

ENGINEERING QUALITY AND RELIABILITY

# GIR914 NOVA-SENSOR ELITE

## INFRARED TOXIC GAS DETECTOR

SELF-CONTAINED AND EXPLOSION-PROOF



### FEATURES & BENEFITS

- Infrared Sensor for Toxic Gas Detection
- For Carbon Dioxide or Sulfur Hexafluoride gases
- Immune to contamination and poisoning
- No moving parts or mirrors used
- No routine calibration required
- Low maintenance
- 4-20 mA output for connection to external equipment
- LOW alarm and HIGH alarm settings
- Voltage-free dry contact relays for local control
- Explosion-proof electronics housing
- Sensor in stainless steel housing
- Available up to IP 66 rating
- Bright LCD screen displays target gas concentration
- Magnetic switch initiates test or calibration sequence
- Built-in automatic sensor replacement/maintenance and calibration reminder
- Step-by-step on-screen calibration instructions for ease of use and maintenance
- Shipped fully assembled and pre-calibrated
- 5 Year Warranty
- Made in USA

The SST Model GIR904 is an “intelligent,” highly versatile and reliable industrial toxic gas detector designed for the toughest job and able to be used in the harshest environments. This detector uses the Non-Dispersive Infrared (NDIR) principle to detect and monitor the presence of gas. In comparison to electrochemical sensors, the NDIR sensor is immune to contamination and poisoning, able to operate in the absence of oxygen or in enriched oxygen, able to operate in continuous presence of gas and has unlimited lifetime.

The display screen on the NOVA-Sensor *ELITE* continuously displays operating status and the actual concentration of gas. This reading is converted to a standard 4-20 mA signal, which may be connected to any remote device for remote display or logging. Relay contacts are provided which transfer when the gas concentration exceeds the LOW ALARM and HIGH ALARM set points. Typical set points are adjusted by the installer upon installation and may be reset later by authorized personnel. The relays are suitable for controlling local HVAC equipment, alarm signal devices or for equipment shutdown. Fault relays contacts are also available which operate upon loss of power or internal failure of the unit.

### TYPICAL GASES

Available for the following toxic gases:

- Carbon Dioxide (CO<sub>2</sub>)
- Sulfur Hexafluoride (SF<sub>6</sub>)



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**MODEL GIR914 TOXIC GAS DETECTOR**

**SYSTEM SPECIFICATIONS**

**Sensor Type:** Infrared

**Modes:** Normal operation, set-points, calibration, set-up

**Warranty:** 5 years

**Approvals:** Explosion-proof approved housing  
Class I, Division I, Groups A B C D; Class I, Zone I, AEx d IIC; Type 4X  
ATEX: II 2G Ex d IIC Gb

**ENVIRONMENTAL SPECIFICATIONS**

**Operating Temperature:** Electronics -40°F to 185°F (-40°C to 85°C)

**Storage Temperature:** Sensors: 32°F to 68°F (0°C to 20°C)

**Pressure Range:** Atmospheric ± 20%

**Operating Humidity:** 0-100% RH, non-condensing

**Ingress Protection:** IP40 to IP66

**MECHANICAL SPECIFICATIONS**

**Dimensions:** 14.44x5.75x4.375 inches (159x146x111 mm)

**Weight:** 10.0 lbs. (4.5 kg) Aluminum;  
16.0 lbs (7.2 kg) Stainless Steel

**Controller Housing:** Aluminum or Stainless Steel

**Sensor Housing:** Stainless Steel

**ELECTRICAL SPECIFICATIONS**

**Input Power:** 24 VDC nominal, 16 to 32 VDC  
92 mA standby, 120 mA alarm

**Relay Contact Ratings:** 6 amps @ 28 VDC or 300 VAC resistive  
1/8 HP @ 120/240VAC

**Analog Signal:** 0-20 mA current source (600 Ohms or less)  
Malfunction 0 mA  
Setup Mode/Calibrate 4 mA  
Zero Reading 4 mA  
0-XXX PPM or %Vol 4-20 mA  
Over-range > 20 mA

**Display:** Graphic Liquid Crystal Display  
Displays target gas concentration in PPM or %Vol;  
Flashing screen in alarm mode;  
Low brightness setting in power save mode

**Field Connections:** 4-20 mA output - three-wire shielded cable  
All other connections: 22 AWG (.35 mm<sup>2</sup>) to 12 AWG (4.0 mm<sup>2</sup>)

**Wireless Communication:** Available with optional wireless transmitter with text, e-mail notification features

**ORDERING INFORMATION**

Part No.	Description
914-84-AL	Model GIR914 Carbon Dioxide Gas Detector <i>Aluminum housing</i>
914-84-SS	Model GIR914 Carbon Dioxide Gas Detector <i>Stainless steel housing</i>
914-891-AL	Model GIR914 Sulfur Hexafluoride Gas Detector <i>Aluminum housing</i>
914-891-SS	Model GIR914 Sulfur Hexafluoride Gas Detector <i>Stainless steel housing</i>

Gas	Range in % by Volume	Max Range	Resolution	T90 Response Time	Operating Range
Carbon Dioxide (CO <sub>2</sub> )	0-2%; 0-5%; 0-30%; 0-100% by volume	0-100% by volume	< 1.0 PPM	< 25 sec.	-20°F to 122°F; -30°C to 50°C
Sulfur Hexafluoride (SF <sub>6</sub> ) <i>Infrared Sensor</i>	0-1,000 or 0-2,000 PPM	2,000 PPM	< 0.2 PPM	< 30 sec.	-4°F to 140°F; -20°C to 60°C

Specifications subject to change without notice.

