Technical Data Sheet

Direct Connect Sensors (LEL, CH4, HC, CO2) by RKI Instruments

Brand / manufacturer	RKI Instruments
Product codes	Add J-Box / LEL — SKU: 61-1000RK Add J-Box / CH4 — SKU: 61-1003RK-CH4 Add J-Box / HC — SKU: 61-1003RK-HC Add J-Box / CO2 (0-5.0%) — SKU: 61-1004RK-03 Add J-Box / CO2 (0-50%) — SKU: 61-1004RK-05 Add J-Box / CO2 (0-100%) — SKU: 61-1004RK-10 Add J-Box / CO2 (0-5000 ppm) — SKU: 61-1004RK-02 Sensor only / LEL — SKU: 61-0140RK Sensor only / CH4 — SKU: 61-0190RK-CH4 Sensor only / HC — SKU: 61-0190RK-HC Sensor only / CO2 (0-5.0%) — SKU: 61-0191RK-03 Sensor only / CO2 (0-50%) — SKU: 61-0191RK-05 Sensor only / CO2 (0-100%) — SKU: 61-0191RK-10 Sensor only / CO2 (0-5000 ppm) — SKU: 61-0191RK-02

Product description

RKI Instruments Direct Connect series fixed gas sensors: highly reliable, very cost-effective detection of common gas hazards.

Gas options: LEL, CH4, HC, CO2 (0-5.0%), CO2 (0-50%), CO2 (0-100%), CO2 (0-5000 ppm). Styles: Add J-Box, Sensor only.

Key benefits

- Available for LEL, H2-specific LEL, LEL IR, oxygen, H2S, CO, CO2 and a variety of toxic gases
- LEL, H2, oxygen, H2S, CO2 and CO sensors are explosion-proof with flame arrestors, approved for Class 1, Div. 1, Groups B, C, D; optional non-explosion-proof version for oxygen, H2S, CO and CO2 (Class 1, Div. 2)
- Mount directly to controllers as a stand-alone system, or to explosion-proof junction boxes for remote detection
- Toxic sensors (NH3, AsH3, Cl2, ClO2, HCN, PH3, SO2) are electrochemical plug-in types with high specificity, fast response and long life; tool-free field replacement; for Class I, Div. 2
- Indoor or outdoor use; patented water-repellent flame arrestor coating; splash guards available for very wet environments
- Optional stainless steel junction box for corrosive environments
- Designed to interface with RKI Beacon 110, 200 and 410A controllers
- Made in the USA

Specifications

Prepared by Russmill Safety from publicly available manufacturer information and our product listing. This is not the manufacturer's original publication. For legally required safety data, use the manufacturer's official Safety Data Sheet.

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Explosion Proof Class I, Div. 2 , 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
Sensor With J-Box	61-1000RK (UL)	61-1001RK (UL)	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
61-1000RK -05 (CSA)	61-1001RK -05 (CSA)							
Sensors	Catalytic	Galvanic cell	Electrochemical	Infrared				
Sensor Only	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
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 – 5000ppm 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	90 Seconds	60 Seconds	90 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 at mospheres.							
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 workm anship							

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
Sensors	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 – 5000ppm 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 withnormal 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				

	Toxic Direct Connect 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
65-2303-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.					

Direct Connect Wiring Matrix		
Sensor	Number of Wires to Controller	Maximum Distance to Controller
18 AWG wire min.		
LEL / CO2 / IR	4	500 ft.

Oxygen	2	500 ft.
H2S	2	500 ft.
CO	2	500 ft.
Toxics	2	500 ft.

Specifications subject to change without notice.

Information source

Russmill Safety product listing — https://www.russmillsafety.com/products/direct-connect-sensors-lel-ch4-hc-co2-by-rki-instruments (listing notes product information supplied by the manufacturer, RKI Instruments)

Supplier / distributor contact

Supplier / distributor	Russmill Safety
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