

ENGINEERING QUALITY AND RELIABILITY

GT814 NOVA-SENSOR ELITE

ELECTROCHEMICAL CELL TOXIC GAS DETECTOR

SELF-CONTAINED AND EXPLOSION-PROOF



FEATURES & BENEFITS

- Intelligent toxic gas detector
- Electrochemical cell provides increased accuracy, stability, reliability, and fast response
- 4-20 mA output
- User programmable LOW alarm and HIGH alarm settings
- Voltage-free dry contact relays for local control
- Explosion-proof approved electronics housing Class I, Group A, B, C, D
- Sensor in explosion-proof stainless steel housing designed to Class I, Groups A, B, C, D
- Available up to IP66 rating
- Bright LCD screen displays target gas concentration in parts per million (PPM)
- 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
- Available accessories include rain/waterspray shield, dust cover, duct mount, gas collection cone, and calibration kit
- 5 Year Warranty
- Made in USA

The SST Model GT814 Toxic Gas Detector is a highly versatile and reliable industrial toxic gas detector designed for the toughest job for use in the harshest environments. This detector uses an electrochemical fuel cell sensing element, and provides accurate measurements in all atmospheres. A high reserve of electrochemical activity insures a long life and excellent temperature stability. The performance is relatively unaffected by humidity, providing that conditions are non-condensing.

The bright LCD screen on the detector continuously displays the operating status and the actual concentration of the target gas in parts per million (PPM). 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 relay contacts are also available which operate upon loss of power or internal failure of the unit. The NOVA-Sensor ELITE series comes with built-in on-screen calibration instructions and sensor diagnostic software to alert the user when the sensor needs to be calibrated or replaced.

TYPICAL GASES

- Hydrogen Sulfide (H_2S)
- Ammonia (NH_3)
- Carbon Monoxide (CO)
- Chlorine (Cl_2)
- Ethylene Oxide (ETO) (C_2H_4O)
- Hydrogen (H_2)
- Hydrogen Chloride (HCL)
- Hydrogen Cyanide (HCN)
- Hydrogen Peroxide (H_2O_2)
- Nitric Oxide (NO)
- Nitrogen Dioxide (NO_2)
- Phosphine (PH_3)
- Sulfur Dioxide (SO_2)



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MODEL GT814 TOXIC GAS DETECTOR

SYSTEM SPECIFICATIONS

Sensor Type: Electrochemical cell
Modes: Normal operation, set-points, calibration, set-up
Warranty: 5 years; 1 year for cell
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



Specifications subject to change without notice.

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 4-20 mA
 Over-range > 20 mA
Display: Graphic Liquid Crystal Display
 Displays target gas concentration in PPM;
 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 mm²) to 12
 AWG (4.0 mm²)

ORDERING INFORMATION

Part No.	Description
814-(Gas)-(PPM)	Model GT814 Toxic Gas Detector <i>Electronics in aluminum housing</i>
814-(Gas)-(PPM)- SS	Model GT814 Toxic Gas Detector <i>Electronics in stainless steel housing</i>
Accessories	
851-1	Rain shield
851-5	Water spray shield
852-1	Dust cover
854-1	Duct mount
859-1	Gas sensor collection cone
857-01	Calibration kit (test gas sold separately)

Gas	Range in PPM	Max Range	Resolution	T90 Response Time	Operating Range
Hydrogen Sulfide (H ₂ S)	0-20; 0-50; 0-100; 0-200	500 PPM	< 0.05 PPM	< 55 sec.	-22°F to 122°F; -30°C to 50°C;
Hydrogen Sulfide (H ₂ S) High Concentration	0-2,000	10,000 PPM	< 0.5 PPM	< 40 sec.	-22°F to 122°F; -30°C to 50°C
Hydrogen Sulfide (H ₂ S) High Sensitivity	0-50	200 PPM	< 0.02 PPM	< 40 sec.	-22°F to 122°F; -30°C to 50°C
Ammonia (NH ₃)	0-100 0-500 0-1,000 0-5,000	100 PPM 500 PPM 1,000 PPM 5,000 PPM	< 1 PPM < 12 PPM < 50 PPM	< 60 sec. < 90 sec. < 90 sec. < 90 sec.	-4°C to 104°F; -20°C to 40°C
Carbon Monoxide (CO)	0-20; 0-100; 0-5,000	10,000 PPM	< 0.5 PPM	< 25 sec.	-22°F to 122°F; -30°C to 50°C
Chlorine (CL ₂)	0-20	60 PPM	< 0.02 PPM	< 60 sec.	-4°C to 122°F; -20°C to 50°C
Ethylene Oxide Sensor (C ₂ H ₄ O)	0-100	500 PPM	< 0.1 PPM	< 200 sec.	-22°F to 122°F -30°C to 50°C
Hydrogen (H ₂)	0-5,000	20,000 PPM	< 0.8 PPM	< 80 sec.	-22°F to 122°F; -30°C to 50°C
Hydrogen Chloride (HCL)	0-20	200 PPM	< 0.1 PPM	< 200 sec.	32°F to 122°F; 0°C to 50°C
Hydrogen Cyanide (HCN)	0-100	200 PPM	< 0.05 PPM	< 120 sec.	-22°F to 122°F; -30°C to 50°C
Hydrogen Peroxide (H ₂ O ₂)	0-5000	10,000 PPM	<0.5 PPM	< 25 sec.	-22°F to 122°F; -30°C to 50°C
Nitric Oxide (NO)	0-250	1,200 PPM	< 0.15 PPM	< 30 sec.	-22°F to 122°F; -30°C to 50°C
Nitrogen Dioxide (NO ₂)	0-20	100	<0.02 PPM	< 60 sec.	-4°C to 122°F; -20°C to 50°C
Phospine (PH ₃)	0-10	150 PPM	< 0.03 PPM	< 20 sec.	-22°F to 122°F; -30°C to 50°C
Sulfur Dioxide (SO ₂)	0-100	1,000 PPM	< 0.1 PPM	< 40 sec.	-22°F to 122°F; -30°C to 50°C
Sulfur Dioxide (SO ₂) High Concentration	0-2,000	10,000 PPM	< 2 PPM	< 30 sec.	-22°F to 122°F; -30°C to 50°C

