CROWCON
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

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

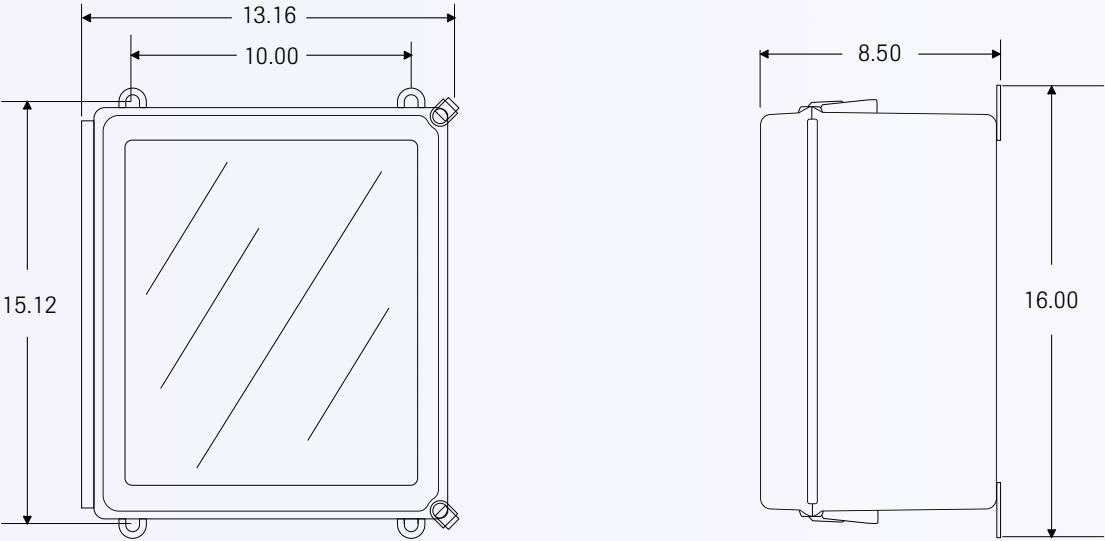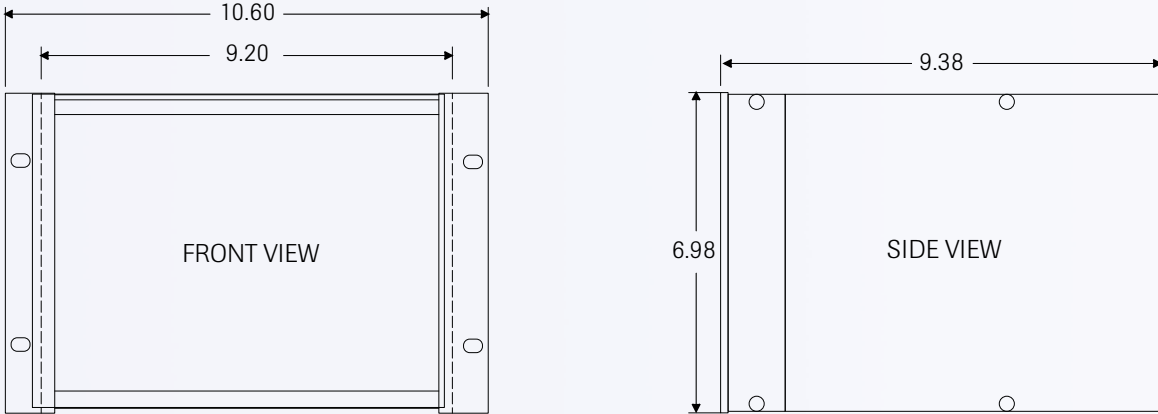| Modular design build	Select how controller is configured
	Choose the configuration for your application: Select how may channel inputs are required
	Channel input communication type (MA, MV or Addressable): Select how many relay outputs are required
	Reduce complexity and cost by only including what 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

Small enclosure

13.16
10.00
15.12
8.50
16.00

Large enclosure

24.11
23.44
22.01
27.06
25.56
24.61
9.51

Rack mounting

10.60
9.20
FRONT VIEW
9.38
6.98
SIDE VIEW

*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	-20ºC to + 50ºC	
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	

▶ CROWCON
Detecting Gas Saving Lives

www.crowcon.com

Gasflag

Single Channel Control Panel

Low cost

Easy to use, one button operation

Integrated indicators and sounder

Simple installation

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 — Green LED System fault — Amber LED Alarm 1 & Alarm 2 — 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

CROWCON
Detecting Gas Saving Lives

www.crowcon.com

CROWCON

Detecting Gas Saving Lives

Gasmaster

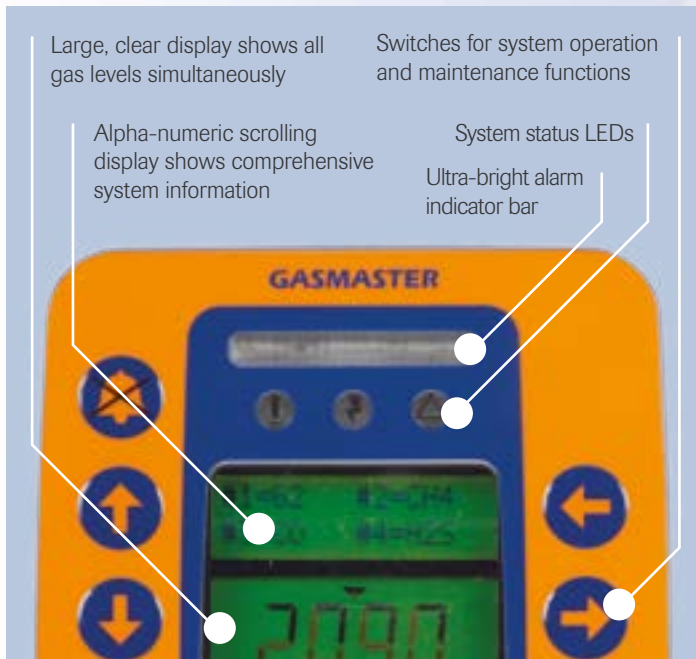## Gas Detection Control Panels

Large display

User friendly

Versatile input and output functions

Modular design

Up to four detectors

Gasmaster

1-4 Channel Gas Detection Control Panel

Large, clear display shows all gas levels simultaneously

Switches for system operation and maintenance functions

Alpha-numeric scrolling display shows comprehensive system information

System status LEDs

Ultra-bright alarm indicator bar

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.

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

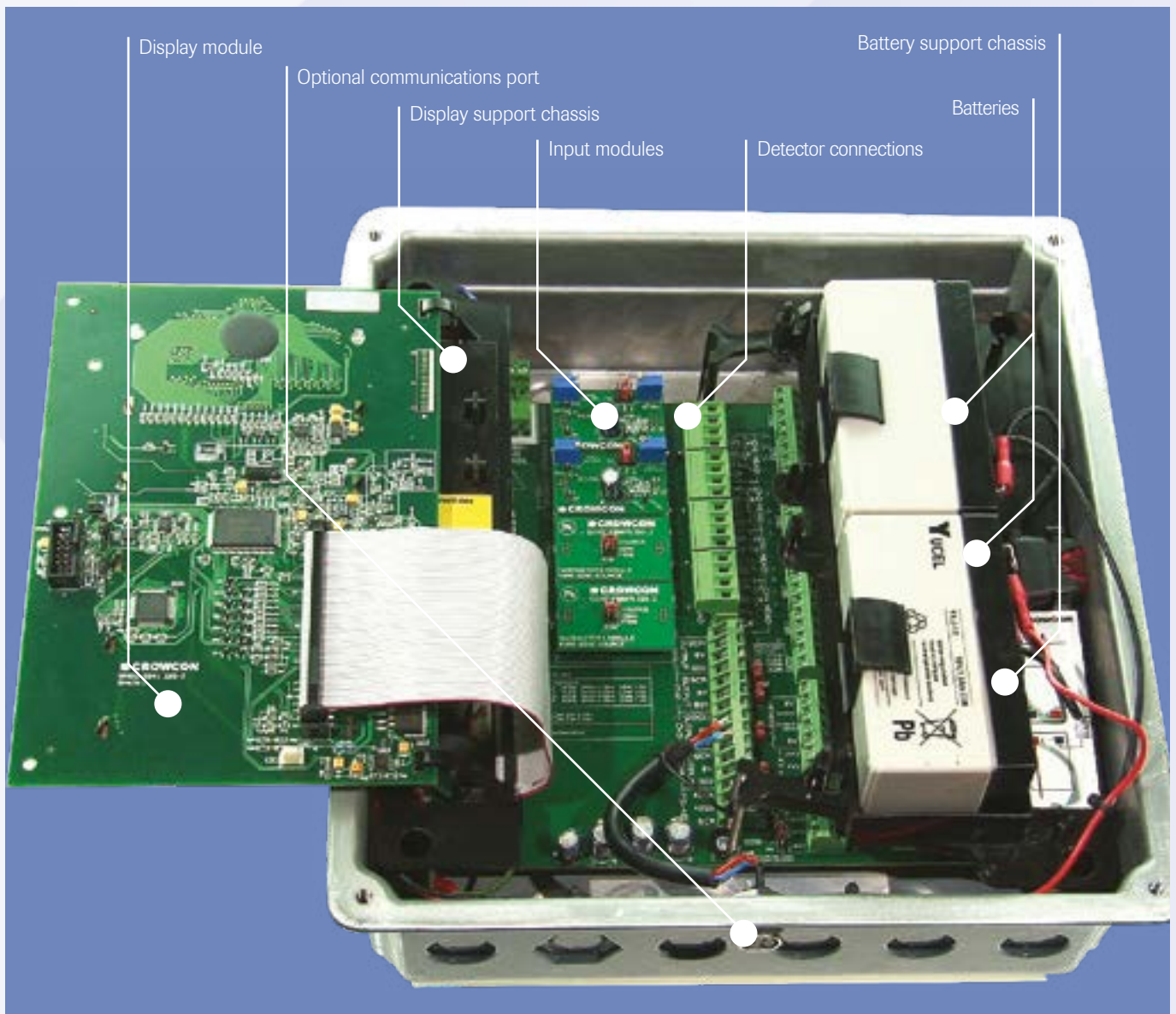|	
You only need to purchase the required number of input modules	1, 2 and 3 channel systems can be extended later by adding additional modules***

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

Display module

Optional communications port

Display support chassis

Input modules

Battery support chassis

Batteries

Detector connections

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.

CROWCON
Detecting Gas Saving Lives

www.crowcon.com

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.

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	

Large, clear display

Channel alarm indicators

Unique bar graph reading per channel

Gasmonitor+

Individual channel alarm inhibits

Universal gas input cards

Common alarm indicators
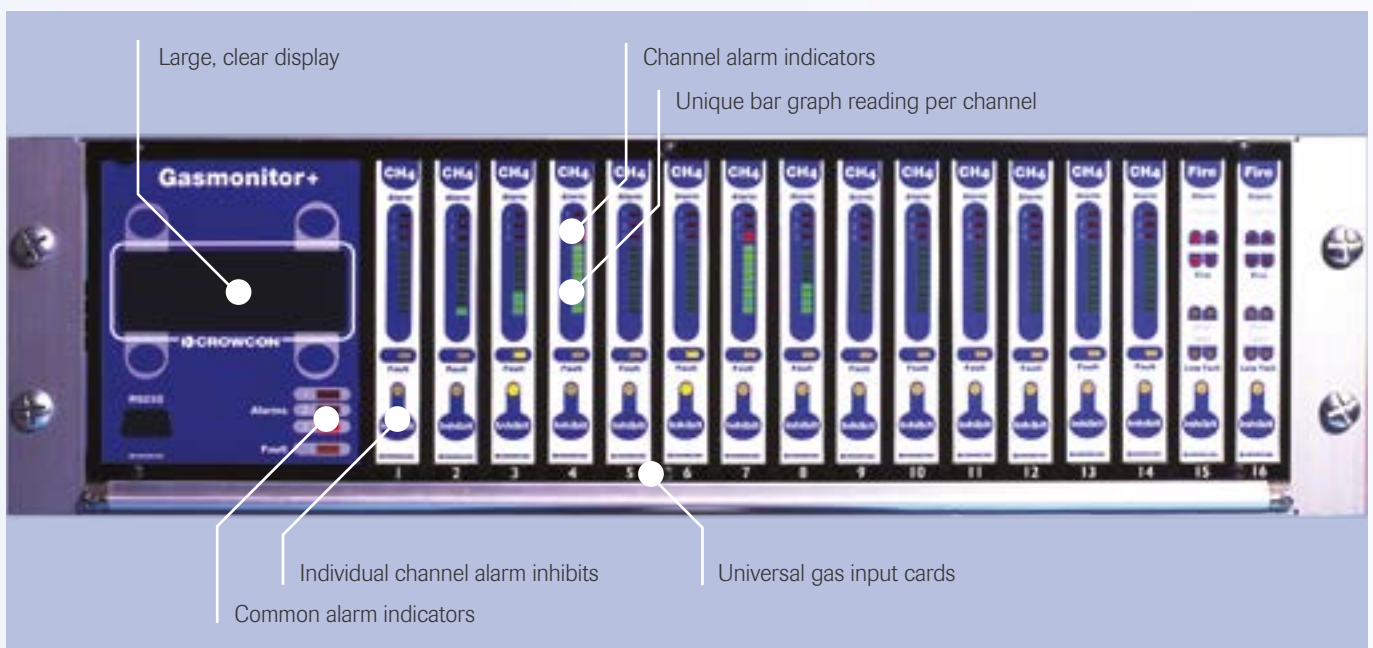
Specification

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.

Many factors beyond Crowcon Detection Instruments' control and uniquely within user's knowledge and control can affect the use and performance of a Crowcon product in a particular application.

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.

CROWCON
Detecting Gas Saving Lives

www.crowcon.com

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

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

Vortex Panel

Serial to Ethernet converter (outside panel)

Control room or remote viewing

Single Vortex Rack

Existing LAN

Serial to Ethernet converter (inside rack)

Multiple Vortex Rack

Serial to Ethernet converters - 1 per rack (inside rack)

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.
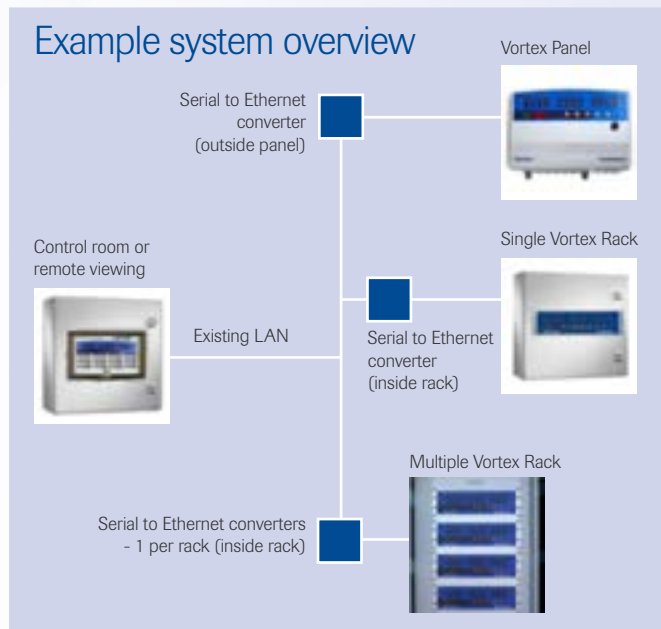
Screen size	15" (1024 x 768)
Processor	Intel BayTrail-M N2930 / Quad Core 1.83GHz
System memory	4G DDR3 RAM
Touchscreen	Resistive
HDD	128GB m-SATA (FLASH Hard Drive)
Graphics	Intel HD
Video I/O	1 x DVI Output
Audio	1 x audio line output
OS	Windows 10 IoT Enterprise
I/O	1 x Ethernet, 4 x USB, 2 x RS-232C, 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

CROWCON
Detecting Gas Saving Lives

www.crowcon.com

CROWCON
Detecting Gas Saving Lives

Vortex

Paneles de control
de detección de gas

Robusto y fiable

Funcionamiento sencillo
con un solo pulsador

Configuración flexible

Ajustable en obra

Formatos ignífugos disponibles

Vortex

Paneles de control de detección de gas de 1 a 12 canales

Selección del panel de control acorde a sus necesidades

Con 5 opciones disponibles y soluciones personalizables, disponemos de un panel Vortex que se adapta a sus necesidades.

Vortex ofrece toda la flexibilidad que necesita, pero manteniendo la facilidad de uso.
Todas las operaciones diarias pueden llevarse a cabo mediante los pulsadores del panel frontal.
Con hasta 12 canales*, incluidos hasta 3 para fuego, Vortex puede personalizarse para adaptarse a los requisitos de sus instalaciones, por complejas que estas sean, sin necesidad de un gran cableado.

Montaje en pared: Vortex

Como unidad independiente para el montaje en pared, el panel en pantalla muestra los niveles de alarma y las averías para todos los canales, aunque los LED solo se iluminan cuando se detecta un peligro o una avería. Esto significa que se puede comprobar todo el sistema de un vistazo. Pueden realizarse ajustes en el alojamiento sin necesidad de equipos adicionales.

Montado en panel: Vortex Panel

Para instalarlo en un panel o puerta existente, se ofrece en una gran variedad de opciones de fuente de alimentación y batería.

Montado en rack de 19 pulgadas: Vortex Rack

Una opción flexible con la que los módulos, la fuente de alimentación y las baterías pueden suministrarse por separado para instalarse en un alojamiento de 19 pulgadas existente, lo que permite crear sistemas en racks múltiples.

Vortex Flameproof:

Los sistemas Vortex Flameproof (FP) están diseñados para utilizarse en zonas ATEX 1 y 2, con una protección hermética IP66. A diferencia de muchos otros sistemas ignífugos, todas las operaciones diarias pueden realizarse sin tener que abrir el alojamiento, lo que elimina la necesidad de autorizaciones para trabajos en caliente.

Vortex FP

Con hasta 24 relés, el alojamiento es capaz de dar cabida a hasta 4 barreras intrínsecamente seguras (I.S.) para interconectarse con detectores y alarmas I.S.

Vortex FP Compact

El Vortex FP no es apto para adaptarse a todas las ubicaciones, por lo que cuando el espacio es reducido (consulte las dimensiones en la página final), Vortex FP Compact es la opción perfecta. Con hasta 16 salidas de relé. Las barreras I.S. para interconectarse con alarmas y detectores I.S. deben alojarse en un alojamiento aparte.

* Depende del modelo elegido

Canales y pantallas

De 1 a 12 canales (incluidos 3 para fuego)	Pueden monitorizarse hasta 12 dispositivos mediante un solo panel de control, lo que ahorra tiempo y mano de obra
Cada canal tiene 1 nivel de fallo y 3 de alarma, que pueden combinarse de cualquier forma para activar hasta un máximo de 32 relés de salida.	Flexibilidad integrada; configurado inicialmente para adaptarse a sus necesidades operativas, puede personalizar los canales y alarmas si los requisitos cambian
Puede configurarse en fabrica según sus necesidades. Después, in situ, puede configurarse fácilmente para adaptarse a sus requisitos mediante el software Panels Pro.	
Pulsadores de la pantalla frontal	Las operaciones diarias se realizan fácilmente
Luces del panel de la pantalla LED	Los fallos se detectan fácilmente, y todo el sistema puede comprobarse de un vistazo

Instalación y mantenimiento

Compatibilidad con Modbus	No se requiere un gran cableado; conexiones de cables sencillas dentro de la unidad
Espacio dentro de las unidades para acceder a los terminales de cables	
Utiliza los enlaces de comunicaciones estándar del sector	Fácil de integrar en sistemas de control existentes
Todos los ajustes se realizan electrónicamente	Mínimo mantenimiento, sin desviación de los potenciómetros existentes
Pueden inhibirse individualmente zonas independientes	Puede trabajar en zonas concretas sin que se vea afectado el resto del sistema
Construcción modular	Los repuestos, si se requieren, se conectan directamente

Cumplimiento normativo y fiabilidad

Proporciona salidas analógicas, de relés y Modbus	Muestra fiabilidad del sistema
El sistema supervisa los relés continuamente	Los fallos de bobina de identifican inmediatamente sin necesidad de introducir nada
Paquete de batería interna*	Los fallos de alimentación no son un problema
	El paquete de la batería interna se controla continuamente para asegurar la conexión y los niveles de carga
	El sistema está operativo en todo momento

* No disponible en versiones ignífugas

Especificaciones

		Vortex	Vortex Rack/Panel	Vortex FP	Vortex FP Compact
Tamaño		470 x 306 x 170 mm (18,5 x 12 x 6,5 pulgadas)	Pantalla en rack: 3U de 19" estándar Pantalla en panel: 441 x 128 mm (recorte de 366 x 84,5 mm) Los módulos, la fuente de alimentación y las baterías se suministran por separado para instalarse dentro de un armario.	440 x 640 x 332 mm (17,3 x 25 x 13 pulgadas)	450 x 330 x 289 mm (17,6 x 13 x 11,4 pulgadas)
Peso		12 kg (27 libras)	Depende de la configuración	70 kg (154 libras) aprox.	37,5 kg (83 libras) aprox.
Material del alojamiento		Caja posterior: aluminio Cubierta frontal: ABS	No aplicable	Aluminio LM25 con revestimiento de polvo de poliéster	
Protección hermética		IP65	Depende del armario	IP66	
Canales		Hasta 12 (de 1 a 3 módulos de entrada de 4 vías)			
Entradas	Gas	De 2 o 3 cables, 4-20 mA (disipación o fuente), 0-5 V			
	Detectores térmicos y de fuego/ humo, puntos de llamada manual	Hasta 3 circuitos, hasta 20 dispositivos por circuito			
Salidas	Accionamiento de alarma visual y acústica externa	A través de relés, cuatro fuentes de 24 V CC 0,5 A suministradas			
Relés	Tipo	Hasta 24 contactos SPCO de 6 A a 250 V CA (de 1 a 3 módulos de relés de 8 vías)	Hasta 32 SPCO con módulo de extensión de bus		Limitaciones de relés: módulos de 1 o 2 entradas: módulos de 2 relés máx. (16 relés), módulos de 3 entradas: módulo de 1 relé solamente (8 relés)
	Asignación – Común	Fallo de red eléctrica, batería baja, fallo de batería		Batería de reserva no disponible	
	Asignación – Votación	Eventos de alarmas, averías y de sistema			
	Modos de relé	Activado o desactivado, con bloqueo o sin bloqueo, con retardo de tiempo, pulsado			
Comunicaciones digitales	DCS/PLC/PC	RS-485 Modbus o Profibus			
	Enlace de configuración local	RS-232 (cable y software de configuración suministrados)			
Registro		Se almacenan en la memoria no volátil hasta 300 eventos de alarma, alimentación, fallos y sistema			
Indicación en panel	Número de canal	LED verde de 2 dígitos, 7 segmentos		Indicaciones según Vortex. La información mostrada puede alterarse y las salidas pueden inhibirse durante la calibración con una llave magnética	
	Lectura de gas	LED rojo de 4 dígitos, 7 segmentos			
	Unidades de medida	% de LEL, ppm, % de vol., fuego			
	Alimentación eléctrica	LED verde			
	Batería correcta	LED verde			
	Indicación de activar/retener	LED verde			
	Modo de prueba de canal	LED ámbar que parpadea			
	Control de integridad - fallo del sistema	LED ámbar			
Indicación de alarma	Acústica – sirena interna	Piezo			
	Visual – Alarma	Nivel 1 y 2, LED rojo			
	Visual – Fallo	Por canal, LED ámbar			
	Visual – Inhibir	Por zona, LED ámbar			
Alimentación eléctrica	Red eléctrica CA	110/120 V y 220/240 V CA (conmutable) 50-60 Hz 3,2 A máx.		110 V CA o 240 V CA 3,2 A máx. 150 W Fuente de alimentación 20 - 30 V CC	85 - 264 V CA 0,8 A máx. 75 W Fuente de alimentación 20 - 30 V CC
	CC	20-30 V CC			
	Batería de reserva	Interna de 2 Ah		Batería de reserva no disponible	
Autorizaciones	Directiva de baja tensión	EN61010-1			
	CEM	Directiva 2014/30/UE: EN50270, FCC: CFR47 Parte 15, IECES-003			
	ATEX	Puede utilizarse en una zona no peligrosa como parte de un sistema intrínsecamente seguro de conformidad con EN60079-25 Baseefa 05Y0090/1		ATEX Ex II 2G D Zona 1, Zona 2, IECEx opcional	
Temperatura de funcionamiento		De -10 °C a +40 °C (de 14 °F a 104 °F)			
Humedad		De 0 a 95 % de HR sin condensación			
Seguridad funcional		Validado para IEC61508			

CROWCON
Detecting Gas Saving Lives