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

NEW!

- Analog and BACnet/Modbus protocol options
- Field replaceable calibrated sensing elements
- Standard LCD with intuitive set up menu
- Integrated LED indicators and audible alarm

DESCRIPTION

BACnet Modbus CE c UL us

Senva TG Series sensors can be ordered as individual sensors or as any dual combination of refrigerant sensors in a shared enclosure. Refrigerant sensors may also be paired with any toxic or combustible gases, such as CO or Methane.

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, programmable fan and alarm relays, LED indicators, integrated display and audible alarm.

APPLICATIONS

- Ensure adequate air flow in occupied spaces
- Monitor for refrigerant leaks
- Alert building maintenance of elevated gas levels
- Directly control exhaust fans

Warning: *Refer to installation instructions that accompany product and heed all safety instructions.*

FEATURES

Cost-effective dual gas sensing and control

- Integrated display, LED indicators, audible alarm
- Order as individual Refrigerant sensors, or specify any two sensing elements in one enclosure
- May be paired with any toxic or combustible gas sensor

Flexibility of analog output model

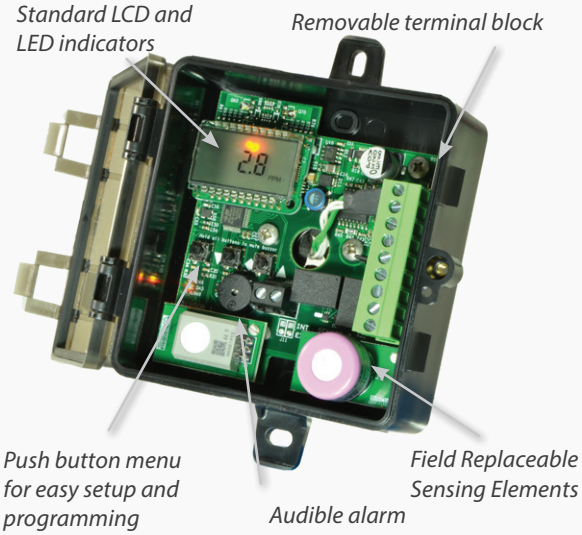
- Menu selectable 0-5/10V, 1-5V and 4-20mA outputs (0-10V default)
- Dual outputs support daisy chain wiring to cost-effectively sense and control large areas

Versatility with BACnet/Modbus model

- Supports BACnet MS/TP and Modbus RTU networks
- Auto-configuration detects network baud rate, serial format, protocol type and self-addresses

High reliability reduces call backs

- Temperature compensated elements for maximum accuracy
- Warning indicators alert occupants when element's lifecycle is near end for replacement
- 7-year limited warranty on electronics; 2-year on elements



Easy to install

- Test mode speeds up field commissioning for verifying warning indicators and relay functions
- Push buttons and LCD to navigate setting parameters

PROUDLY MADE IN USA

7 year limited warranty

ORDERING

	Pkg		Out	Gas1	Gas2		Temp	Lid
TG		-				-		

Package
W = Wall Mount
M = Metal
D = Duct Mount

Output Type
A = Analog
B = BACnet/Modbus

Gas Type 1*
A = Ammonia
2 = R22
3 = R134A (Multi-Gas)
4 = R410A
5 = R404A
6 = R407C
7 = R449A
8 = R513A
9 = 1233ZDE
M = Methane (CH4)
P = Propane (C3H8)
E = NDIR Dual Channel CO2

Gas Type 2
X = no second gas
X2 = R22
X3 = R134A
X4 = R410A
X5 = R404A
X6 = R407C
X7 = R449A
X8 = R513A
X9 = 1233ZDE

Temperature Output
A = None
E = 10K Type 2
F = 10K Type 3
K = 20k

Enclosure Lid
Blank = Clear/Tinted
S = Solid/Opaque
W=All White Solid

*Refrigerant gas sensors may be paired with all other TG gas offerings, except Methane, Propane, and Hydrogen. See combustibles spec sheet for list of options.

Replacement Elements

TGS-A-UL = Ammonia
TGS-3-UL = R134A (multi-gas)
TGS-4-UL = R410A
Consult factory for more.

Scan here to see refrigerant cross-sensitivities

SPECIFICATIONS

Power Supply		15-30VDC/24VAC(1), 4W max, 160mA max.
Analog Outputs	2 programmable outputs	0-10V (default), 0-5V, 1-5V, 4-20mA (menu selectable)
	Output scaling	Menu selectable; see installation manual for ranges
BACnet /Modbus	Protocol RS-485	BACnet MS/TP, Modbus RTU, Modbus ASCII
	Baud Rates	9600, 19200, 38400, 57600, 76800, 115200
Fan Relay	Fan relay characteristics	N.C. 1A@24/30VDC (50/60Hz) (no mains connection)
	Fan relay setpoint	300 ppm (default), 0-1000 ppm (menu selectable)
Alarm Relay	Alarm relay characteristics	N.C. 1A@24/30VDC (50/60Hz) (no mains conenction)
	Alarm relay setpoint	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)
General Purpose Sensor Performance	Type	MOS
	Detection Range	0-1000 ppm
	Resolution	1 ppm
	Listed Gas types 2-9	Factory calibrated for respective gas
	R134A Sensitivity(2)	@300ppm test gas: 450 ppm R410A, 425 ppm R407C, 400 ppm R404A, 370 ppm R22, 300 ppm R134A
	Other detectable gases(3)	R407A, R407F, R427A, R452B, R507, R448A, R422A, R422D, R452A, R514A, R32
	Life expectancy	>10 years (typical life expectancy for MOS sensors)
	Coverage Area	5000-7500 square feet
Ammonia Sensor Performance	Type	Electrochemical
	Accuracy	±5% of default range
	Resolution	0.1ppm
	Life expectancy	5 years
	Coverage Area	5000-7500 square feet
Carbon Dioxide (CO2)	Type	Non-Dispersive Infrared (NDIR)
	Accuracy(4)	±(30ppm +3% of reading) (400-2000ppm), @-10-50°C
	Resolution	1 ppm
	Life expectancy	15 years
	Coverage Area	5000-7500 square feet
Methane/ Propane Sensors Performance	Type	Catalytic
	Detection Range	0-50% LEL (Lower Explosive Limit)
	Accuracy	5% of range
	Resolution	1%LEL
	Life expectancy	>5 years
	Coverage Area	Methane/Hydrogen 5000-7500 sq ft; Propane 5000 sq ft
Operating Environment	Temperature, Operational(4)	-30 to 50°C (-22 to 122°F)
	Humidity	15-95% continuous, 0-95% intermittent
	Max Elevation	2000m
Enclosure (Wall & Duct)	Material	ABS/Polycarbonate
	Dimensions	4.0"h x 4.4"w x 2.1"d
	Conduit Opening	Tapped 1/2" NPT
	Rating	IP20
Enclosure (Metal)	Material & Enclosure Rating	Powder coated steel/acrylic, NEMA 3R
	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	IP20
Agency	Compliance	UL61010-1 Listed UL, cUL, CE

(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 my be detected by the sensor but sensitivity curves are not available at this time.