

ANALOG OR DIGITAL GAS DETECTORS DATASHEET

cGas DETECTOR for VRF, PTAC & VTAC



Designed for use in publicly occupied and frequented spaces. Ideal for continuous monitoring of refrigerants where high-efficiency, high volume refrigerant cooling and heating systems (VRF) are used to keep the indoor environment comfortable. The low profile, aesthetically pleasing enclosure is designed to reduce the noticeability of the device by the public eye. It is secured by a mounting plate that can be mounted proud of the wall or flush with the wall using a junction box. The model with the remote refrigerant sensor has a 9m / 29.5ft dangle cable that is ideal for use in packaged terminal air conditioner (PTAC) applications.

Both the analog and digital models are powered by 24 VDC or ground referenced AC, come with an LCD display, temperature compensation and thermal resetting fuse. Sensor replacement is easy with true Plug & Play smart sensors that arrive pre-calibrated. The firmware and configuration can be upgraded in the field using the USB connection.

The digital models are user configurable in the field for BACnet® MS-TP RS-485 or Modbus® RTU RS-485 output for communicating with a controller, Building Automation System or other control panel.

In packaged terminal air conditioner (PTAC) applications, the remotesensor model offers flexible placement options for the sensor, making it easier to place the sensor as close the potential leak area as possible.

The remote sensor should be mounted near the air conditioner coil and connected to the cGas Detector with 18 awg wire stranded in conduit. The maximum length of wire between the remote sensor and the transmitter should not exceed 50 ft (15 m).

For vertical terminal air conditioner (VTAC) applications, the internal sensor model is ideal for mounting flush with the wall, 6 in / 15 cm from the finished floor close to the air conditioning unit.

The cGas Detector has configurable Low, Mid and High alarm setpoints. The alarm setpoint value entered is the exact number/ level of gas concentration at which the device will indicate an alarm condition and send a signal to the controller or Building Automation System (BAS) which in turn will trigger an alarm device and/or emergency protocol is required to warn of the hazard and keep occupants safe.

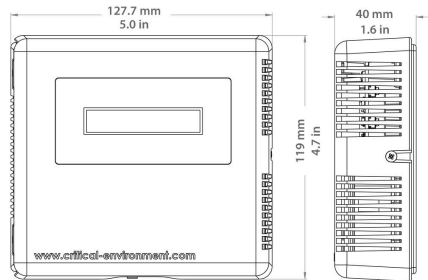
KEY FEATURES

- » One 4-20 mA analog output, or user configurable Modbus® RS-485 RTU or BACnet® MS/ TP communication protocols for communication with a Controller or Building Automation System (BAS)
- » Easy Plug & Play Smart Sensor replacement at end of life
- » Pre-calibrated replacement sensors
- » LCD display
- » Option -RLY: One SPDT dry contact relay, rated 30 volts, 2 amps max
- » Option -RHT*: Relative Humidity & Temperature sensor
- » Models available with user selectable PM1, PM2.5 or PM10 particulate sensor
- » Low profile to reduce noticeability in public spaces
- » USB port for configuration changes and firmware upgrades
- » RoHS compliant circuit board

APPLICATIONS

- » Hotels
- » Office Buildings
- » Hospitals
- » Apartment Buildings
- » Retirement Homes
- » Theaters / Auditoriums
- » Schools / Universities, Dormitories
- » ... and many more

TECHNICAL DRAWING





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FIXED SYSTEMS

TECHNICAL SPECIFICATIONS

MECHANICAL

Enclosure	White ABS / Polycarbonate, low profile with mounting plate
Weight	400 g / 14 oz
Size	127.7 x 119 x 40 mm / 5.0 x 4.7 x 1.6 inches
Dongle Cable Length	9m / 29.5ft (only available with the CGAS-AP-RD and CGAS-DP-RD models)

USER INTERFACE

Display	2-line by 16 character graphic LCD
Push Buttons	Initiate calibration and menu options with internal UP, DOWN and ENTER push buttons
USB Port	Internal port for USB memory stick for field configuration updated / firmware upgrades
Audible Alarm	none

INPUT / OUTPUT

Digital Output (CGAS-DP models)	BACnet MS/TP (version 1 rev 14) RS-485 or Modbus RTU (version 1.1b3) RS-485 (user configurable in the field)
Analog Output (CGAS-AP models)	One 4-20 mA output used for gas reading
Relay (Option -RLY)	One SPDT dry contact, rated 30 volts, 2 amps max
RH and Temperature (Option -RHT*)	User selectable DegC or DegF (analog models current output is for gas reading)

ELECTRICAL

Power Requirement	16-30 VDC, 3W, Class 2 12-27 VAC, 50-60 Hz, 3 VA, Class 2 24V recommended
Digital Wiring	VDC or VAC (ground referenced) 4-conductor shielded, 16 AWG stranded within conduit, network wiring (daisy-chain)
Analog Wiring	VAC (ground referenced) 3-conductor shielded 18 AWG (or larger) stranded
Fuse(s)	Automatic resetting thermal

ENVIRONMENTAL

Operating Temperature	0°C to 40°C (32°F to 104°F)
Operating Humidity	15 - 90% RH non-condensing

CERTIFICATION

Conforms to: CSA-C22.2 No. 205-12, UL508 (Edition 18):2018
Conforms to: EMC Directive 2014/30/EU EN 50270:2015, Type 1, EN61010
Conforms to: FCC. This device complies with Part 15 of the FCC Rules.
Listed by BTL

PRODUCT CODES

Single Channel Analog Models - 4 - 20 mA Output Lifespan

CGAS-AP-SR410A	Internal Solid State Refrigerant R410A sensor (0 - 2,000 ppm)	~5yr
CGAS-AP-SR507A	Internal Solid State Refrigerant R507A sensor (0 - 2,000 ppm)	~5yr
CGAS-AP-RD + ESH-B-SR404A	Remote dongle Solid State Refrigerant R404A sensor (0 - 2,000 ppm)	~5yr
CGAS-AP-RD + ESH-B-SR410A	Remote dongle Solid State Refrigerant R410A sensor (0 - 2,000 ppm)	~5yr

Single Channel Digital Models - Modbus® / BACnet® Output

CGAS-DP-SR410A	Internal solid state Refrigerant R410A sensor (0 - 2,000 ppm)	~5yr
CGAS-DP-SR507A	Internal solid state Refrigerant R507A sensor (0 - 2,000 ppm)	~5yr
CGAS-DP-RD + ESH-B-SR404A	Remote dongle Solid State Refrigerant R404A sensor (0 - 2,000 ppm)	~5yr
CGAS-DP-RD + ESH-B-SR410A	Remote dongle Solid State Refrigerant R410A sensor (0 - 2,000 ppm)	~5yr

OPTIONS (Factory installed)

RHT*	RH & Temperature sensor (°C or °F)
RLY	1 SPDT dry contact relay, rated 30 volts, 2 amps max

*Analog models have one analog output and will output the gas reading

Other refrigerants may be available on request