



Wireless protection from CO and NO₂ hazards without battery replacement, calibration or maintenance for two years

Vulcain 301W wireless gas detection network



Technical summary



User Friendly

- Self-contained, wall mounted enclosure
- Simple push button operation

Easy and Inexpensive to Install

- Simply wall mount (no hardwiring required)
- Turn it on and the Vulcain 301W auto configures to the controller and is fully operational
- Unobtrusive slim-line profile
- No mounting bracket required

Few Requirements - Simple Operation

- No calibration required for two years
- No monitor hardwiring required
- No battery replacement require for two years
- After two years, simply replace the easily removed sensor/battery pack

Input/Output Adaptability

- Allows for up to 50 remote transmitters in the system

Safety Measures

- Virtually no false alarms—accurate and reliable
- Route redundancy, so if one link fails, communication is automatically re-established through another monitor
- Avoids interference with Bluetooth, WIFI and other wireless systems
- Secured 128 bit encrypted wireless mesh network
- Periodic 'heartbeat' signal ensures all transmitters are continuously active

Beneficial Controller Options

- Datalogging option available
- Optional BACnet/IP Output

By removing the necessity for expensive wiring and by greatly reducing installation costs, the Vulcain 301W can cut the bottom line for a parking garage's CO (carbon monoxide) monitoring system.

The Vulcain 301W wireless gas transmitter is designed to detect carbon monoxide (CO) and nitrogen dioxide (NO₂) in parking structures or oxygen (O₂) in other applications. It operates for 2 years without calibration, maintenance or battery replacement. The Vulcain 301W gas transmitter exchanges data with the Vulcain 301C controller over a wireless mesh network via a secured 128 bit encrypted communication protocol. In contrast to traditional networks, this system offers greater flexibility and operational reliability together with significant installation and operational savings. Without the need of monitor hardwiring, installation costs are drastically reduced—simply wall mount the Vulcain 301W transmitter, turn it on and it is ready for operation.

Unlike point-to-point or point-to-multipoint communication, if the communication path fails, the system automatically finds an alternative route. This enables continuous contact, even in harsh environments. The inherent network integrity combined with zoning capabilities and electrochemical sensor accuracy minimizes false alarms and ultimately trims operational costs.

Zoning / Averaging

The Vulcain 301C controller offers unique zoning capabilities which permit the averaging and comparison of multiple sensor readings. Zoning can reduce operational costs by ensuring that localized brief fluctuations registered at a single transmitter do not activate relays. For example, a car idling in a parking structure may locally increase a reading at a nearby transmitter. Rather than activating a fan as a result of the temporary localized fluctuation, zoning can be used to limit relay activation until the average reading for a zone exceeds a set-point. This can reduce run time of fans, yielding savings in both energy usage and wear and tear. The Vulcain 301C has the capacity to manage input from three Modbus channels for up to 96 transmitters and up to 50 wireless transmitters which can be associated with up to 126 zones. Transmitters can belong to an unlimited number of zones, providing maximum operational and control flexibility.



Vulcain 301W General Specification	
Uses	Wall mounted, wireless gas detector for carbon monoxide (CO) hazards, to be used in conjunction with the Vulcain 301C controller.
Power Requirement	Battery operated with 2 years (minimum)
Size	22.5 x 10 x 5.7 cm (8.85 x 4 x 2.25 in.)
Weight	0.4 kg (0.88 lb.)
Sensing Technology	Electrochemical
Network Capacity	50 wireless transmitters to the Vulcain 301C
Visual Indicators	Two LEDs
Radius of Detection	15.24 m (50 ft.)
Calibration	Not required for 2 years
Communication Protocol	2.4 Ghz - IEEE 802.15.4 - Secured 128-bit encryption
Alarms	Centralized alarm management via Vulcain 301C wireless controller
Ratings and Certifications:	
Conforms to	ANSI/UL 61010-1
Certified to	CAN/CSA C22.2 No. 61010-1 FCC Part 15 Subpart C(15.247) RSS 210 Section 6.2.2(o)
Enclosure	NEMA 4X Polycarbonate – ABS
Vulcain 301C General Specification	
Uses	Wall mounted gas detection control panel for the annunciation of gas hazards detected by the complete range of Vulcain sensors (up to 50 Vulcain 301W transmitters) with relays for effective response to hazard(s) present (activation of ventilation fans, audible and/or visual alarms, etc).
Power Requirement	17-27 Vac, 24-38 Vdc, 500 mA
Size	28 x 20.3 x 7 cm (11.02 x 7.99 x 2.76 in.)
Weight	1.1 kg (2.4 lb.)
Network Capacity	Three Modbus channels for up to 96 wired transmitters and up to 50 wireless transmitters Optional BACnet capacity
Communication Line Lengths (RS-485)	Up to 609 m (2000 ft.) per channel T-Tap: 20 m (65 ft.), maximum per T-Tap 40 m (130 ft.) maximum for all T-Tap combined 30 m (100 ft.) between each 301W
Relay Output Rating	5 A, 30 Vdc or 250 Vac (resistive load)
Alarm Levels	3 fully programmable alarm levels
Time Delays	0, 30 sec., 45 sec., 1-99 minutes before and after alarm; latching
Outputs	4 DPDT relays (alarms and/or fault); 65dBA buzzer
Display	Large 122 x 32 dot matrix display
Operating Humidity	0-95% RH, non-condensing
Operating Temperature	-20 to 50°C (-4 to 122°F)
Ratings and Certifications:	
Certified to	CAN/CSA C22.2 No 61010-1 FC 116662
Conforms to	ANSI/UL 61010-1 IEC 61010-1 Including Amendments A1:1992 + A2:1995 and National Deviations (Canada, US)

As world leaders in gas detection solutions, Honeywell Analytics' Vulcain range of gas detection systems has been designed to provide efficient, practical and cost-effective equipment to protect people from a variety of forms of hazardous gases and to efficiently monitor and control indoor air quality. The equipment is also extremely simple to install and easy to operate and maintain.

The Vulcain range of fixed gas detection and air monitors



Vulcain Sensors

From refrigerants to toxic and combustible gases, Honeywell Analytic's Vulcain line has a sensor designed for any industrial or commercial application. With award winning sensor technology, this line of sensors is the answer to any fixed HVAC, IAQ or gas detection concerns.

Find out more

For more information on Honeywell Analytic's Vulcain line of products, visit www.honeywellanalytics.com or contact us at 800 563 2967

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Vulcain Controllers

Designed for industrial or commercial use, the Vulcain 301C monitors and controls toxic gases, combustible gases and oxygen hazards. With the same simple installation and operation and flexibility as the Vulcain 301C, the Vulcain 301EM is specifically designed to fulfil the requirements of a mechanical room.



Vulcain 301M

Stand-Alone Dual Gas Monitor

For applications where gas detection is only needed at one or two points, the Vulcain 301M offers a simple solution. While continually monitoring for CO, a remote sensor can also be integrated to detect CO, NO₂, propane, hydrogen or methane with a remote sensor that can be placed up to 200' away.



Vulcain 90DM₄

Commercial CO₂ Detection

Using proven infrared dual sensing technology to detect carbon dioxide (CO₂) the Vulcain 90DM₄ can be either wall or duct mounted to monitor CO₂ levels in your commercial environment.

Honeywell