Discounts available for Bulk Orders or Yearly Contracts

AIR MONITORING

S2 SENSOR / TRANSMITTER

The RKI S2 series gas sensor/transmitters are highly reliable and very cost effective for the detection of common gas hazards. The S2 series are available for LEL, H_2 Specific (LEL, and ppm), Oxygen, H_2S, CO, and for a variety of toxic gases. The transmitters for LEL, H_2 Specific, Oxygen, H_2S, CO_2, and Carbon Monoxide are explosion-proof with flame arrestors, and approved for use in hazardous areas (Class I, Groups B, C, D). An optional non-explosion proof version is available for oxygen, H_2S, CO, and CO_2 in non-hazardous atmospheres.

LEL sensors are available using catalytic bead and infrared technologies. The toxic sensors are electrochemical type plug-in sensors, which provide high specificity, fast response, and long life. The plug-in design allows quick replacement in the field with no tools required. Toxic sensors are designed for use in Class I, Div. 2 hazardous locations. Sensors available for Cl_2, NH_3, SO_2, PH_3, AsH_3, and HCN.

The S2 transmitters can be used either indoors or outdoors. The flame arrestors for the explosion-proof versions utilize a patented coating which make them water repellent. Splash guards are also available for use in very wet environments. All of the S2 transmitters are designed to interface with RKI controllers, or with PLC/DCS systems.

• Available gases include:
  LEL, H_2S, CO, PPM H_2, and CO_2
  Toxic gases include Cl_2, NH_3, SO_2, HCN, and more
• Infrared sensor for combustibles and CO_2
• Hydrogen-Specific not available
• Patented water repellent sensor coating
• 4-20 mA output
• Explosion proof construction

NH_3 Sensor **Explosion Proof LEL** **Explosion Proof O_2 / CO / H_2S**

Explosion Proof

Sensor
Accuracy: +/- 5% of full scale (0.5% volume for oxygen)

Operating Environment
Location: Indoor or outdoor. Explosion proof for Class I, Div. 1, Groups B, C, and D.

Humidity: 0 - 99% RH, non condensing

Housing
Housing J Box: Cast aluminum explosion proof, optional stainless steel J-box available
Sensor: Stainless steel explosion proof

Controls
Zero:
Sets transmitter output to 4 mA with zero output from sensor

Span:
Sets transmitter output to proper level when span gas is applied

Output: 4 - 20 mA signal

Controllers:
Compatible with the following controllers: Beacon 110, Beacon 200, Beacon 410, and 800, also PLC and DCS systems

Warranty: One year materials and workmanship

Explosion Proof

Gas Part number	Sensor	Measuring Range	Lower Detectable Limit (LDL)	Max Current Draw (24VDC)	Response Time(T-90)	Life Expectancy
LEL General Purpose **RK-65-2405RK** **RK-65-2405RK-05**	Catalytic	0-100% LEL	2% of full scale	200 mA (power wires) 25 mA (signal wires) 3 wires	30 Seconds	2 to 3 years with normal exposure to flammable gas
LEL H_2 Specific **RK-65-2451RK** **RK-65-2451RK-05**	Catalytic	0-100% LEL (H_2 Specific)	2% of full scale	200 mA (power wires) 25 mA (signal wires) 3 wires	20 Seconds	3-5 years with normal service
H_2 PPM Hydrogen **RK-65-2442RK-1000** **RK-65-2442RK-2000**	Metal oxide semiconductor	0-1000 ppm 0-2000 ppm	2% of full scale	200 mA (power wires) 25 mA (signal wires) 3 wires	45 Seconds	5 years plus with normal service
O_2 Oxygen **RK-65-2322RK**	Galvanic cell	0-25% Vol.	0.1% Vol.	20 mA max, 2 wires	20 Seconds	2-3 years with normal service
H_2S Hydrogen Sulfide **RK-65-2331RK**	Electrochemical	0-100 ppm	2% of full scale	20 mA max, 2 wires	45 Seconds	2-3 years with normal service
CO Carbon Monoxide **RK-65-2336RK**	Electrochemical	0-300 ppm	2% of full scale	20 mA max, 2 wires	30 Seconds	2-3 years with normal service
CO_2 Carbon Dioxide **RK-65-2396RK-02** **RK-65-2396RK-03** **RK-65-2396RK-05** **RK-65-2396RK-10**	Infrared	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.	2% of full scale	60 mA (power wires) 25 mA (signal wires) 3 wires	30 Seconds	5 years plus with normal service
CH_4 Methane **RK-65-2394RK-CH4**	Infrared	0-100% LEL	2% of full scale	60 mA (power wires) 25 mA (signal wires) 3 wires	30 Seconds	5 years plus with normal service
HC Hydrocarbons **RK-65-2394RK-HC**	Infrared	0-100% LEL	2% of full scale	60 mA (power wires) 25 mA (signal wires) 3 wires	30 Seconds	5 years plus with normal service

Gas Part number	Temperature	Operating Voltage	Approvals
LEL General Purpose **RK-65-2405RK** **RK-65-2405RK-05**	-40°F to 167°F -40°C to 75°C	11 VDC to 30 VDC	UL C CSA US
LEL H_2 Specific **RK-65-2451RK** **RK-65-2451RK-05**	-40°F to 167°F -40°C to 75°C	11 VDC to 30 VDC	UL C CSA US
H_2 PPM Hydrogen **RK-65-2442RK-1000** **RK-65-2442RK-2000**	-40°F to 167°F -40°C to 75°C	19 VDC to 30 VDC	UL
O_2 Oxygen **RK-65-2322RK**	-4°F to 113°F -20°C to 45°C	19-30VDC (250 OHMS impedance max)	CSA NRTL
H_2S Hydrogen Sulfide **RK-65-2331RK**	-40°F to 104°F -40°C to 40°C	19-30VDC (250 OHMS impedance max)	CSA NRTL
CO Carbon Monoxide **RK-65-2336RK**	23°F to 104°F -5°C to 40°C	19-30VDC (250 OHMS impedance max)	CSA NRTL
CO_2 Carbon Dioxide **RK-65-2396RK-02** **RK-65-2396RK-03** **RK-65-2396RK-05** **RK-65-2396RK-10**	-4°F to 122°F -20°C to 50°C	11 VDC to 30 VDC	C CL US
CH_4 Methane **RK-65-2394RK-CH4**	-4°F to 122°F -20°C to 50°C	11 VDC to 30 VDC	C CL US
HC Hydrocarbons **RK-65-2394RK-HC**	-4°F to 122°F -20°C to 50°C	11 VDC to 30 VDC	C CL US

Non Explosion Proof

Gas Part number	Sensor	Measuring Range	Lower Detectable Limit (LDL)	Response Time(T-90)	Life Expectancy
O_2 Oxygen RK-65-2321RK	Galvanic cell	0-25% Vol.	0.1% Vol.	20 Seconds	2 years normal service
H_2S Hydrogen Sulfide RK-65-2330RK	Electrochemical	0-100 ppm	2% of full scale	45 Seconds	2 to 3 years with normal service
CO Carbon Monoxide RK-65-2335RK	Electrochemical	0-300 ppm	2% of full scale	30 Seconds	2 to 3 years with normal service
Toxics See chart below See chart below	Electrochemical	See chart below	2% of full scale	60 Seconds	2 to 3 years with normal service
CO_2 Carbon Dioxide RK-65-2397RK-02 RK-65-2397RK-03 RK-65-2397RK-05 RK-65-2397RK-10	Infrared	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.	2% of full scale	30 Seconds	5 years plus with normal service

Gas Part number	Temperature	Humidity
O_2 Oxygen RK-65-2321RK	-4°F to 122°F -20°C to 50°C	0 - 99% RH non condensing
H_2S Hydrogen Sulfide RK-65-2330RK	-4°F to 122°F -20°C to 50°C	0 - 99% RH non condensing
CO Carbon Monoxide RK-65-2335RK	-4°F to 122°F -20°C to 50°C	0 - 99% RH non condensing
Toxics See chart below See chart below	14°F to 104°F -10°C to 40°C	5 - 95% RH
CO_2 Carbon Dioxide RK-65-2397RK-02 RK-65-2397RK-03 RK-65-2397RK-05 RK-65-2397RK-10	-4°F to 122°F -20°C to 50°C	0 - 99% RH non condensing

Non Explosion Proof Toxic Assemblies

Part number	Gas	Range
RK-65-2340RK-ASH3	Arsine (AsH_3)	0 - 1.5 ppm
RK-65-2340RK-NH3	Ammonia (NH_3)	0 - 75 ppm
RK-65-2340RK-Cl2	Chlorine (Cl_2)	0 - 3.00 ppm
RK-65-2340RK-HCN	Hydrogen Cyanide (HCN)	0 - 1.5 ppm
RK-65-2340RK-PH3	Phosphine (PH_3)	0 - 1.00 ppm
RK-65-2340RK-SO2	Sulfur Dioxide (SO_2)	0 - 6.00 ppm

Sensor
Accuracy: +/- 5% of full scale (0.5% volume for oxygen)

Operating Environment
Location: Indoor Class I, Div. 2

Housing
Housing J Box: Cast aluminum, explosion-proof

Sensor: Plastic or aluminum

Controls
Zero: Sets transmitter output to 4 mA with zero output from sensor

Span: Sets transmitter output to 20 mA with full scale output from sensor

Operating Voltage: 19 VDC to 30 VDC

Output: 4-20 mA signal

Controllers: Compatible with the following controllers: Beacon 110, Beacon 200, Beacon 410, and 800, also PLC and DCS systems

Warranty: One year materials and workmanship

Available Accessories

• Calibration adaptors
• Flow through adaptors
• Remote horns & lights
• Calibration kits
• Battery backups
• Splash guards
• Air aspirator adaptors / panels
• Dataloggers

Remote horns & lights

Calibration adaptors

Calibration kits

Flow through adaptors

Direct Interface with Beacon
110 / 200 / 410 / 800 Controllers

S2 Wiring Matrix

S2 Transmitter	# of Wires to Controller	Maximum Distance to Controller		
		18 AWG wire	16 AWG wire	14 AWG wire
LEL / IR / CO_2	3	2500 ft.	5,000 ft.	8,000 ft.
Oxygen	2	2 2500 ft.	5,000 ft.	8,000 ft.
H_2S	2	2 2500 ft.	5,000 ft.	8,000 ft.
CO	2	2 2500 ft.	5,000 ft.	8,000 ft.
Toxics	2	2 2500 ft.	5,000 ft.	8,000 ft.