



Create a daisy-chain network with  
easy installation

# Vulcain 420I, 301R, 301AP and 301ADI



## 420I Converter

- Easy installation through daisy chain hook-up (RS-485)
- Provides dedicated 4-20mA outputs for up to 8 transmitters or either Min/Max/Avg
- Fully compatible with the 201T and 301D2 series as well as the SQN8X
- Communicates with transmitters at distances of up to 2000 feet

## 301R Relay Module

- Fully compatible with the 301C Controller
- Offers 8 DPDT relays
- Easy daisy chain installation (RS-485)
- LED visual indication of status next to each relay

## 301AP Annunciator Panel

- Three relay outputs for added functionality
- Audible alarm
- Easy to read visual status indicators and LCD display
- Robust RS-485 Modbus communication interface

## 301ADI Analog/Digital Input Converter

- Up to 8 digital and 16 4-20mA inputs can be converted to a Modbus output
- Fan status is communicated to 301C via an electrical current sensor

## The Vulcain 420I Converter, 301R, 301AP Annunciator Panel and 301ADI Analog/Digital Input Converter work with other Vulcain products to maximize the functionality of your gas detection system.

### 420I Converter

The 420I communicates digitally with transmitters (201T, 301D2, SQN8X, etc.), within a true daisy chain network, to convert the transmitters digital signals to analog outputs. This allows each transmitter to provide a 4-20mA signal to a BMS from one central location. The unit can accommodate up to 8 transmitters installed at distances of up to 2000 feet from the unit.

To avoid expensive DDC hook-ups and BMS software upgrades the unit even comes with internal logic that will provide either minimum/maximum/average reading for up to 16 transmitters.

### 301R Relay Module

The 301R acts as an output to the 301C. The Relay Module provides 8 relays (DPDT 5A, 30 VDC or 250 VAC resistive load) for the indirect activation of fans, louvers, etc at programmable alarm levels. Since the relay module is an output to the controller it can be located at any point within the gas detection network.

### 301AP Annunciator Panel

The 301AP is Vulcain's latest generation of remote annunciator panels incorporating all of the previously existing functionalities, such as easy to read visual indicators, multiple alarm level displays and fault alarms. With its 301AP, however, Vulcain is now offering end-users fully automatic recognition of sensor readings from the 301C controller, with absolutely no user programming required.

### 301ADI Analog / Digital Input Converter

The 301ADI Analog / Digital Input Converter allows existing 4-20mA devices to be brought onto a Modbus communication daisy-chain. This allows established gas detection systems to take advantage of the functionality provided by the 301C controller, without requiring expensive upgrades or product replacements.



Vulcain 301R



Vulcain 301AP



Vulcain 301ADI

# Technical summary



## 420I Specifications

<b>Use</b>	Provides centralized 4-20mA outputs for each daisy-chained transmitter, avoiding costly wire homeruns
<b>Power Requirements</b>	17-27 Vac, 24-38 Vdc, 500mA
<b>Number of Inputs</b>	One RS-485
<b>Number of Outputs</b>	8 dedicated 4-20 mA outputs min/max average
<b>Humidity Range</b>	0-95% RH, non condensing
<b>Operating Temperature</b>	0°C to 40°C (32°F to 104°F)
<b>Dimensions</b>	20.3 x 24.4 x 5.7 cm (8.0 x 9.5 x 2.5 in.)
<b>Weight</b>	1.58 kg (3.5 lbs)
<b>Maximum Distance between Controller and Converter</b>	Up to 610 m (2000 ft.)

## 301R Specifications

<b>Use</b>	Provides extra addressable relay outputs to be connected anywhere on the daisy chain network
<b>Power Requirements</b>	17-27 Vac, 24-38 Vdc
<b>Number of Outputs</b>	8 DPDT relays
<b>Rating</b>	5 A, 30 Vdc or 250 Vac (resistive load)
<b>Visual Indicator</b>	1 power LED, Tx, and each relay
<b>Maximum Distance between controller and converter</b>	up to 610 m (2000 ft.)
<b>Humidity Range</b>	0-95% RH, non condensing
<b>Operating Temperature</b>	32°F to 104°F (0°C to 40°C)
<b>Dimensions</b>	20.3 x 24.4 x 5.7 cm (8.0 x 9.5 x 2.5 in.)
<b>Weight</b>	1.09 kg (2.4 lbs)

## 301AP Specifications

<b>Use</b>	Provides local display of the entire gas detection network
<b>Power Requirements</b>	17-27 Vac, 24-38 Vdc
<b>Number of Outputs</b>	3 DPDT relays
<b>Rating</b>	5 A, 30 Vdc or 250 Vac (resistive load)
<b>Humidity Range</b>	0-95% RH, non condensing
<b>Operating Temperature</b>	0°C to 40°C / 32°F to 104°F
<b>Audible Alarm</b>	65 dB at 0.9 m (3 ft.)
<b>Dimensions</b>	20.3 x 24.4 x 5.7 cm (8.0 x 9.5 x 2.5 in.)
<b>Weight</b>	1.09 kg (2.4 lbs)

## 420I, 301R and 301AP Ratings and Certifications

<b>Conforms to</b>	UL STD. 1244
<b>Certified to</b>	CAN/CSA C22.2 No 205  116662



**Vulcain 420I**

## 301ADI Analog / Digital Input Converter Specifications

<b>Use</b>	Allows 4-20mA devices to be integrated into the daisy chain network and be read by the 301C controller
<b>Power Requirements</b>	17-25 VAC, 18-36 VDC, 440mA @ 24 VDC 120Vac, 3.15A (-AC option) 120Vac, 6.3A (-AC-2PS option)
<b>Size</b>	28 x 20.3 x 7 cm (11.02 x 7.99 x 2.76 in.)
<b>Weight</b>	1.1 kg (2.4 lb.)
<b>Enclosure</b>	NEMA 4X Polycarbonate – ABS
<b>Network Communication (Input/Output)</b>	Inputs 8 digital - 16 4-20mA Output Modbus communication protocol
<b>Operating Humidity Range</b>	0-95% RH, non-condensing
<b>Operating Temperature</b>	-20 to 50°C (-4 to 122°F)

## 301ADI Ratings and Certifications

<b>Conforms to</b>	ANSI/UL No. 61010-1
<b>Certified to</b>	CAN/CSA C22.2 No. 61010-1

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 Analytics' 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 Analytics' Vulcain line of products, visit [www.honeywellanalytics.com](http://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 fulfill 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, NO<sub>2</sub>, propane, hydrogen or methane with a remote sensor that can be placed up to 200' away.



Vulcain 90DM<sub>4</sub>

### Commercial CO<sub>2</sub> Detection

Using proven infrared dual sensing technology to detect carbon dioxide (CO<sub>2</sub>) the Vulcain 90DM<sub>4</sub> can be either wall or duct mounted to monitor CO<sub>2</sub> levels in your commercial environment.

# Honeywell