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Detecting Gas Saving Lives

GM16
GM64
GM128

Addressable Controller Range

- Multiple channel capacity options (16 / 64 / 128)
- Customisable controller configuration
- Addressable capability
- Full functionality and remote visibility of controller via internet browser

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Addressable Controllers

3 Addressable Digital and 4-20ma Analog Controller Introductions

GM16 – 16 channel addressable controller

GM64 – 64 channel addressable controller

GM128 – 128 channel (2 x GM64 addressable controllers paired together)

Crowcon's new range of addressable digital and 4-20ma analog controllers are modular, flexible, easy to configure and user friendly.

Simultaneous channel and alarm display via colour LCD screen for complete visibility and control over all live channels in system setup directly from non-intrusive controller display panel or remotely with direct to webpage live feed communication functionality on any device with internet access.

Features

Modular design build	Select how controller is configured Choose the configuration for your application: Select how may channel inputs are required Channel input communication type (MA, MV or Addressable): Select how many relay outputs are required Reduce complexity and cost by only including what is required for your application
Multiple display options	Display all active channels on the same screen Ability to combine channels into zones and view up to 8 zones simultaneously on one screen Trends screens allows view of last 24 hours or last 30-minute gas readings (current, max, min and average)
Multiple communications	4-20mA analog, RS-485 MODBUS and HART enabled communications as standard

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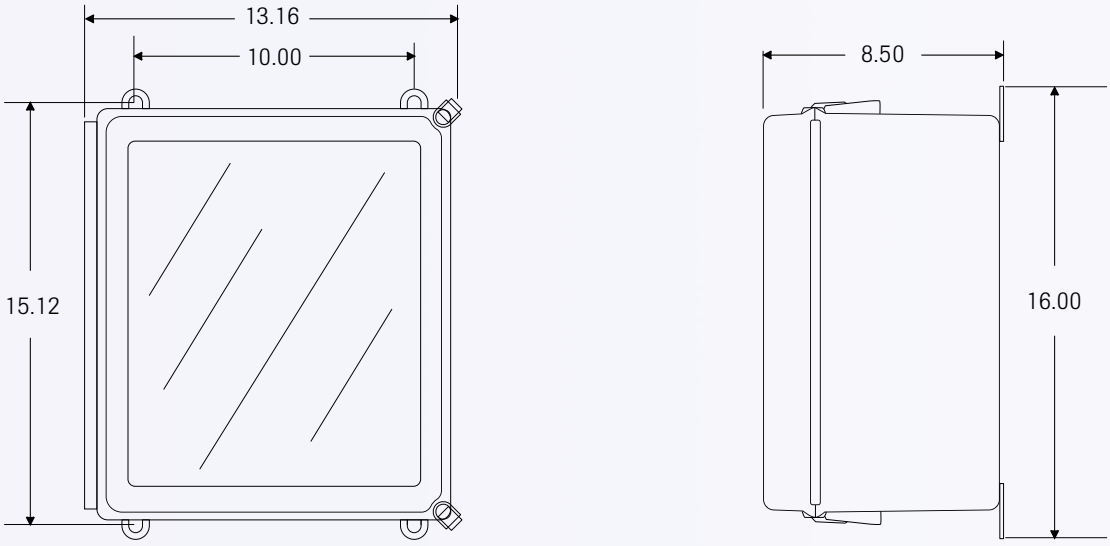
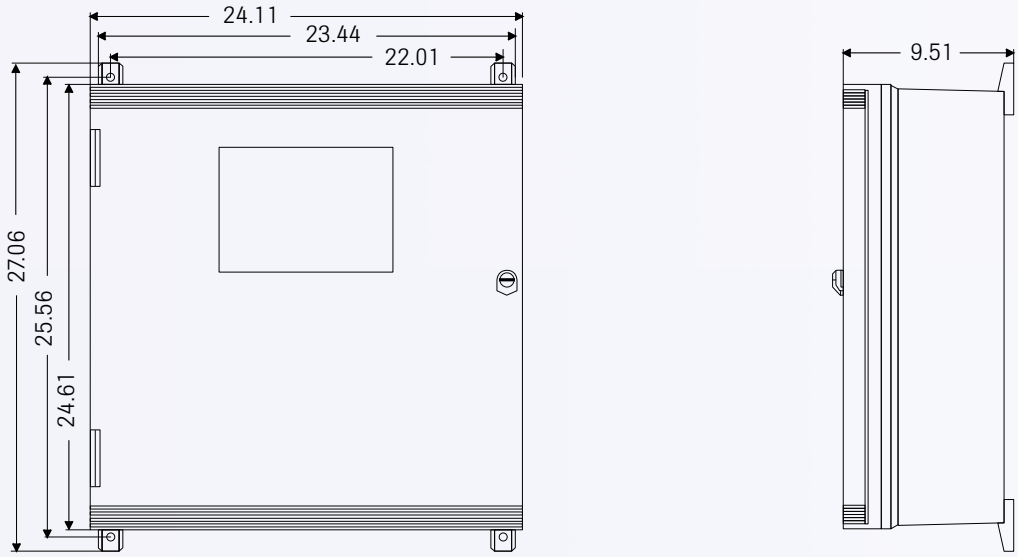
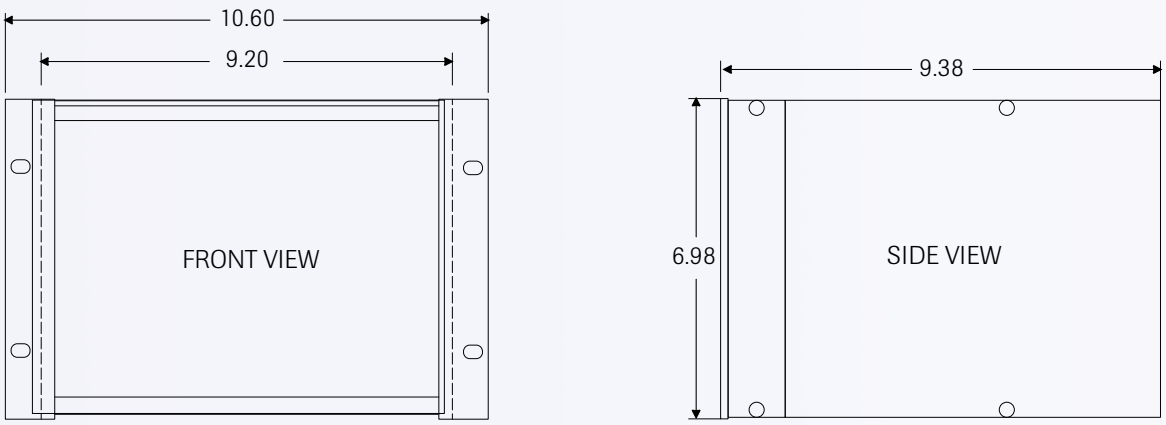
Small enclosure



Large enclosure



Rack mounting



*All dimensions are in inches

Be in control of your controller

System configuration	Ability to name the controller Create up to eight zones which can be named Choose how many channels are displayed simultaneously
Channel configurations	Choose alarm setpoints Select data each channel displays
Relay configurations	Set value for high and lows trips for each relay Choose colour for set trip value Set delays to each relay option
Copy channel	Copy and Paste an already configured channel to a new channel to save time for multiple identical channel configurations
Configuration upload / download	Set up configuration remotely via device and download onto SD card Inserting SD card into controller will automatically upload saved configuration

Specification

Small enclosure	Enclosure material	Fibreglass
	Dimensions	406.4 x 334.3 x 215.9mm (16.00 x 13.16 x 8.50 ins)
	Weight	7.7 Kg (17 lbs)
	Ingress Protection	NEMA 4X
Large enclosure	Enclosure material	Fibreglass
	Dimensions	612.4 x 687.3 x 241.6mm (24.11 x 27.06 x 9.51 ins)
	Weight	25 Kg (55lbs)
	Ingress Protection	NEMA 4X
Rack	19 inch rack mount option also available	
Power	Typical power use without detector heads is 20 to 50 Watts	
Electrical output	4-20mA 2 wire current sink 4-20mA 3 wire current source RS-485 Modbus RTU Relays 5 Amp 30 Volt RJ45 network connection	
Operating temperature	-20°C to + 50°C	
Humidity	0 to 90% non-condensing	
Repeatability and drift	Digital channels – no controller variability Analog channels – <1% FSD change over a 1 year period	
Approvals	May be used in a non-hazardous area as part of an intrinsically safe system	
EMC compliance	CE marked	

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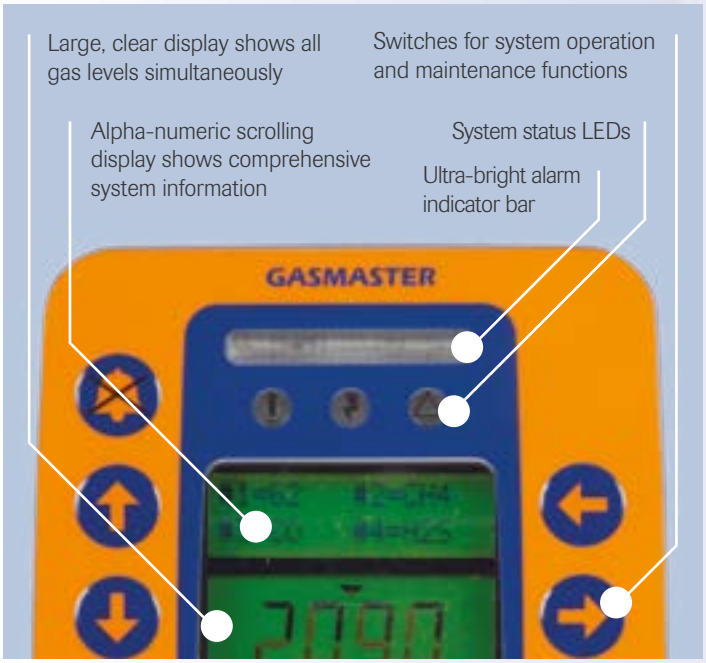
Gasmaster

Gas Detection Control Panels

- Large display
- User friendly
- Versatile input and output functions
- Modular design
- Up to four detectors

Gasmaster

1-4 Channel Gas Detection Control Panel



Large display

All gas levels are displayed simultaneously	Enables full systems status check at a glance
Alarm messages can be customised to indicate the name or location of any detector in alarm	
The LCD can be set to display in many languages	

User friendly

Menu system is intuitive and easy to use	Enables configuration changes to be made easily
All functions, from day-to-day operation to re-calibration, can be carried out from the front panel	Routine testing can be performed rapidly
Event log feature	Enables system fault and alarm history to be viewed

Product description

Crowcon Gasmaster provides all the information you need about your gas and fire detectors at a glance. The large multi-lingual display shows gas levels from all detectors simultaneously, and enables system adjustment and testing using buttons on the front panel. Crowcon Gasmaster can operate 'stand-alone' or interface with any alarm devices and control systems using a selection of outputs

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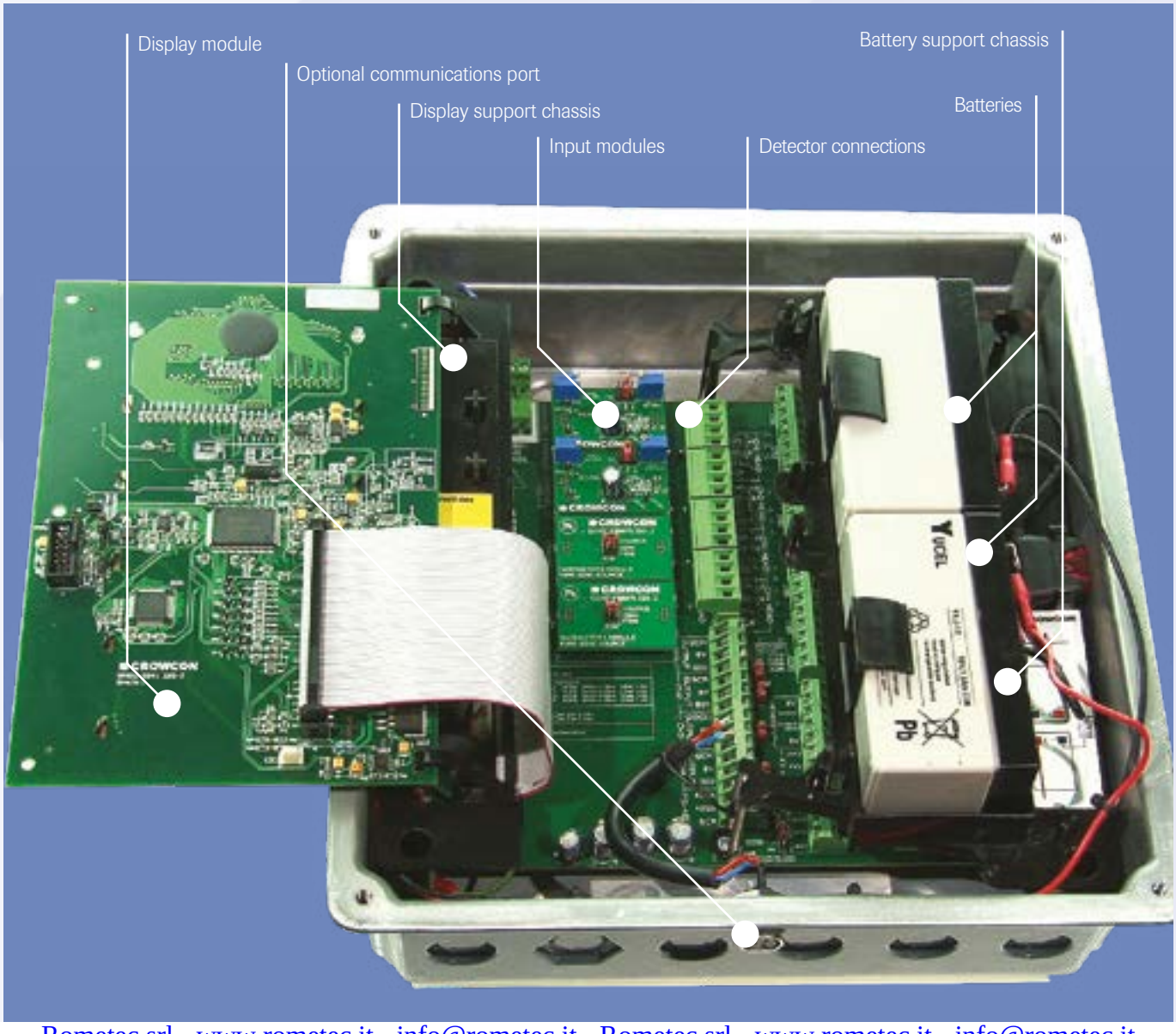
Versatile input and output features

Provides analogue, relay and Modbus outputs	Facilitating communication around the site
Flexibility	Gasmaster can monitor up to four detectors in virtually any combination of gas detectors, fire zones or Environmental Sampling Unit*
	Software enables re-configuration and event log upload in an instant**
Two levels of independent alarm per channel	Can be configured to suit site requirements
Remote inhibit and reset facilities	Enables control from any point on your site
Compatible with 4-20mA or mV pellistor type gas detectors	mV pellistor detectors reduce system purchase and maintenance costs

Modular design

You only need to purchase the required number of input modules	1, 2 and 3 channel systems can be extended later by adding additional modules***

* Contact Crowcon for details ** Event Log access requires optional PC communications kit *** Gasmaster 4 only



Specification

		Gasmaster 1	Gasmaster 4
Size		288 x 278 x 110mm (11.3 x 10.9 x 4.3 ins)	
Weight		4.5kg (10lbs)	
Enclosure material		Back-box: cast aluminium Front cover: ABS (flame retardant)	
Ingress protection		IP65	
Power		100-240Vac 50-60Hz or 20-30Vdc, 60W max	
Battery back-up		1.2Ah batteries fitted internally	
Operating temperature		-10°C to +50°C (14°F to 122°F)	
Humidity		0 to 95% RH non-condensing	
Inputs	Gas	One 2 or 3 wire 4-20mA gas detector (sink or source) or mV pellistor flammable gas detector	One to four 2 or 3 wire 4-20mA gas detectors (sink or source) or mV pellistor flammable gas detectors
	Fire	One loop of up to 20 conventional smoke/heat detectors or manual call points, or one flame detector (4-20mA or digital contact signal)	One to four loops of up to 20 conventional smoke/heat detectors or manual call points, or one to four flame detectors
	Environmental Sampling Unit	For use with one Crowcon ESU fan	For use with one to four Crowcon ESU fans
	Remote inhibit	Via normally open contact	
	Remote reset	Via normally open contact	
Outputs	Relays DPCO contacts rated 250Vac 8A. Relays can be set as energised or de-energised, latching or non-latchng, latching acceptable	Low alarm. High alarm. Fault. Alarm relays can be set for rising or falling alarms. Hysteresis can be adjusted on low alarms	Low alarm and high alarm per channel plus common low, high and fault. Alarm relays can be set for rising or falling alarms. Hysteresis can be adjusted on low alarms
	A/V alarm drive	12Vdc or 24Vdc 650mA max. drive. Suitable for +ve or -ve switched alarms	
	Analogue	4-20mA (current source, max. loop resistance 700Ω) or 1-5Vdc (min. load 50kΩ)	4-20mA for each channel (current source, max. loop resistance 700Ω or 1-5Vdc (min. load 50kΩ)
	Serial link	RS-485 Modbus RTU for monitoring and control via DCS/SCADA/PLC systems	
Communications port		Optional port for PC configuration and event log upload	
Event logging*		Time-stamped log of up to 300 alarms, fault or system intervention activities	
Panel indication		LCD back-lit display shows gas level (in ppb, ppm, % volume or % LEL units), and scrolling alpha-numeric status indication. LED's for Alarm, Fault, Power and Warning. Integral 85dB sounder (at 10cm)	
Approvals		EMC: EN50270, EN60945, FCC: CFR 47 Part 15; ICES-003 ATEX: May be used in a non-hazardous area as part of Intrinsically Safe System conforming to EN60079-25 Baseefa 05Y0090/1	
Functional safety		Validated to IEC61508 SIL2	

*Event log access requires a Gasmaster PC communications kit and communications port.

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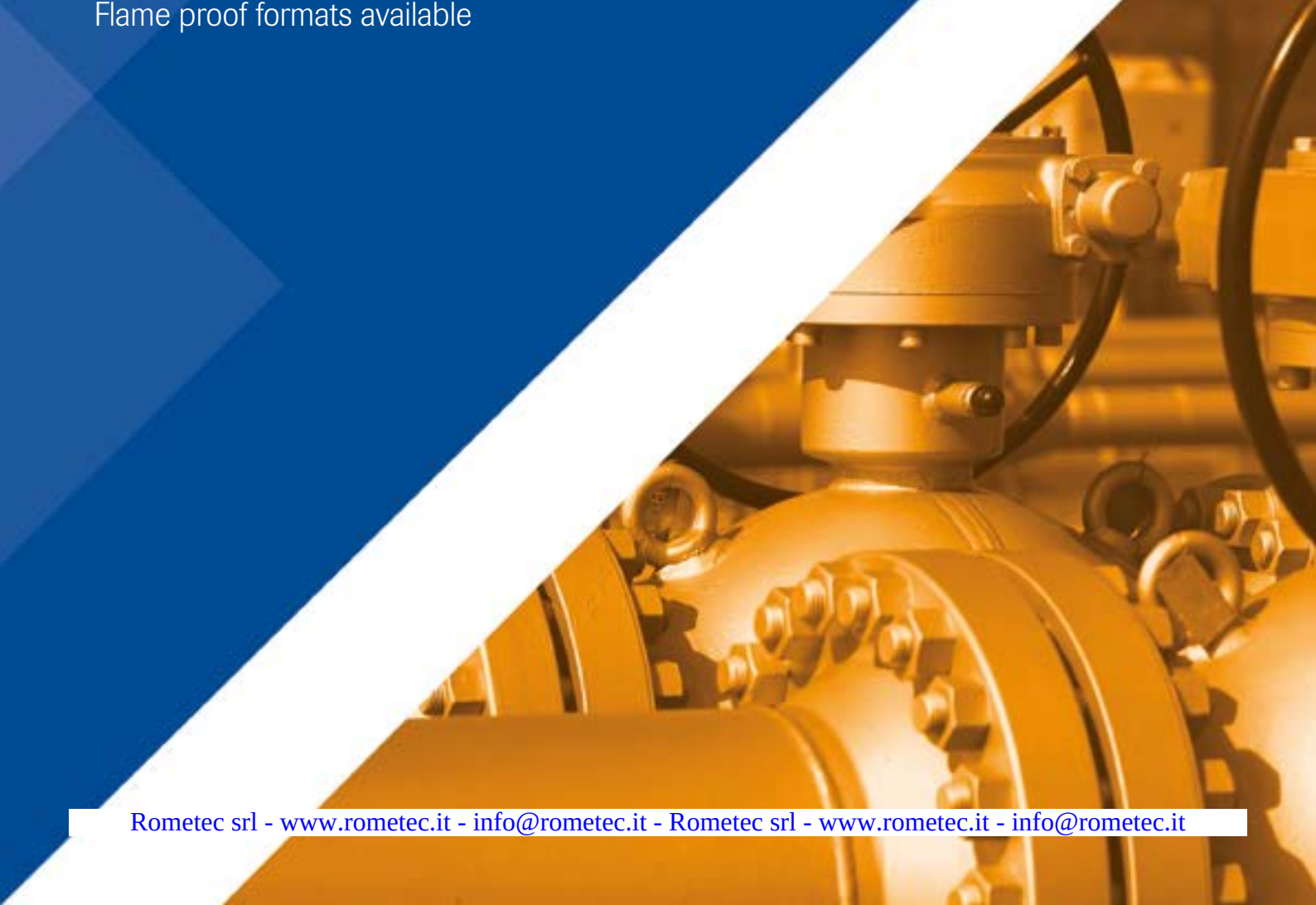
Vortex

Gas Detection Control Panels

- Robust and reliable
- Easy push-button operation
- Flexible configuration
- Adjustable on-site
- Flame proof formats available



Vortex

Gas Detection Control Panels 1 to 12 Channels

Choosing the control panel for your needs

With 5 options available, and customisable solutions, we have a Vortex panel to suit your requirements.

Vortex offers all the flexibility you will need while still being simple to operate. All the day to day operations can be completed via push buttons on the front panel. With up to 12 channels*, including up to 3 for fire, Vortex can be customised to meet your site requirements, however complex, without the need for extensive cabling.

Wall mounted: Vortex

A standalone unit for surface mounting on walls, the display panel shows the fault and alarm levels for all the channels, but the LEDs only light when a hazard or fault is detected. This means the whole system can be checked at a glance. Setting adjustments can be made at the enclosure without the need for additional equipment.

Panel mounted: Vortex Panel

For fitting into an existing panel or door and offering wide range of PSU and battery options.

19 inch rack mounted: Vortex Rack

A flexible option where modules, PSU and batteries can be supplied separately for fitting within an existing 19 inch enclosure, permitting multi-rack systems to be created.

Vortex Flameproof:

Vortex flameproof (FP) systems are designed for use in ATEX Zones 1 & 2, with IP66 ingress protection, Unlike many other flameproof systems, all day-to-day operations can be undertaken without opening the enclosure, removing the need for hot work permits.

Vortex FP

With up to 24 relays, the enclosure is capable of accommodating up to 4 intrinsically safe (I.S.) barriers for interfacing with I.S. detectors and alarms.

Vortex FP Compact

Not every location can accommodate a Vortex FP unit, so when space is restricted (see dimensions on back page), Vortex FP Compact is an ideal choice. With up to 16 output relays. Intrinsically safe barriers for interface with I.S. detectors and alarms must be housed in a separate enclosure.

* dependent on model chosen

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Channels and displays

1 to 12 channels (including 3 for fire)	Up to 12 devices can be monitored by reviewing just one control panel – saving time and manpower
Each channel has 1 fault level and 3 alarm levels which can be combined in any pattern to trigger up to 32 output relays.	Flexibility built in; initially configured to suit your operational needs, then channels/alarms are easily customised by you if requirements change
Can be factory set to your requirements. Then when in situ, can easily be configured to suit your requirements using Panels Pro software.	
Push buttons on front display	Day to day operations are easily undertaken
LED display panel lights	Faults are easily seen and whole system can be checked at a glance

Installation and maintenance

Modbus compatibility	No extensive cabling required; cable connections within the unit are easy
Space within units for access to cable terminals	
Uses industry standard communication links	Simple to integrate into existing control systems
Any adjustments are performed electronically	Minimal maintenance – no drift from adjustable potentiometers
Separate zones can be individually inhibited	You can work on specific areas without affecting the rest of the system
Modular construction	Replacement parts if required just plug straight in

Compliance and reliability

Provides analogue, relay and Modbus outputs	Demonstrates system dependability
System monitors relays continuously	Coil faults are identified immediately without input from you
Internal battery pack*	Power outs are not a problem Internal battery pack continuously monitored for charge levels and connection System is operational at all times

* Not available on flameproof versions

Specification

		Vortex	Vortex Rack/Panel	Vortex FP	Vortex FP Compact
Size		470 x 306 x 170mm (18.5 x 12 x 6.5 ins)	Rack display: standard 19" 3U Panel display: 441 x 128mm (cut-out 366 x 84.5mm) Modules, PSU and batteries are supplied separately for fitting within a cabinet.	440 x 640 x 332mm (17.3 x 25 x 13 ins)	450 x 330 x 289mm (17.6 x 13 x 11.4 ins)
Weight		12Kg (27lbs)	Dependant on configuration	70Kgs (154lbs) approx.	37.5kgs (83lbs) approx.
Enclosure material		Back-box: Aluminium Front cover: ABS	Not applicable	LM25 aluminium with polyester powder coating	
Ingress protection		IP65	Cabinet dependent	IP66	
Channels		Up to 12 (1 to 3 4-way input modules)			
Inputs	Gas	2 or 3 wire 4-20mA (sink or source), 0-5V			
	Fire – smoke & heat detectors, manual call-points	Up to 3 loops, Up to 20 devices per loop			
Outputs	External audible visual alarm drive	Via relays, four 24Vdc 0.5A supplies provided			
Relays	Type	Up to 24 SPCO, contacts rated 6A @ 250Vac (1 to 3 8-way relay modules)	Up to 32 SPCO with bus extension module		Relay limitations: 1 or 2 input modules: 2 relay modules max. (16 relays) , 3 input modules: 1 relay module only (8 relays)
	Assignment – Common	Mains fail, battery low, battery fail		Battery back-up not available	
	Assignment – Voting	Alarms, faults and system events			
	Relay modes	Energised/de-energised, latched/non-latched, time-delayed, pulsed			
Digital communications	DCS/PLC/PC	RS-485 Modbus or Profibus			
	Local configuration link	RS-232 (configuration software and lead supplied)			
Logging		Up to 300 alarm, power, fault, system events are stored in Non-Volatile Memory			
Panel indication	Channel number	2-digit 7-segment Green LED		Indications as per Vortex. Displayed information can be altered and outputs can be inhibited during calibration using a magnetic key	
	Gas reading	4-digit 7-segment Red LED			
	Measurement units	% LEL, ppm, % Vol, Fire			
	Power	Green LED			
	Battery OK	Green LED			
	Run/hold indication	Green LED			
	Channel test mode	Flashing Amber LED			
	System fault – integrity watchdog	Amber LED			
Alarm Indication	Audible – internal sounder	Piezo			
	Visual – Alarm	Level 1 & 2, Red LED			
	Visual – Fault	Per channel, Amber LED			
	Visual – Inhibit	Per zone, Amber LED			
Power	AC mains	110/120V & 220/240Vac (switchable) 50-60hz 3.2A max		110Vac or 240Vac 3.2A max 150W PSU 20 - 30Vdc	85 - 264Vac 0.8A max 75W PSU 20 - 30Vdc
	DC	20-30Vdc			
	Battery back-up	2Ah internal		Battery back-up not available	
Approvals	Low voltage directive	EN61010-1			
	EMC	Directive 2014/30/EU: EN50270, FCC: CFR47 Part 15, IECES-003			
	ATEX	May be used in a non-hazardous area as part of Intrinsically Safe System conforming to EN60079-25 Baseefa 05Y0090/1		ATEX Ex II 2G D Zone 1, Zone 2, IECEx optional	
Operating temperature		-10°C to +40°C (14°F to 104°F)			
Humidity		0-95% RH non-condensing			
Functional safety		Validated to IEC61508			

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HMI

Centralised Visibility of Multiple Controllers

See gas concentration, alarms, fault and location details from a single screen

Retrofit and new installations

6 Vortex or 10 Gasmaster from one screen

User defined detector locations

Alarm and event logging

Gas test capability

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HMI Centralised Visibility of Multiple Controllers

Minimise the time operators spend in hazardous areas.

HMI is a Human Machine Interface which offers remote monitoring of up to 6 Vortex (72 detectors) or up to 10 Gasmaster Controllers (40 detectors) from one panel. HMI delivers advantages aimed at improving service, maintenance and system visibility for existing or new installations.

HMI employs license activated software which can be operated from a dedicated panel.

Capability

Monitor up to 6 Vortex panels or 10 Gasmasters

Simultaneous display showing:

- Gas concentration and name
- Inhibit status
- Sensor integrity
- Detector settings and location

Enhanced functionality:

- Alarm log
- Over-exposure registration
- Event log and reporting
- Password access restrictions
- Response testing

Home screen

Detector screen

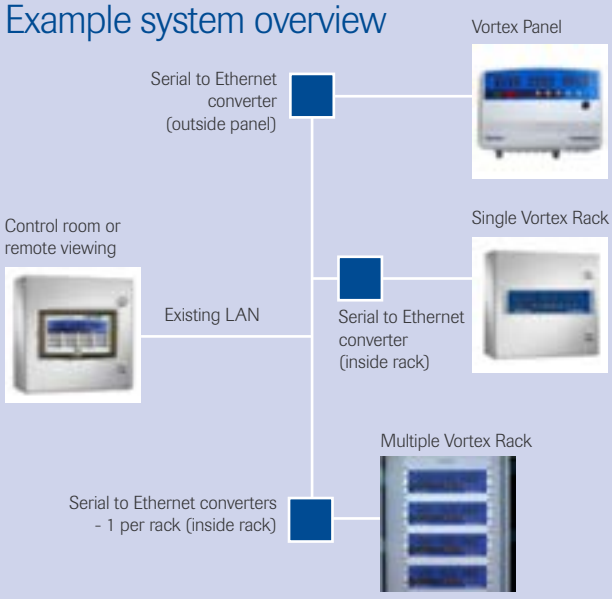
Configuration screen

Trend screen

System configuration

The system offers enhanced flexibility and reduces the cost of installation by allowing connection via existing networks, or through the use of the RS485 output.

Example system overview



Touch Screen Panel PC Specification*

The Crowcon HMI software can be supplied installed onto the touchscreen panel PC, including wall mount cabinet, ethernet converters and UPS.

Screen size	15" (1024 x 768)
Processor	Intel BayTrail-M N2930 / Quad Core 1.83GHz
System memory	4G DDR3 RAM
Touchscreen	Resistive
HDD	128GB m-SATA (FLASH Hard Drive)
Graphics	Intel HD
Video I/O	1 x DVI Output
Audio	1 x audio line output
OS	Windows 10 IoT Enterprise
I/O	1 x Ethernet, 4 x USB, 2 x RS-232C, 1 x RS232C/RS485/RS422
Front panel	Water-resistant Front Panel (IP65)
Power	24W (2A@DC12V)
Operating humidity	10 to 85% RH @40°C (non-condensing)
Operating temperature	0°C to 60°C
Storage temperature	20°C to 70°C

* Specification subject to change without notice

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Gasflag

Single Channel Control Panel

- Low cost
- Easy to use, one button operation
- Integrated indicators and sounder
- Simple installation

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Gasflag

Single Channel Control Panel

The cost effective solution to simple gas detection problems

Gasflag is the cost effective solution to monitoring a single flammable, toxic or oxygen gas detector. Ideal for use in applications such as filling stations, swimming pool plant rooms and boiler rooms; Gasflag provides clear indication of gas hazards in a simple to use package.

Easy and safe to use	Bright intuitive alarm display Loud internal audible alarm Clear system integrity indication
No hidden costs	Integral alarm outputs Simple installation Minimum maintenance One button operation
Fully flexible	Accepts industry standard 4-20 mA inputs Multiple units can be daisy chained Variable alarm configurations

Specification

Dimensions	210 h x 145 w x 46 d mm (8.25 x 5.75 x 1.75 inches)	
Weight	Weight <500 g (1.1 lb)	
Colour	RAL7035	
Enclosure material	ABS	
Sensor connection	Two or three wire connection to sensor via screened cable	
Operating voltage	13-28 V dc	
Input type	4-20 mA sink or source (selectable)	
Panel indication	Power Healthy System fault Alarm 1 & Alarm 2	Green LED Amber LED Red LEDs
Fault current	<3 mA and >23.5 mA (overrange fault)	
Operating temperature	-20°C to +70°C (-4°F to 158°F)	
Humidity	0-99% RH, non-condensing	
Trip point hysteresis	Alarm hysteresis set at approximately 0.5 mA Fault hysteresis set at approximately 0.2 mA	
Response time (typical)	Time to alarm <1 second	
Connections	Terminals accept cables of cross sectional area 0.5 to 2.5 mm^2	
Replay options	Single pole change-over for use with dc signals The relay contacts are rated 1A at 30 V dc	
Standards	EN50270 - Gas detection EMC standard	
Ingress protection	IP20	

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Gasmonitor Plus

Gas Detection Control Panel

- Gas and fire monitoring
- Modular input cards
- Easy push-button operation
- Expandable rack based solution
- Optional battery backup

Gasmonitor Plus

Gas Detection Control Panels

Choosing the Control Panel for your needs

Gasmonitor Plus is our flexible microprocessor-controlled system designed with a modular approach, so you get exactly what you want. Used accross the globe, both on and offshore, Gasmonitor Plus provides the cost-effective solution to your system requirements.

Features

Fixed systems for gas and fire monitoring	Gasmonitor Plus is our flexible microprocessor-controlled system designed with a modular approach, so you get exactly what you want. Used throughout the world, both on and offshore, Gasmonitor Plus provides the cost-effective solution to your system requirements. Gasmonitor Plus, the gas and fire control system you can trust.
Simple to use	Gasmonitor Plus offers flexibility while still providing simple operation. All the day to day functions are accessible via push buttons on the front panel. As well as a rolling display, indicating the channel currently monitored, each channel has a bar graph display. This unique bar graph format is ranged to indicate readings below the first alarm setting, providing an instantaneous representation of the gas concentration on every detector. Common alarm LEDs on the display card and individual alarms on the panel only light when a hazard or fault is detected. This means the whole rack status can be checked at a glance.
Flexible architecture	Each channel has three levels of alarm as well as a dedicated analogue output, set as 4-20 mA as standard. Optional relay modules can interface to the panel to provide up to a total of 84 output relays per rack. Sixteen of these relays can be configured/ voted from a combination of the three levels of alarm per channel. The RS232 digital interface provides connectivity with PC for configuration and datalog upload. Each rack is uniquely addressable, making multi-drop architectures possible. This cuts down on configuration.
Proven in-use	Gasmonitor Plus is a microprocessor-based expandable control system, which can be multiplied to offer unlimited channels and outputs. Its modular construction provides ultimate customisation capacity with minimum wiring.

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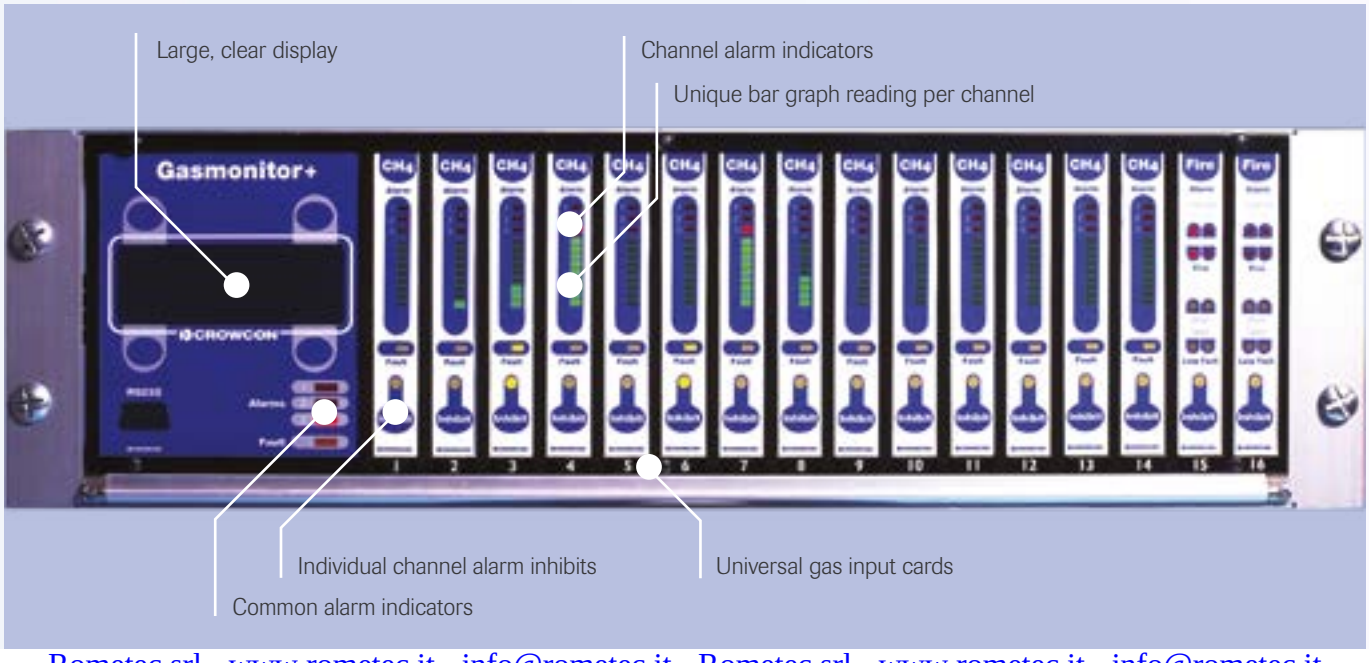
Key elements

Industry-standard gas detectors	Remote reset switch
Analogue outputs per channel - 4-20mA or 1-5Vdc	AC/DC Power options
Dedicated external audio/visual alarm drive	Optional voted relays
Dual channel, with up to 20 smoke/heat detectors per zone	Optional battery backup
Common and individual channel relays for levels 1, 2, 3 and fault with voting relay option	



Specification

Size		483 x 133 x 294 mm (19 x 5.25 x 11.5 ins)
Weight		9.5kg (21lbs)
Enclosure material		Aluminium alloy
Mounting		Rack mounted (3u format)*
Channels		16 per rack
Inputs	Gas	2 or 3 wire, 4-20mA (sink or source) or mV bridge
	Fire - smoke detectors, heat detectors and manual call points, up to 20 per loop	Maximum 32 loops per rack (ie 16 twin zone fire modules)
Outputs	Analogue	16 x 4-20mA, max load 960 Ohms or 1-5 V, min. load 100 Ohms
	External audible/visual alarm drive	Powered 24 V dc, max load up to 200mA for each alarm level
Relays	Type	Up to 84 DPCO, contacts rated 5 A @ 250 V ac, non-inductive load
	Assignment - common - per channel - voting Relay modes	Alarm 1, Alarm 2, Alarm 3, Fault Gas alrams 1, 2, & 3, fire & fault Up to 16, configurable Energised / de-energised & latching, non-latching
Digital communication		RS232 with PanelsPro or SetGMon only
Logging		Built-in datalogger - data available via PanelsPro or SetGmon
Panel indication	Channel number Gas reading Measurement units System fault	4 lines x 20 characters back-lit LCD On main LCD plus green LED bar-graph on channel card ppm, %LEL, %vol, fire yellow LED
Alarm indication	Audible-internal sounder Visual - alarm - fault - inhibit	As standard 3 individual & 3 common alarms (red LED) Individual and common fault (yellow LED) Individual inhibit (yellow LED)
Power	AC mains DC Battery back-up	100-260 V ac 50/60 Hz external 27.6 V dc External
Remote accept/reset		As standard
Lamp test		As standard
Approvals	Low voltage directive EMC Directive ATEX	Meets BS EN 61010-1 Meets EN 50082-1, EN 50081-1, EN 50270, EN61000-6-4 Conforms to EN60079-25 in configuration with Zener Barrier Baseefa 05Y0090/1
Operating temperature		0°C to +50°C (32°F to 122°F)
Humidity		0-95% non-condensing

* Wall-mounted and floor-standing cabinets are optional, dimensions on request.

Disclaimer

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement Crowcon Detection Instruments Limited reserves the right to make product changes without notice. The products are routinely subject to a programme of testing which may result in some changes in the characteristics quoted. Technical information contained in this document or otherwise provided by Crowcon are based upon records, tests, or experience that the company believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed.

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As the products may be used by the client in circumstances beyond the knowledge and control of Crowcon Detection Instruments Limited, we cannot determine the relevance of these to an individual customer's application. It is the clients' sole responsibility to carry out the necessary tests to evaluate the usefulness of the products and review all applicable regulations and standards to ensure their safety of operation in a particular application.

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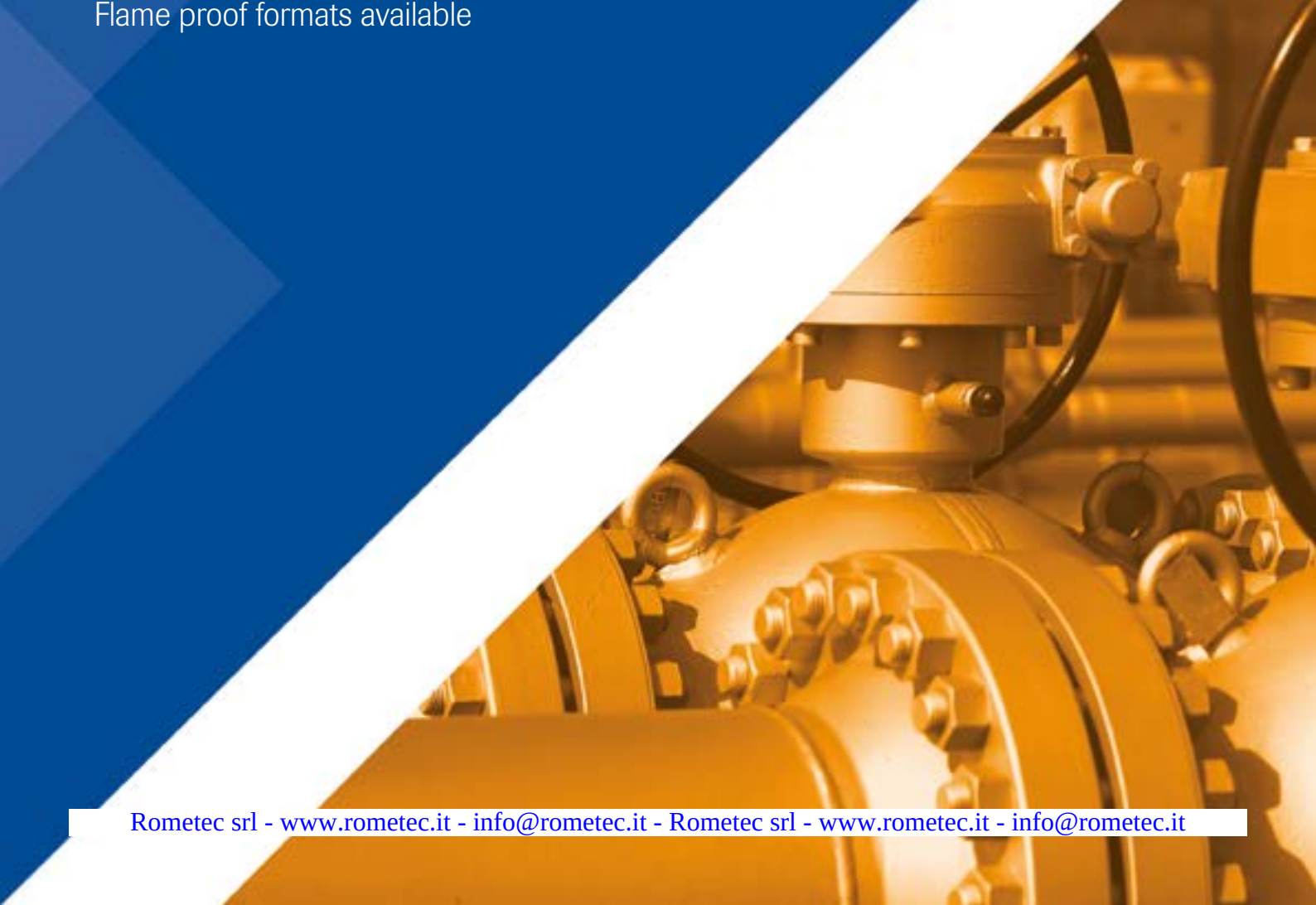
Vortex

Gas Detection Control Panels

- Robust and reliable
- Easy push-button operation
- Flexible configuration
- Adjustable on-site
- Flame proof formats available



Vortex

Gas Detection Control Panels 1 to 12 Channels

Choosing the control panel for your needs

With 5 options available, and customisable solutions, we have a Vortex panel to suit your requirements.

Vortex offers all the flexibility you will need while still being simple to operate. All the day to day operations can be completed via push buttons on the front panel. With up to 12 channels*, including up to 3 for fire, Vortex can be customised to meet your site requirements, however complex, without the need for extensive cabling.

Wall mounted: Vortex

A standalone unit for surface mounting on walls, the display panel shows the fault and alarm levels for all the channels, but the LEDs only light when a hazard or fault is detected. This means the whole system can be checked at a glance. Setting adjustments can be made at the enclosure without the need for additional equipment.

Panel mounted: Vortex Panel

For fitting into an existing panel or door and offering wide range of PSU and battery options.

19 inch rack mounted: Vortex Rack

A flexible option where modules, PSU and batteries can be supplied separately for fitting within an existing 19 inch enclosure, permitting multi-rack systems to be created.

Vortex Flameproof:

Vortex flameproof (FP) systems are designed for use in ATEX Zones 1 & 2, with IP66 ingress protection, Unlike many other flameproof systems, all day-to-day operations can be undertaken without opening the enclosure, removing the need for hot work permits.

Vortex FP

With up to 24 relays, the enclosure is capable of accommodating up to 4 intrinsically safe (I.S.) barriers for interfacing with I.S. detectors and alarms.

Vortex FP Compact

Not every location can accommodate a Vortex FP unit, so when space is restricted (see dimensions on back page), Vortex FP Compact is an ideal choice. With up to 16 output relays. Intrinsically safe barriers for interface with I.S. detectors and alarms must be housed in a separate enclosure.

* dependent on model chosen

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Channels and displays

1 to 12 channels (including 3 for fire)	Up to 12 devices can be monitored by reviewing just one control panel – saving time and manpower
Each channel has 1 fault level and 3 alarm levels which can be combined in any pattern to trigger up to 32 output relays.	Flexibility built in; initially configured to suit your operational needs, then channels/alarms are easily customised by you if requirements change
Can be factory set to your requirements. Then when in situ, can easily be configured to suit your requirements using Panels Pro software.	
Push buttons on front display	Day to day operations are easily undertaken
LED display panel lights	Faults are easily seen and whole system can be checked at a glance

Installation and maintenance

Modbus compatibility	No extensive cabling required; cable connections within the unit are easy
Space within units for access to cable terminals	
Uses industry standard communication links	Simple to integrate into existing control systems
Any adjustments are performed electronically	Minimal maintenance – no drift from adjustable potentiometers
Separate zones can be individually inhibited	You can work on specific areas without affecting the rest of the system
Modular construction	Replacement parts if required just plug straight in

Compliance and reliability

Provides analogue, relay and Modbus outputs	Demonstrates system dependability
System monitors relays continuously	Coil faults are identified immediately without input from you
Internal battery pack*	Power outs are not a problem Internal battery pack continuously monitored for charge levels and connection System is operational at all times

* Not available on flameproof versions

Specification

		Vortex	Vortex Rack/Panel	Vortex FP	Vortex FP Compact
Size		470 x 306 x 170mm (18.5 x 12 x 6.5 ins)	Rack display: standard 19" 3U Panel display: 441 x 128mm (cut-out 366 x 84.5mm) Modules, PSU and batteries are supplied separately for fitting within a cabinet.	440 x 640 x 332mm (17.3 x 25 x 13 ins)	450 x 330 x 289mm (17.6 x 13 x 11.4 ins)
Weight		12Kg (27lbs)	Dependant on configuration	70Kgs (154lbs) approx.	37.5kgs (83lbs) approx.
Enclosure material		Back-box: Aluminium Front cover: ABS	Not applicable	LM25 aluminium with polyester powder coating	
Ingress protection		IP65	Cabinet dependent	IP66	
Channels		Up to 12 (1 to 3 4-way input modules)			
Inputs	Gas	2 or 3 wire 4-20mA (sink or source), 0-5V			
	Fire – smoke & heat detectors, manual call-points	Up to 3 loops, Up to 20 devices per loop			
Outputs	External audible visual alarm drive	Via relays, four 24Vdc 0.5A supplies provided			
Relays	Type	Up to 24 SPCO, contacts rated 6A @ 250Vac (1 to 3 8-way relay modules)	Up to 32 SPCO with bus extension module		Relay limitations: 1 or 2 input modules: 2 relay modules max. (16 relays) , 3 input modules: 1 relay module only (8 relays)
	Assignment – Common	Mains fail, battery low, battery fail		Battery back-up not available	
	Assignment – Voting	Alarms, faults and system events			
	Relay modes	Energised/de-energised, latched/non-latched, time-delayed, pulsed			
Digital communications	DCS/PLC/PC	RS-485 Modbus or Profibus			
	Local configuration link	RS-232 (configuration software and lead supplied)			
Logging		Up to 300 alarm, power, fault, system events are stored in Non-Volatile Memory			
Panel indication	Channel number	2-digit 7-segment Green LED		Indications as per Vortex. Displayed information can be altered and outputs can be inhibited during calibration using a magnetic key	
	Gas reading	4-digit 7-segment Red LED			
	Measurement units	% LEL, ppm, % Vol, Fire			
	Power	Green LED			
	Battery OK	Green LED			
	Run/hold indication	Green LED			
	Channel test mode	Flashing Amber LED			
	System fault – integrity watchdog	Amber LED			
Alarm Indication	Audible – internal sounder	Piezo			
	Visual – Alarm	Level 1 & 2, Red LED			
	Visual – Fault	Per channel, Amber LED			
	Visual – Inhibit	Per zone, Amber LED			
Power	AC mains	110/120V & 220/240Vac (switchable) 50-60hz 3.2A max		110Vac or 240Vac 3.2A max 150W PSU 20 - 30Vdc	85 - 264Vac 0.8A max 75W PSU 20 - 30Vdc
	DC	20-30Vdc			
	Battery back-up	2Ah internal		Battery back-up not available	
Approvals	Low voltage directive	EN61010-1			
	EMC	Directive 2014/30/EU: EN50270, FCC: CFR47 Part 15, IECES-003			
	ATEX	May be used in a non-hazardous area as part of Intrinsically Safe System conforming to EN60079-25 Baseefa 05Y0090/1		ATEX Ex II 2G D Zone 1, Zone 2, IECEx optional	
Operating temperature		-10°C to +40°C (14°F to 104°F)			
Humidity		0-95% RH non-condensing			
Functional safety		Validated to IEC61508			

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