

# DIRECT CONNECT SENSORS



## Available gases include

- LEL, H<sub>2</sub>S, CO, & CO<sub>2</sub>
- Toxic sensors include NH<sub>3</sub>, AsH<sub>3</sub>, Cl<sub>2</sub>, ClO<sub>2</sub>, HCN, & SO<sub>2</sub>

## Infrared sensors for combustibles and CO<sub>2</sub>

## Patented water repellent sensor coating

## Explosion proof construction

## Optional stainless steel junction box

Explosion Proof  
IR LEL & CO<sub>2</sub>

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, H<sub>2</sub> Specific LEL, LEL IR, Oxygen, H<sub>2</sub>S, CO, CO<sub>2</sub>, and for a variety of toxic gases. The sensors for LEL, H<sub>2</sub>, Oxygen, H<sub>2</sub>S, CO<sub>2</sub>, and Carbon Monoxide are explosion-proof with flame arrestors, and approved for use in hazardous areas (Class I, Div. 1 Groups B, C, D). An optional non-explosion proof version is available for oxygen, H<sub>2</sub>S, CO, and CO<sub>2</sub> for use in Class 1 Div 2.

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 NH<sub>3</sub>, AsH<sub>3</sub>, Cl<sub>2</sub>, ClO<sub>2</sub>, HCN, PH<sub>3</sub>, and SO<sub>2</sub>.



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.

World Leader In Gas Detection & Sensor Technology



# Explosion Proof

Class I, Div. 1 , Groups B, C, D



	LEL General Purpose	LEL H2 Specific	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	CH4 Methane IR	HC Hydrocarbons IR	CO2 Carbon Dioxide IR	
 <b>Sensor With J-Box</b>	61-1000RK (UL) 61-1000RK-05 (CSA)	61-1001RK (UL) 61-1001RK-05 (CSA)	65-2515RK	65-2427RK-05	65-2437RK-05	61-1003RK-CH4 61-1006RK-CH4	61-1003RK-HC	61-1004RK-02 61-1004RK-03 61-1004RK-05 61-1004RK-10	
<b>Sensors</b>	Catalytic		Galvanic cell	Electrochemical		Infrared			
 <b>Sensor Only</b>	61-0140RK (UL) 61-0140RK-05 (CSA)	LEL H2 - NC-6205-01 (UL) NC-6205-05 (CSA)	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	
<b>Measuring Range</b>	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.
<b>Lower Detectable Limit (LDL)</b>	2% of full scale		0.1% Vol.	2% of full scale					
<b>Response Time (T-90)</b>	LEL - 30 Seconds	LEL H2 - 20 Seconds	90 Seconds	60 Seconds	90 Seconds	30 Seconds	30 Seconds	30 Seconds	
<b>Accuracy</b>	+/- 5% of full scale (0.5% volume for oxygen)								
<b>Life Expectancy</b>	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			
<b>Operating Environment</b>									
<b>Location</b>	Indoor or outdoor. Explosion proof for Class I, Groups B, C, and D atmospheres.								
<b>Temperature</b>	-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			
<b>Humidity</b>	0 - 99% RH non condensing								
<b>Housing</b>									
<b>Housing J-Box</b>	Cast aluminum, explosion-proof. Optional stainless steel J-box available.								
<b>Sensor</b>	Stainless steel, explosion-proof								
<b>Approvals</b>	61-1000RK UL 61-1000RK-05 CSA	61-1001RK UL 61-1001RK-05 CSA	CSA NRTL			c UL US			
<b>Controllers</b>	Compatible with the following controllers: Beacon 110, Beacon 200, and Beacon 410A								
<b>Warranty</b>	One year materials and workmanship								

# Toxic Gas Transmitters

Class I, Div. 2

	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	Toxics	CO2 Carbon Dioxide
 Sensor With J-Box	65-2497RK *65-2502RK	65-2498RK	65-2499RK	See Chart Below	61-1007RK-02 61-1007RK-03 61-1007RK-05 61-1007RK-10
<b>Sensors</b>	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
<b>Operating Environment</b>					
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				
<b>Housing</b>					
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.

		Toxic Direct Connect Sensor Ordering Information					
		Part Number With J-Box	Part Number Without J-box	Gas	Range	Resolution	Sensor type
 ESM-01	 CT-7	65-2301RK-NH3	65-2300RK-NH3	Ammonia (NH3)*	0 - 75.0 ppm	0.1 ppm	ESM-01
		65-2303-NH3-75	65-2302-NH3-75	Ammonia (NH3)	0 - 75.0 ppm	0.1 ppm	CT-7
		65-2303-NH3-1	65-2302-NH3-1	Ammonia (NH3)	0 - 100 ppm	1 ppm	CT-7
		65-2303-NH3-2	65-2302-NH3-2	Ammonia (NH3)	0 - 200 ppm	1 ppm	CT-7
		65-2303-NH3-5	65-2302-NH3-5	Ammonia (NH3)	0 - 500 ppm	1 ppm	CT-7
		65-2301RK-AsH3	65-2300RK-AsH3	Arsine (AsH3)	0 - 1.50 ppm	0.01 ppm	ESM-01
		65-2303-CL2-3	65-2302-CL2-3	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-CLO2-1	65-2302-CLO2-1	Chlorine Dioxide (ClO2)	0 - 1.00 ppm	0.01 ppm	CT-7
		65-2303-CLO2-3	65-2302-CLO2-3	Chlorine Dioxide (ClO2)	0 - 3.00 ppm	0.01 ppm	CT-7
		65-2303-CLO2-5	65-2302-CLO2-5	Chlorine Dioxide (ClO2)	0 - 5.00 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

\* Sensor being phased out, use CT-7 type when possible.

\*Other ranges available, please consult factory

# AVAILABLE ACCESSORIES



Remote Mount  
Calibration Adaptor



Remote horns & lights



Calibration kits



Flow through adaptors



Battery  
Backup



Datalogger

## 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 <sub>2</sub> / IR	4	500 ft.
Oxygen	2	500 ft.
H <sub>2</sub> S	2	500 ft.
CO	2	500 ft.
Toxics	2	500 ft.



Made in the USA

Authorized Distributor: