S2 DIFFUSION SENSOR/ TRANSMITTER

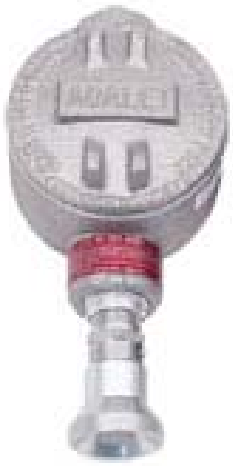
LEADERS IN GAS DETECTION

Since 1977

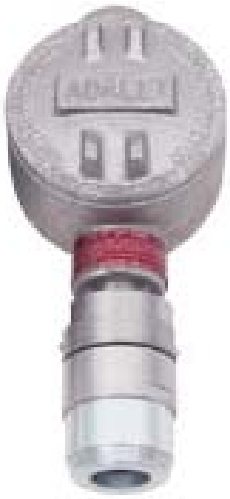
S2 Series

NH3 Sensor

Explosion Proof LEL



Explosion Proof 02/CO/H2S



Features:

- Detection of LEL,H2S,CO,PPM H2, and C02
- Detection of NH3, S02, HCN , PH3 and ASH3
- Infrared sensor for combustibles and C02
- Hydrogen-Specific now available
- Patented water repellent sensor coating
- 4-20 mA output
- Explosion proof construction
- Optional stainless steel enclosure

Description:

The Control Equipment 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, H2 specific (LEL, and ppm), oxygen, H2S, CO, and for a variety of toxic gases.

The transmitters for LEL, H2 specific, oxygen, H2S, CO2, and carbon monoxide are explosion-proof with flame arrestors, and approved for use in hazardous areas (Class l, Groups B, C, D). An optional non-explosion proof version is available for oxygen, H2S, CO, and CO2 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.

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. An optional stainless steel junction box is available for corrosive environments.

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EXPLOSION PROOF

	LEL General Purpose	LEL H2 Specific	H2 PPM Hydrogen	O2 Oxygen	H2S Hydrogen Sulphide	CO Carbon Monoxide	CO2 Carbon Dioxide	CH4 Methane	HC Hydrocabons
Part #	R65-2405RK	R65-2451RK	R65-2442RK-1000	R65-2322RK	R65-2331RK	R65-2336RK	R65-2396RK-02 R65-2396RK-03 R65-2396RK-05 R65-2396RK-10	R65-2394RK-CH4	R65-2394RK-HC
	R65-2405RK-05	R65-2451RK-05	R65-2442RK-2000						
Sensor	Catalytic	Metal oxide semiconductor	Galvanic cell	Electrochemical			Infrared		
Measuring Range	0-100% LEL	0-100% LEL (H2 Specific)	0-1000 ppm 0-2000 ppm	0-25% Vol	0-100 ppm	0-300 ppm	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.	0-100% LEL	
Lower Detectable Limit (LDL)	2% of full scale			0.1% Vol	2% of full scale				
Max Current Draw (24VDC)	200 mA (power wires) 25 mA (signal wires) 3 wires		200 mA (power wires) 25 mA (signal wires) 3 wires	20 mA max, 2 wires			60 mA (power wires) 25 mA (signal wires) 3 wires		
Response Time (T-90) in seconds	30 Sec	20 Sec	45 Sec	20 Sec	45 Sec	30 Sec	30 Sec		
Accuracy (whichever is greater)	± 5% of reading or ± 2% LEL		± 10% of reading or ± 5% of full scale	± 0.5% O2	± 5% of reading ± 2 ppm H2S	± 5% of reading ± 5 ppm CO	5% of reading or ± 2% of full scale		
±Life Expectancy	2 to 3 years with normal exposure to flammable gas	3-5 years with normal service	5 years plus with normal service	2-3 years with normal service			5 years plus with normal service		
Operating Environment									
Location	Indoor or outdoor. Explosion proof for Class I, Div. 1, Groups B, C, and D.								
Temperature	-40°C to 75°C		-40°C to 75°C	-20°C to 45°C	-40°C to 40°C	-5°C to 40°C	-20°C to 50°C		
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	Output 4 - 20 mA signal								
Operating Voltage	11 VDC to 30 VDC		19 VDC to 30 VDC	19-30VDC (250 OHMS impedance max)			11VDC to 30 VDC		
Approvals	R65-2405RK UL	R65-2451RK UL	UL	CSA NRTL			C UL US		
	R65-2405RK-05 C CSA US	R65-2451RK-05 C CSA US							
Please note	These sensors only carry international certification and not Australian standards. If you require SAA or IECEX certifications then please contact Control Equipment for these instruments								
Controllers	Compatible with the following controllers: Beacon 110, Beacon 200, Beacon 410, and 800, also PLC and BMS systems								
Warranty	One year materials and workmanship								

NON EXPLOSION PROOF

	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	Toxics See chart below	CO2 Carbon Dioxide
Part #	R65-2321RK	R65-2330RK	R65-2335RK	See chart below	R65-2397RK-02 R65-2397RK-03 R65-2397RK-05 R65-2397RK-10
Sensor	Galvanic cell	Electrochemical			Infrared
Measuring Range	0-25% Vol.	0-100 ppm	0-300 ppm	See chart below	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.
Lower Detectable Limit (LDL)	0.1% Vol.	2% of full scale			
Accuracy (whichever is greater)	± 0.5% O2	± 5% of reading ± 2 ppm H2S	± 5% of reading ± 5 ppm CO	± 10% of reading or ± 5% of full scale	± 5% of reading or ± 2% of full scale
Life Expectancy	2 years normal service	2 to 3 years with normal service			5 years plus with normal service
Response Time (T-90)	20 Seconds	45 Seconds	30 Seconds	60 Seconds	30 Seconds
Operating Environment					
Location	Indoor Class I, Div. 2				
Temperature	-20°C to 50°C			-10°C to 40°C	-20°C to 50°C
Humidity	0 - 99% RH non condensing			5-95% RH	0 - 99% RH non condensing
Housing					
Housing J-Box	Cast aluminium, explosion-proof				
Sensor	Plastic or aluminium				
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 BMS sys-tems				
Warranty	One year materials and workmanship				

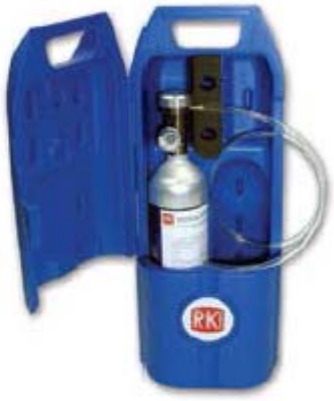
Non Explosion Proof Toxic Assemblies		
Ordering Information		
Part Number	Gas	Range
R65-2340RK-ASH3	Arsine (AsH3)	0 - 1.5 ppm
R65-2340RK-NH3	Ammonia (NH3)	0 - 75 ppm
R65-2340RK-HCN	Hydrogen Cyanide (HCN)	0 - 15 ppm
R6R5-2340RK-PH3	Phosphine (PH3)	0 - 1.00 ppm
R6R5-2340RK-SO2	Sulfur Dioxide (SO2)	0 - 6.00 ppm

S2 Sensor/ Transmitter

A 

B 

C 

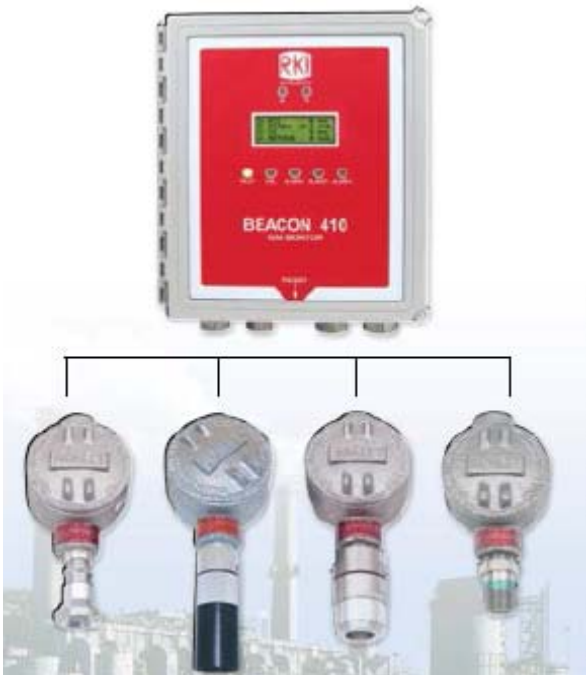
D 

Available Accessories

A. Calibration adaptors
B. Flow through adaptors
C. Remote horns & lights
D. Calibration kits
E. Battery backups
F. Splash guards
G. Air aspirator adaptors / panels

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

S2 Wiring Distance		
S2 Transmitter	**Number of Wires to Controller**	**Maximum Distance to Controller**
		1.5mm² individually screened instrument cable
LEL / IR / CO2	3	2,4000 meters
Oxygen	2	2,4000 meters
H2S	2	2,4000 meters
CO	2	2,4000 meters
Toxics	2	2,4000 meters



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