

Direct Connect Sensors

LEL / H₂ / O₂ / CO / H₂S Gas Sensors

The RKI Direct Connect series gas sensors are highly reliable and very cost effective for the detection of common gas hazards. The direct connect series are available for LEL, H₂ Specific LEL, LEL IR, Oxygen, H₂S, CO, CO₂, and for a variety of toxic gases. The sensors for LEL, H₂, Oxygen, H₂S, CO₂, and Carbon Monoxide are explosion-proof with flame arrestors, and approved for use in hazardous areas (Class 1, Div. 1 Groups B, C, D). An optional non-explosion proof version is available for oxygen, H₂S, CO, and CO₂ for use in non-hazardous atmospheres.

The Direct Connect sensors can be used in two different ways. The sensors can be mounted directly to the controllers as a complete stand alone system, or they can be mounted to explosion proof junction boxes for remote detection.

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 are available for NH₃, AsH₃, Cl₂, ClO₂, HCN, PH₃, and SO₂.

The Direct Connect sensors can be used either indoors or outdoors. The flame arrestors for the explosion-proof versions utilize a patented coating which make them water repellent. Also, splash guards are available for use in very wet environments. An optional stainless steel junction box is available for corrosive environments.

All of the Direct Connect sensors are designed to specifically interface with RKI Beacon 110, 200, and 410A controllers.



Features

- Available gases include
- Available gases include
 - LEL, H₂S, CO, & CO₂
 - Toxic sensors include NH₃, AsH₃, Cl₂, ClO₂, HCN, & SO₂
- Infrared sensor for combustibles and CO₂
- Patented water repellent sensor coating
- Explosion proof construction
- Optional stainless steel junction box



Explosion Proof

	LEL General Purpose	LEL H2 Specific	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon	CH4 Methane	HC Hydrocarbons	CO2 Carbon Dioxide	
Sensor	Catalytic		Galvanic cell	Electrochemical		Infrared			
Sensor Only	61-0140RK (UL) 61-0140RK-05 (CSA)	LEL H2 - NC-6205-01	65-2514RK	65-2428	65-2438	61-0190RK-CH4 61-0192RK-CH4	61-0190RK-HC	61-0191RK-02 61-0191RK-03 61-0191RK-05 61-0191RK-10	
Measuring Range	0-100% LEL		0-25% Vol.	0-100 ppm	0-300 ppm	0-100% LEL 0-100% Vol.	0-100% LEL	-02 -03 -05 -10	0 - 5000 ppm 0 - 5.0% Vol. 0 - 50% Vol. 0 - 100% Vol.
Lower Detectable Limit (LDL)	2% of full scale		0.1% Vol	2% of full scale					
Response Time (T-90)	LEL - 30 Seconds	LEL H2 - 20 Seconds	20 Seconds	35 Seconds		30 Seconds	30 Seconds	30 Seconds	
Accuracy	+/- 5% of full scale (0.5% volume for oxygen)								
Life Expectancy	2 to 3 years with normal service	3 to 5 years with normal service	2 to 3 years with normal service			5 years plus with normal service			
Operating Environment									
Location	Indoor or outdoor. Explosion proof for Class I, Groups B, C, and D atmospheres.								
Temperature	-40°F to 167°F -40°C to 75°C		-4°F to 113°F -20°C to 45°C	-40°F to 104°F -40°C to 40°C	23°F to 104°F -5°C to 40°C	-40°F to 122°F -40°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								
Approvals	61-1000RK UL	61-1001RK UL	CSA NRTL			C UL US			
	61-1000RK-05 CSA	61-1001RK-05 CSA							
Controllers	Compatible with the following controllers: Beacon 110, Beacon 200, and Beacon 410A								
Warranty	One year materials and workmanship								

Non Explosion Proof

	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	Toxics See chart below	CO2 Carbon Dioxide
Sensor	Galvanic cell	Electrochemical			Infrared
Sensor Only	65-2494RK *65-2510RK	65-2495RK	65-2496RK	See Chart Below	61-0198RK-02 61-0198RK-03 61-0198RK-05 61-0198RK-10
Measuring Range	0-25% Vol.	0-100 ppm	0-300 ppm		0 - 5000 ppm 0 - 5.0% Vol. 0 - 50% Vol. 0 - 100% Vol.
Lower Detectable Limit (LDL)	0.1% Vol.	2% of full scale			
Response Time (T-90)	20 seconds or less	35 seconds or less		60 seconds or less	30 seconds or less
Accuracy	+/- 5% of full scale (0.5% volume for oxygen)				
Life Expectancy	2 years with normal service	2 to 3 years with normal service			5 years plus with normal service
Operating Environment					
Location	Indoor or outdoor, Class I, Div. 2				
Temperature	-4 °F to 122 °F -20 °C to 50 °C			14 °F to 104 °F -10 °C to 40 °C	-40 °F to 122 °F -40 °C to 50 °C
Humidity	0 - 99% RH non condensing				
Housing					
Housing J-Box	Cast aluminum, explosion-proof				
Sensor	Aluminum				
Controllers	Compatible with the following controllers: Beacon 110, Beacon 200, and Beacon 410A				
Warranty	One year materials and workmanship				

* Partial pressure sensor for helium (He) applications. Consult factory for details.

ESM-01	CT-7	M2A Toxic Transmitter Sensor Ordering Information					
		Part Number With J-Box	Part Number Without J-box	Gas	Range	Resolution	Sensor Type
		65-2301RK-NH3	65-2300RK-NH3	Ammonia (NH3)	0 - 75.0 ppm	0.1 ppm	ESM -01
		65-2301RK-AsH3	65-2300RK-AsH3	Arsine (AsH3)	0 - 1.50 ppm	0.01 ppm	ESM -01
		65-2303-CL2	65-2302-CL2	Chlorine (Cl2)	0 - 3.00 ppm	0.01 ppm	CT-7
		65-2303-CL2-10	65-2302-CL2-10	Chlorine (Cl2)	0 - 10.0 ppm	0.1 ppm	CT-7
		65-2303-CL02	65-2302-CL02	Chlorine Dioxide (ClO2)	0 - 1.00 ppm	0.01 ppm	CT-7
		65-2301RK-HCN	65-2300RK-HCN	Hydrogen Cyanide (HCN)	0 - 15.0 ppm	0.1 ppm	ESM -01
		65-2301RK-PH3	65-2300RK-PH3	Phosphine (PH3)	0 - 1.00 ppm	0.01 ppm	ESM -01
		65-2301RK-SO2	65-2300RK-SO2	Sulfur Dioxide (SO2)	0 - 6.00 ppm	0.01 ppm	ESM -01

Available Accessories



Direct Interface with Beacon 110 / 200 / 410A Controllers

Direct Connect Wiring Matrix		
Sensor	Number of Wires to Controller	Maximum Distance to Controller
		18 AWG wire min.
LEL / CO ₂	4	500 ft.
Oxygen	2	500 ft.
H ₂ S	2	500 ft.
CO	2	500 ft.
Toxics	2	500 ft.

