

BEACON™ / PIONEER GAS DETECTOR

The Beacon™ /Pioneer is a simplified, versatile, low cost fixed system controller for one to eight points of gas detection. It is microprocessor controlled and is capable of accepting up to 8 separate 4-20 mA sensor transmitters which can be either 2 or 3 wire. The Beacon™ /Pioneer can be powered by either 24 VDC or 115 VAC. It is simple to operate and comes complete with a wall mount installation kit.

The 2 large digital displays have backlighting and easily identify both the gas type and the gas concentration for all 8 channels simultaneously. The Beacon™ /Pioneer is also housed in a NEMA 4X rated case for a weather tight seal. This case design complies with the new lock out / tag out standard and can be fully secured. An external reset switch allows alarms to be silenced from outside the controller housing. The

bottom mounted wiring hubs allow for easy wiring.

With 10 amp rated relays, the Beacon™ /Pioneer can be wired directly to a variety of devices like alarm horns, buzzers, or lights. This eliminates the need for costly external relays from the controller to devices.

FEATURES

Low cost versatile solution!
Capable of up to 8 separate channels
Digital display of all 8 channels simultaneously
Compact, weatherproof, NEMA 4x enclosure
115 VAC or 24 VDC operation
Long life sensors (2+ years typical)
Accepts any 4-20 mA transmitter
Audible alarm with reset button
Two programmable alarm levels per channel
Common alarm and fail relays
Relay rating 10 amps, form C

INDUSTRY APPLICATIONS

Petrochemical plants	Refineries
Water & wastewater treatment plants	Pulp & paper mills
Gas, telephone, & electric utilities	Parking garages
Manufacturing facilities	Steel
Automotive	HVAC

PHYSICAL

Dimensions	Height: 12.5" 318 mm Width 11.0" 279 mm Depth 6.4" 163 mm
Enclosure	Wall mounting grey polycarbonate with hinged cover.
Conduit Connection	3/4" NPT conduit hubs, 4 provided for sensors, power, and relay wiring.
Wiring Termination	Screw type terminal block 14 gauge max.

ENVIRONMENTAL

Operating Temp	-4°F to 122°F (-20°C to 50°C)
Storage Temp	-4°F to 158°F (-20°C to 70°C)
Relative Humidity	0 - 100% RH
Enclosure Rating	NEMA-4X enclosure, waterproof, chemical, and weather resistant.

INPUTS

4-20 mA	Accepts any 4-20 mA transmitters (24 VDC, 2 or 3 wire). A wide variety of RKI / Riken sensors are available with 4-20 mA signals. (See list of detectable gases.) Wiring distances up to 5,000 feet.
Sampling Methods	Diffusion and sample draw heads available.

PRODUCT CODE	DESCRIPTION
S2210-1	1 Channel controller
S2210-2	2 Channel controller
S2210-3	3 Channel controller
S2210-4	4 Channel controller

FOR INFORMATION ON FIXED UNITS RANGING FROM 1-8 SENSORS, CONTACT OUR SPECIALTY GAS CUSTOMER SERVICE DEPARTMENT AT 800-942-1148



BEACON™ 800 GAS DETECTOR (cont.)

OUTPUTS

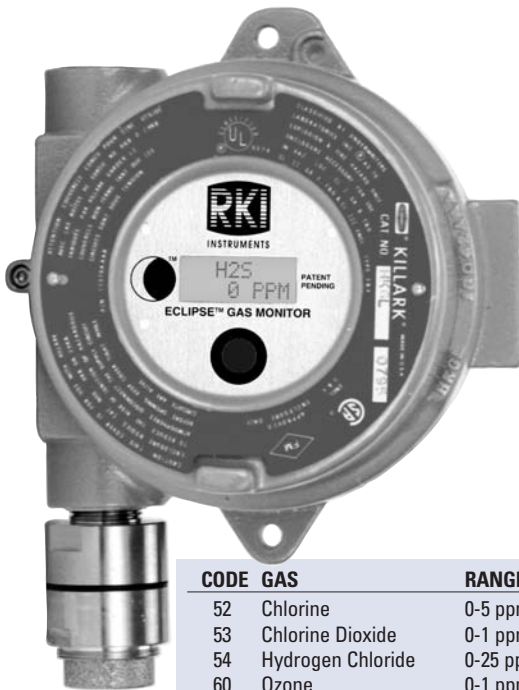
Relays
 2 relays per channel 10 amp rating, SPDT isolated contacts.
 1 set of common relays:
 2 for gas alarm levels
 1 for malfunction
 Relays fully programmable for:
 increasing or decreasing alarms
 latching or self reset
 normally energized or normally de-energized
 time delay for alarm on and alarm off.
 24 VDC
 24 VDC output provided to operated sample drawing adapters or other accessories.

Display
 2 alphanumeric displays with backlighting. 16 characters per line; 4 lines each. All 8 channels continuously displayed.
 Audible
 Built-in audible alarm, 94 dB, mounted on enclosure.
 Coded Output:
 pulsing = gas alarm
 steady = fail
 Visual
 4 visual LED alarms on front cover for alarm indications, pilot, and malfunction.
 Optional Expansion Cards
 Individual 4-20 mA (or 1 - 5 VDC) outputs
 Heavy duty relay card (4 each @ 30 amps)

POWER

115 VAC or 24 VDC
 Optional - 230 VAC
 Battery backup option available

SERIES 2200 FACILITY GAS DETECTORS



PRODUCT CODE	DESCRIPTION
S2205	Junction box with display
S2207	Junction box, no display
S2201-AA	Transmitter with sensor for gas AA
S2200-AA	Replacement sensor for gas AA

Table 1 Sensor Specifications

CODE	GAS	RANGE*	RESPONSE (SEC)
52	Chlorine	0-5 ppm	<30
53	Chlorine Dioxide	0-1 ppm	<30
54	Hydrogen Chloride	0-25 ppm	<60
60	Ozone	0-1 ppm	<30
61	Bromine	0-1 ppm	<30
62	Fluorine	0-1 ppm	<30
63	Hydrogen Fluoride	0-10 ppm	<60
64	Hydrogen Cyanide	0-25 ppm	<20
65	Hydrides	0-1000 ppb	<20
CODE	GAS	RANGE*	RESPONSE (SEC)
80	Oxygen	0-25%	<5
81	Hydrogen	0-50 ppm	<10
82	Carbon Monoxide	0-100 ppm	<10
83	Sulfur Dioxide	0-10 ppm	<10
84	Nitrogen Dioxide	0-10 ppm	<10
85	Ammonia	0-10 ppm	<60
86	Nitric Oxide	0-50 ppm	<10
87	Hydrogen	0-4%	<10
88	Combustibles	0-100%	LEL 90 % in 7 sec.

*Standard ranges shown, contact GTS for available options

SERIES 800 GTS/GAS DETECTION SYSTEMS

You can rapidly and accurately measure over 240 gases and vapors with the high precision gas sampling system.

The system consists of a high-precision, piston type volumetric pump, and a wide selection of accurate, reliable, direct reading detector tubes.

Each detector tube contains a reagent which is specifically sensitive to a particular gas or vapor. All tubes are direct reading, so measurement is simple and precise. Just break off both ends of the detector tube on the built in tip breaker, insert the tube in the pump end and pull the pump handle out. A precise volume of ambient air is drawn into the detector tube and causes the reagent to change color.

The farther the color stain travels along the tube, the higher the gas concentration. Calibration scales are printed on each box of detector tubes

based on individual production lots to increase measurement accuracy. The calibration curve is usually a straight line and points on the scale are at equal intervals so concentrations above and below the scale can be measured by increasing or decreasing pump strokes.

FEATURES

Fail safe locking handle locks precisely at 50cc or 100cc to eliminate incomplete samples

Corrosion resistant metal alloy construction

Stroke counter and tube breaker standard

Only four spare parts required - no special tools

Optional flow finish indicator. Provides indication when stroke is complete

The model 800 Toxic Gas Detector kits include:

Precision pump

Carrying case

Spare parts kit

Instructions



PRODUCT CODE	DESCRIPTION
S800-2	Model 800 Kit with Flow Finish Indicator
S800-3	Spare Parts Kit
S800-Tube No.	*All Tubes - Specify from Charts *Additional Tubes Available

*For complete specifications and technical information on all Gas Detectors, please contact GTS Specialty Gas Customer Service Department. Refer to pages 256-265 for tube choices.

SERIES 8025 NON-FLAMMABLE GAS LEAK DETECTOR KIT

The Series 8025 is suitable for a wide variety of industrial, laboratory, medical and research applications.

Gas leaks can be toxic and/or hazardous. It is important to periodically check for leaks at all fittings from the cylinder to the end use point. The S8025-1 Series Gas Detector provides an efficient means for leak checking suspect valves, joints and fittings. It is compact, portable, and cordless, ideal for those applications where fast results are desired. It locates and measures leaks of any non-flammable gas other than air.

Response is immediate with audible and visual alarms. There is no need to refer to charts or graphs.

The Series 8025 is quicker and cleaner than using soap solution, and eliminates the risk that your soap solution could diffuse into the gas stream to interfere with gas chromatographic detectors.

It is designed for applications using helium in laboratory environments for leak detection. The instrument display is calibrated to quantify helium leak ml/sec (cc/sec). Although other gases are detected, the displayed readings are accurate with respect to helium. The S8025 will detect and accurately display leaks for five different gas types. The groups are listed in the specifications.

Each portable gas detector is supplied complete with case, batteries, earphones, extended probe and manual with certificate of calibration.



SERIES 8025 NON-FLAMMABLE GAS LEAK DETECTOR (cont.)

**APPLICATIONS**

The Series 8025 is suitable for a wide variety of industrial, laboratory, medical and research applications.

TYPICAL APPLICATIONS

Leak detection of domestic and industrial gas installations, equipment, meters, valves and controls, etc.

Leak detection on welds, joints, seams and gaskets of components which are pressurized with a traceable gas such as He or CO₂

Permeability studies of a wide variety of materials

Safety checks of gas cylinders and aerosols, etc.

Use in spectrophotometry and gas chromatography

SPECIFICATIONS

Detector	Micro volume thermistor conductivity cell, single sided
Detects	All gases having a different thermal conductivity to ambient atmosphere Indication of +/- polarity
Response time	Standard probe 1 second; long probe 9 seconds
Leak rate	Minimum Level H ₂ - 5 x 10 to the -5 degree ml/sec He - 1 x 10 to the -5 degree ml/sec
Leak indication	Visual-Eleven segment bar-graph direct reading with exponent and units. Audio-Fixed volume, variable frequency blip from internal loudspeaker or plug in headphone
Operating temperature	32°F to 120°F
Storage temperature	-20°F to 150°F
Unit dimension:	15" x 2-1/2" x 2" with nozzle
Case dimension:	16" x 12" x 4"
Total weight:	4.13 lbs. (instrument only 1 lb.)
Certification and rating:	Model 8025-2 only BASEEFA - Eexia IICT4 IP42, ref BS 5501: Part 7 CENELEC - EN 50 020: Intrinsic Safety I

GAS RESPONSE GROUP	TYPICAL GROUP GASES
0	H ₂ , R12, R134A, R1301
I	He, SF ₆ , R22, Fuel mixture 40% H ₂ / 60% He
II	CH ₄ , Ar, CO ₂
III	O ₂
IIII	Spare

PRODUCT CODE	DESCRIPTION
S8025-1	Leak Detection Kit

EAGLE-INTRINSICALLY SAFE PORTABLE GAS LEAK DETECTOR

The Eagle comes in over 250 versions, and is considered to be the most versatile, rugged, and reliable portable gas monitor on the market. This field proven portable instrument does more than offer standard confined space protection. The EAGLE has a simultaneous readout of up to 6 combinations of gases never before been offered in a portable gas detector including the widest range of super toxic gases such as PH₃, Cl₂, HCl, and O₃.

Standard features on the EAGLE include PPM and LEL hydrocarbon detection, auto-calibration, an industrial strength internal sampling pump with a 125 ft. range and automatic low flow pump shutoff, 30 hours of continuous operation on alkaline batteries, and a methane elimination switch for environmental applications. Each channel has 2 programmable alarm levels plus TWA (Time Weighted Average) and STEL (Short Term Exposure Limit). It is classified as intrinsically safe for most configurations.

Please inquire for additional information and pricing.

