

TG Series UL Wall & Duct Dual Combustible Gas Sensor/Controller

UL2075 recognized combustible gas sensing elements
 Individual sensors or as any dual combination of gases
 Detect Methane/Propane leaks and monitor for elevated CO levels
 Operates as stand-alone sensor or local controller



DESCRIPTION

Senva TG Series sensors can be ordered as individual CH4 sensor, C3H8 sensor, H2 sensor, O2 sensor, H2S sensor, or specify two sensing elements in one enclosure including CO and NO2. The analog output model features 2 outputs that support daisy chain wiring - multiple sensors may be used in a parallel sequence (0-10V) for cost effective coverage of large areas. The unit can also act as a stand alone controller, utilizing the relay for exhaust fan operation or the output for direct control of a VFD. The BACnet/Modbus model supports BACnet MS/TP & Modbus network communication in one unit. Standard features include network auto-configuration, a programmable fan relay, LED indicators, integrated display and audible alarm.

APPLICATIONS

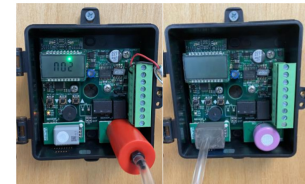
- Boiler rooms
- Commercial kitchens
- Battery Rooms
- Compressed Gas storage
- Residential and commercial heating and water heating
- Vehicle bays and garages for natural gas (LNG) or petroleum gas (LPG) vehicles
- Waste facilities



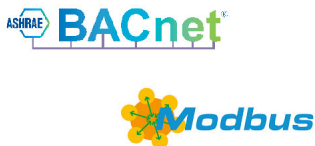
TG Metal LED or Solid Enclosure Available



TG ABS Enclosure - Available with Tinted or Solid Lid Options

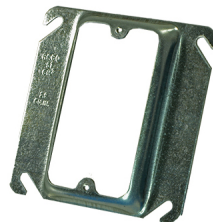


Gas shrouds secure over respective sensing elements for calibration



Analog

Analog and BACnet/Modbus protocol options



ABS version comes with handy conduit box adapter



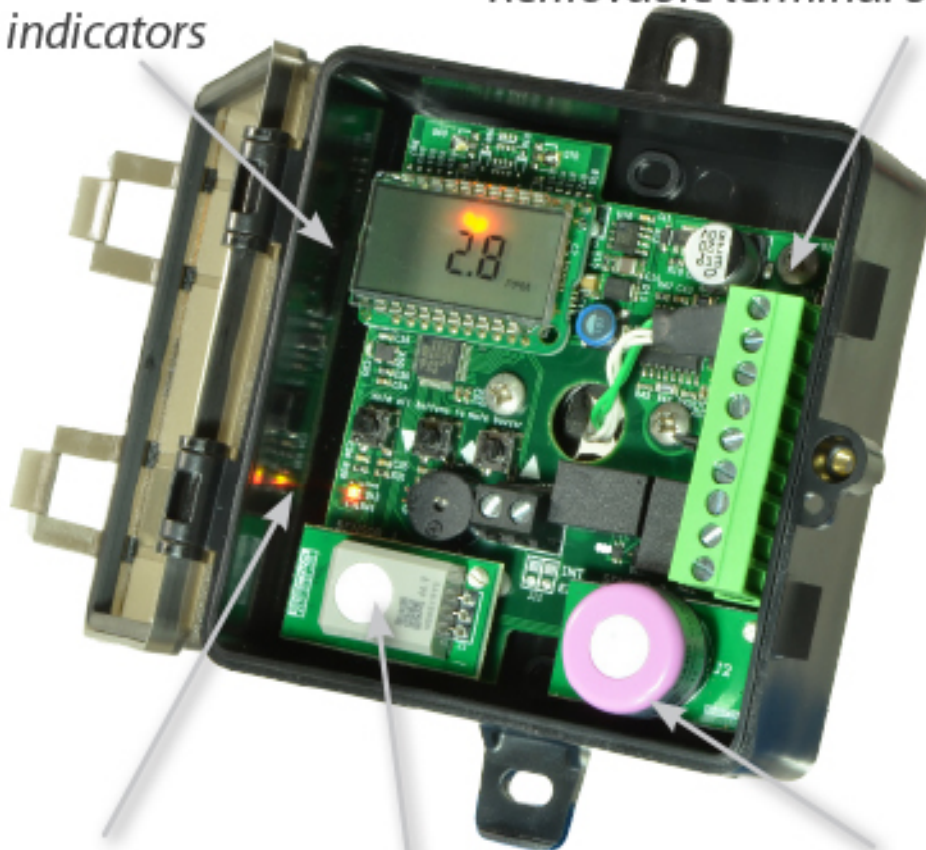
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FEATURES

- Integrated display, LED indicators, audible alarm
- Menu selectable 0-5/10V, 1-5V and 4-20mA outputs (0-10V default)
- BACnet supports BACnet MS/TP and Modbus RTU networks with auto-configuration for network baud rate, serial format, protocol type and self-addressing
- Dual outputs support daisy chain wiring to cost-effectively sense and control large areas
- UL2034 recognized electrochemical CO sensing element
- Warning indicators alert occupants when element's lifecycle is near end for replacement
- Installer-friendly circuit board makes through-the-back wiring simple
- Test mode speeds up field commissioning for verifying warning indicators and relay functions
- Push buttons and LCD to navigate setting parameters
- UL Listed (UL61010-1)
- NEW! UL2075 Listed Propane, Methane, and Hydrogen elements.
- -year limited warranty on electronics; 2-year on elements

Standard LCD and LED indicators

Removable terminal block




Push button menu for easy setup and

Field Replaceable Sensing Elements

Audible alarm

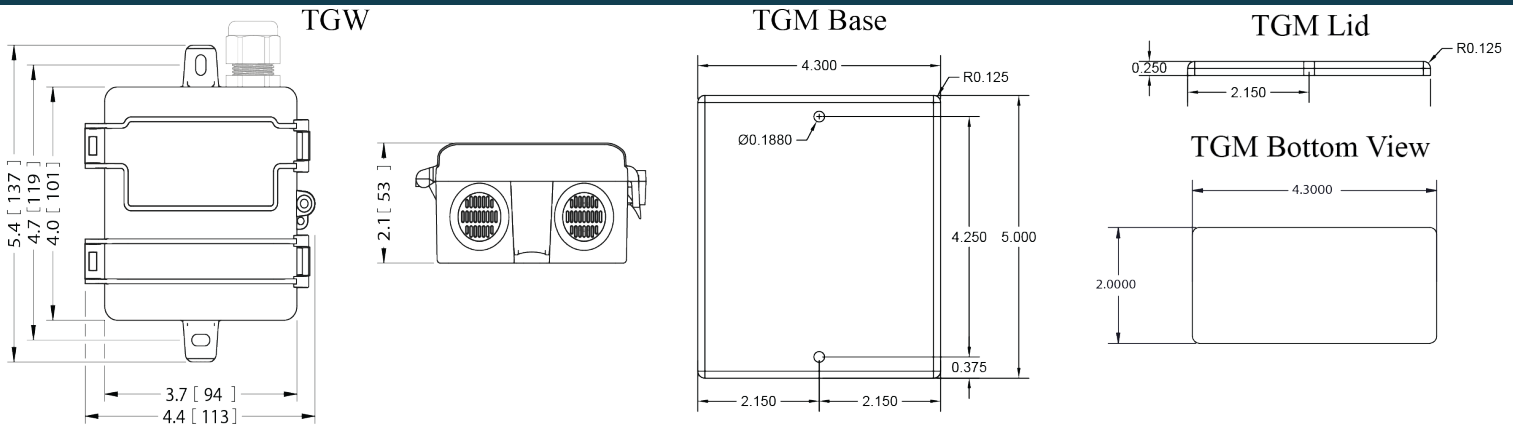
ORDERING


TG	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	
Package	Output Type	Gas Type 1	Gas Type 2	Temperature	Enclosure Lid				
W = Wall Mount M = Metal Mount D = Duct Mount	A = Analog B = BACnet/Modbus	C = Carbon Monoxide (CO) N = Nitrogen Dioxide (NO2) M = Methane (CH4) P = Propane (C3H8) H = Hydrogen (H2) O = Oxygen (O2) S = Hydrogen Sulfide H2S D = Carbon Dioxide (CO2) E = Dual Channel CO2	X = No second gas N = Nitrogen Dioxide (NO2) M = Methane (CH4) P = Propane (C3H8) H = Hydrogen (H2) O = Oxygen (O2) S = Hydrogen Sulfide (H2S) D = Carbon Dioxide (CO2) E = Dual Channel CO2	A = None C = 100Pt RTD D = 1000Pt RTD E = 10K Type 2 F = 10K Type 3 G = 10k w/11k H = 3k I = 2k2 J = 1k8 K = 20k	Blank = Clear/Tinted S = Solid/Opaque W = All White Solid				

Replacement Elements

- TGS-CO-UL = Carbon Monoxide
- TGS-NO2-UL = Nitrogen Dioxide
- TGS-CH4-UL = Methane
- TGS-C3H8-UL = Propane
- TGS-O2-UL = Oxygen
- TGS-H2-UL = Hydrogen
- TGS-S-UL = Hydrogen Sulfide

DIMENSIONS



 **Warning:** The datasheet is designed for reference only. Refer to installation instructions that accompany the product and heed all safety instructions. Product improvement is a continuing process at Senva. Changes may occur to products without prior notice.

SPECIFICATIONS

Power Supply 15-30VDC/24VAC(1), 4W max, 160mA max.

Analog Outputs	2 programmable outputs Output scaling	0-10V (default), 0-5V, 1-5V, 4-20mA (menu selectable) Menu selectable; see installation manual for ranges
BACnet /Modbus	Protocol RS-485 Baud Rates	BACnet MS/TP, Modbus RTU, Modbus ASCII 9600, 19200, 38400, 57600, 76800, 115200
Fan Relay	Fan relay characteristics Fan relay setpoint	N.C. 1A@24/30VDC (50/60Hz) (no mains connection) 300 ppm (default), 0-1000 ppm (menu selectable)
Alarm Relay	Alarm relay characteristics Alarm relay setpoint	N.C. 1A@24/30VDC (50/60Hz) (no mains connection) 600 ppm (default), 0-1000 ppm (menu selectable)
Display	3-1/2 digit LCD	Indicates gas concentration in ppm (menu selectable)
LEDs	Green, Yellow, Red	Green = Normal, Yellow = Relay, Red = Alarm
Audible Alarm	85dB Piezo transducer	30 minutes above alarm setpoint (menu selectable)
Oxygen Sensor Performance	Type Detection Range Accuracy Resolution Life expectancy Mounting	Electrochemical 0-25% Volume ±5% of range 0.1% 5 years, with Annual Calibration 3 to 6 feet off the ground; coverage of 5000-7500 square feet
Ammonia Sensor Performance	Type Accuracy Resolution Life expectancy Coverage Area	Electrochemical ±5% of default range 0.1ppm 5 years 5000-7500 square feet (Click for details)
Carbon Dioxide (CO2)	Type Accuracy(4) Resolution Life expectancy Coverage Area	Non-Dispersive Infrared (NDIR) ±(30ppm +3% of reading) (400-2000ppm), @-10-50°C 1 ppm 15 years 5000-7500 square feet (Click for details)
Methane/Propane/Hydrogen Sensors Performance	Type Detection Range Accuracy Certifications Resolution Ceritifications Life expectancy Response Time Coverage Area	Catalytic 0-50% LEL (Lower Explosive Limit) 5% of range UL2075 Recognized Component 1%LEL UL2075 Listed Component >5 years <10s to 90% Methane/Hydrogen 5000-7500 sq ft; Propane 5000 sq ft (Click for details)
Hydrogen Sulphide Sensor Performance	Type Detection Range Accuracy Resolution Life expectancy Mounting	Electrochemical 0-100 ppm ±5% of Range 1 ppm 5 years with 6 month calibration 3 to 6 foot above the ground; coverage of 5000-7500 square feet
Operating Environment	Temperature, Operational(4) Humidity Max Elevation	-30 to 50oC (-22 to 122oF) (CO2 versions rated to -40C) 15-95% continuous, 0-95% intermittent 2000m
Enclosure	Material	ABS/Polycarbonate

(Wall & Duct)	Dimensions	4.0”h x 4.4”w x 2.1”d
	Conduit Opening	Tapped 1/2” NPT
	Rating	IP43 or NEMA 3R
Enclosure (Metal)	Material & Enclosure Rating	Powder-coated steel/acrylic
	Dimensions	5.0”h x 4.3”w x 2.25”d
	Opening	Dual air vents on bottom of enclosure
	Mounting	Pre-drilled for 2x4” electrical box
	Rating	IP41 or NEMA 3R
Agency	Compliance	UL61010-1 Listed UL, cUL, CE, UL2075 Recognized Propane/Methane/Hydrogen sensor

(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended. No mains circuit connection allowed. In addition, it is required to use an isolated power supply that is certified by a national or international standard (i.e. UL). Use of a Class 2 LPS power supply or greater is required.

(2) R134A sensor is factory calibrated to R134A gas but may be used as a general-purpose refrigerant sensor. Sensitivity to some other gases can be found in the installation manual. Actual response may vary depending on installation. For more accurate response to a specific gas, a unit may be field calibrated.

(3) These gases may be detected by the sensor but sensitivity curves are not available at this time.

** Product improvement is a continual process at Senva and product features and specification may change without prior notice. Refer to instructions that accompany the product for installation and wiring.*