Technical Data Sheet

Direct Connect Sensors (O2, H2S, CO) by RKI Instruments

Brand / manufacturer	RKI Instruments
Product codes	Add J-Box / Hydrogen Sulfide (H2S) — SKU: 65-2427RK-05 Add J-Box / Oxygen (O2) — SKU: 65-2515RK Add J-Box / Carbon Monoxide (CO) — SKU: 65-2437RK-05 Sensor / Hydrogen Sulfide (H2S) — SKU: 65-2428 Sensor / Oxygen (O2) — SKU: 65-2514RK Sensor / Carbon Monoxide (CO) — SKU: 65-2438

Product description

RKI Instruments Direct Connect series fixed gas sensors (O2, H2S, CO): highly reliable, very cost-effective detection of common gas hazards.

Gas options: Hydrogen Sulfide (H2S), Oxygen (O2), Carbon Monoxide (CO). Styles: Add J-Box, Sensor.

Key benefits

- Series 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 are electrochemical plug-in types with tool-free field replacement
- Indoor or outdoor use; patented water-repellent flame arrestor coating; splash guards available
- Optional stainless steel junction box for corrosive environments
- Designed to interface with RKI Beacon 110, 200 and 410A controllers

Specifications

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	Electroche mical	Infrared				
Sensor Only	61-0140RK (UL) 61-0140RK -05 (CSA)	LEL H2 – N C-6205-01 (UL) NC-6205-0 5 (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 Environme nt								

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 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
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-fixed-gas-detection-by-rki-instruments (listing notes product information supplied by the manufacturer, RKI Instruments)

Supplier / distributor contact

Supplier / distributor	Russmill Safety
Store	A1 Queen’s Highway, Suite 2–3, Freeport, Grand Bahama F42190, The Bahamas
USA warehouse (fulfilment)	1526 NW 23rd Avenue, Fort Lauderdale, FL 33311
Phone	Bahamas customer service +1 242 351 7623 · USA +1 954 333 8542 · Freeport store +1 242 688 3336
Email	customerservice@russmillsafety.com (customer service) · sales@russmillsafety.com (sales enquiries)
Website	https://www.russmillsafety.com