH)

Operating condition Range of 0-50°C 0-99% RH (non-condensation)

Protective Rating: IP20

Approvals, Certifications and Guarantee

Approvals CE

Guarantee 1 year

FEATURES

- 24 hour online real-time detecting indoor air quality
- Three-color light ring IAQ level indicator
- Providing multiple sensors such as PM2.5, PM10, TVOC, HCHO, Temperature, CO₂ and humidity
- BAS and HVAC systems, Smart Home System
- Selectable power supply 18-24VDC or 100-240VAC
- Communication interface is optional: RS485 Modbus, WIFI, RJ45 Ethernet

Duomo OnSite - Installation and Service



Affiliations & Accreditations





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