GEM-W Multi-Purpose Gas Detector

GEM-II multi-purpose gas detector represents excellent value for the end user. They are available in one or two channel configurations accommodating accurate "smart" sensors and providing a wide range of features. These features include CSA, UL and C-Tick certifications, RoHS compliant circuit boards, two 5-amp dry contact relays, electronic adjustable set points, audible alarm, time delays, analog output, pluggable wiring terminal, rugged polycarbonate enclosure with hinged door, Lexan label, and optional 4-digit display.

KEY FEATURES

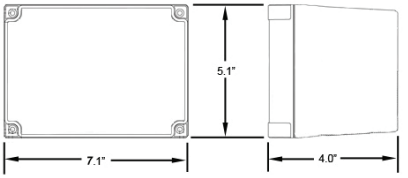
» Single or dual channel operation
» Network multiple units
» Integral or remote sensors
» Integral plug and play "smart" sensors
» 4 - 20 mA linear output signal
» Three conduit entry ports
» Thermal resetting fuse
» LED light indicators
» Two 5-amp SPDT relays
» RoHS compliant circuit boards
» Economical
» CSA & UL certified

APPLICATIONS

» Parking Garages
» Repair Shops
» Ice Cleaning Machine Rooms
» Manufacturing Plants
» ... and many more

GEM-EECO-END-SW model (picture to the left) contains two integral sensors, carbon monoxide (CO) & nitrogen dioxide (NO_2), enclosed in a water / dust tight polycarbonate enclosure with a splash guard attached.

TECHNICAL DRAWING



SAMPLE ENGINEERING SPECIFICATIONS

Vehicle Gas Detection System for Combustible Fuel Vapors
Supply a single channel, self-contained gas detection system, model GEM-B-SCB, for the monitoring of Propane fuel, gasoline vapours and other "heavier-than-air" fuel vapours, housed in a rugged, wall mount, drip-proof PVC enclosure with hinged, secured door. System power shall be 24 VAC nominal. The system shall have one remote solid-state sensor with measurement range of 0 - 50% LEL Combustibles in air. Area of monitoring coverage is 3,000 - 5,000 ft^2 / sensor.

The monitor shall provide an LED indicating light for power, low alarm, high alarm, and fault condition plus channel indication LED, one audible alarm with silence push-button and two SPDT dry contact alarm relays, each rated 5A at 240 VAC. The system must be accurate enough to measure to government workplace hazardous gas exposure standards. The system shall also provide field adjustable time delays for "delays on make" and "delays on break" for each sensor to allow custom configuration of fan control by the system relays, if desired.

The controller shall provide a circuit test button to allow the user to confirm system operation and exhaust fan control from the panel. The controller shall also provide a push-button to allow the user to override the system control and operate exhaust fans continuously for 15-minute segments to evacuate air from specific parts of the parking garage. Installation height for the gas detection controller is 4 - 6 ft from the floor. Installation height for the remote solid-state Combustibles sensors is 6" from the floor.

System operation shall be as follows: System relays are normally energized in non-gas-alarm state so they act in failsafe operation. Upon detection of 10% LEL fuel vapours in air, the system shall illuminate the Low alarm LED (amber) and the low gas alarm relay shall de-energize activating single-speed exhaust fans or low speed of two-speed exhaust fans plus make up air fans. Upon detection of 20% LEL fuel vapours in air, the system shall illuminate the High alarm LED (red), the system audible alarm will be activated and the high gas alarm relay shall de-energize activating high speed of two-speed exhaust fans or remote alarm devices. Audible alarm can be silenced from the front panel push button. In the event of a fail condition, the system audible alarm shall be activated and the fail LED on the front panel shall illuminate red.

The contractor shall provide all wiring, conduit and interconnection required for a successful installation. System should be tested and commissioned after installation, with a report provided after the site visit.

More specification samples are available at **www.critical-environment.com.**

Critical Environment Technologies™

Self Contained - GAS DETECTION DATASHEET

GEM-W Multi-Purpose Gas Detector

FIXED SYSTEM DATASHEET

TECHNICAL SPECIFICATIONS

GAS TYPE
Carbon Monoxide (CO)
Combustible Gas (solid state & catalytic) *Hydrogen (H_2), Methane (CH_4), Propane (C_3H_8), etc.*
Nitrogen Dioxide (NO_2)
Nitric Oxide (NO)
Oxygen (O_2)
Refrigerants (solid state) *R22, R134A, R402A, R404A, R407C, R410A, R422A, R422D, R507*
Sulphur Dioxide (SO_2)
TVOCs (solid state)

MECHANICAL	
Enclosure	Water / dust tight polycarbonate
Weight	700 g (1.4 lb)
Size	5.1″ x 7.1″ x 4.0″ (130 mm x 181 mm x 102 mm)

ELECTRICAL	
Power Requirement	15 - 30 VDC or 12 - 28 VAC
Current Draw	Approximately 125 mA
Wiring	VDC three-conductor shielded VAC four-conductor shielded
Fuse	Automatic resetting thermal

INPUT / OUTPUT	
Outputs	Linear 4 - 20 mA (single)
Relay	Dry contact relays (2) rated 5 amps @ 240 VAC SPDT

ENVIRONMENTAL *(sensor dependant)*	
Operating Temperature	-20°C to 50°C (-5°F to 120°F)
Humidity	15 - 90% RH non-condensing

CERTIFICATION	
CSA	Certified
UL	Certified

PRODUCT CODES

GEM - [ ][ ][ ][ ] - [ ][ ][ ] - [ ] W

Single / Dual Channel Sensor:

Options: *(You can select more than 1 option)*

	Type A: Single Channel (Integral Electrochemical)
AECO	CO sensor (0 - 200 ppm)
AEND	NO_2 sensor (0 - 10 ppm)
AENO	NO sensor (0 - 100 ppm)
AEO2	O_2 sensor (0 - 25% volume)
AESO	SO_2 sensor (0 - 20 ppm)

-	None
N	LED digital display
J	Internal 120 VAC transformer
S	Splash guard

	Type B: Single Channel (Remote Solid State Sensor)
B	No sensor
BSCB	Combustible gas sensor (0 - 50% LEL)
BSR2	Refrigerants (R22, R134A, R402A, R404A, R407C, R410A, R422A, R422D, R507) sensor (0 - 2,000 ppm)
BSOS	TVOCs sensor (0 - 500 ppm)

	Type D: Dual Channel (Integral & Remote Sensor)
DECO-SCB	Integral CO sensor (0 - 200 ppm) & remote combustible solid state gas sensor (0 - 50% LEL)
DECO-CCB	Integral CO sensor (0 - 200 ppm) & AST-CCB
DECO-ECO	Integral CO sensor (0 - 200 ppm) & LPT-TCO
DECO-END	Integral CO sensor (0 - 200 ppm) & LPT-END
DEO2-EO2	Integral O_2 sensor (0 - 25% volume) & AST-OO2
DEND-END	Integral NO_2 sensor (0 - 10 ppm) & LPT-END
DENO-ENO	Integral NO sensor (0 - 100 ppm) & AST-ENO

	Type E: Dual Channel (Integral Sensors)
EECO-END	CO sensor (0 - 200 ppm) & NO_2 sensor (0 - 10 ppm)
EECO-ENO	CO sensor (0 - 200 ppm) & NO sensor (0 - 100 ppm)
EECO-EO2	CO sensor (0 - 200 ppm) & O_2 sensor (0 - 25% vol)
EECO-ESO	CO sensor (0 - 200 ppm) & SO_2 sensor (0 - 20 ppm)
EEND-ESO	NO_2 sensor (0 - 10 ppm) & SO_2 sensor (0 - 20 ppm)

ACCESSORIES

Calibration kit for 17, 34, 58, 74, 103 L cylinders, 0.5 LPM flow regulator & adapter to fit 17 L cylinder	CET-715A-CK1
Metal protective guard, large, 16 gauge, galvanized metal guards for controllers	SCS-8000-SPG
Strobe & horn combo, remote	RSH-24
Enclosed external transformer, 120 - 22 VAC	TIB-2250

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