

S2 SENSOR / TRANSMITTER



Available gases include

- LEL, H₂S, CO, PPM H₂, and CO₂
- Toxic gases include NH₃, AsH₃, Cl₂, ClO₂, HCN, & SO₂

Infrared sensor for combustibles and CO₂

Hydrogen-Specific now available

Patented water repellent sensor coating

4-20 mA output

Explosion proof construction

Optional stainless steel junction box

The RKI 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 I, Div 1 Groups B, C, D). An optional non-explosion proof version is available for oxygen, H₂S, CO, and CO₂ in Class 1 Div 2. 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. Sensors available for NH₃, AsH₃, Cl₂, ClO₂, HCN, PH₃, and SO₂.

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.

All of the S2 transmitters are designed to interface with RKI controllers, or with PLC/DCS systems.


World Leader In Gas Detection & Sensor Technology

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Explosion Proof

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



| | LEL General Purpose | LEL H2 Specific | H2 PPM Hydrogen | O2 Oxygen | H2S Hydrogen Sulfide | CO Carbon Monoxide | CH4 Methane IR | HC Hydrocarbons IR | CO2 Carbon Dioxide IR |
|---|---|----------------------------------|--|-----------------------------------|---------------------------------|-------------------------------|---|---------------------------------|--|
|  Part # | 65-2405RK 65-2405RK-05 | 65-2451RK 65-2451RK-05 | 65-2443-100 65-2443-500 65-2443-1000 65-2443-2000 | 65-2322RK | 65-2331RK | 65-2336RK | 65-2394RK-CH4 | 65-2394RK-HC | 65-2396RK-02 65-2396RK-03 65-2396RK-05 65-2396RK-10 |
| Sensor | Catalytic | | Metal oxide semiconductor | Galvanic cell | Electrochemical | | Infrared | | |
| Measuring Range | 0-100% LEL | 0-100% LEL (H2 Specific) | 0-100 ppm 0-500 ppm 0-1000 ppm 0-2000 ppm | 0-25% Vol. | 0-100 ppm | 0-300 ppm | 0-100% LEL | | 0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol. |
| Lower Detectable Limit (LDL) | 2% of full scale | | 6% of full scale | 0.1% Vol. | 2% of full scale | | | | |
| Accuracy (whichever is greater) | ± 5% of reading or ± 2% LEL | | ± 10% 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 | | |
| Response Time (T-90) | 30 Seconds | 20 Seconds | 45 Seconds | 90 Seconds | 60 Seconds | 90 Seconds | 30 Seconds | | |
| Max Current Draw (24VDC) | 70 mA (power wires) 25 mA (signal wires) 3 wires | | | 25 mA max, 2 wires | | | 60 mA (power wires) 25 mA (signal wires) 3 wires | | |
| 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°F to 167°F -40°C to 75°C | | -4°F to 104°F -20°C to 40°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 | | | | | | | | |
| 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 | 4 - 20 mA signal | | | | | | | | |
| Operating Voltage | 11 VDC to 30 VDC | | 19 VDC to 30 VDC | 19-30VDC (250 OHMS impedance max) | | | 11 VDC to 30 VDC | | |
| Approvals | 65-2405RK UL 65-2405RK-05 CSA | 65-2451RK UL 65-2451RK-05 CSA | 65-2443-500 UL 65-2443-1000 UL 65-2443-2000 UL 65-2443-500-05 CSA 65-2443-1000-05 CSA 65-2443-2000-05 CSA | CSA NRTL | | | c UL US | | |
| Controllers | Compatible with the following controllers: Beacon 110, Beacon 200, Beacon 410A, and 800, also PLC and DCS systems | | | | | | | | |
| Warranty | One year materials and workmanship | | | | | | | | |

Toxic Gas Transmitters

Class I, Div. 2

| | | | | | |
|---|---|----------------------------------|--------------------------------|---|--|
| | O2 Oxygen | H2S Hydrogen Sulfide | CO Carbon Monoxide | Toxics See chart below | CO2 Carbon Dioxide |
|  Part # | 65-2320RK | 65-2330RK | 65-2335RK | See chart below | 65-2397RK-02 65-2397RK-03 65-2397RK-05 65-2397RK-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 |
| Response Time (T-90) | 20 Seconds | 45 Seconds | 30 Seconds | 60 Seconds | 30 Seconds |
| Max Current Draw (24VDC) | 25 mA max, 2 wires | | | | 60 mA (power wires) 25 mA (signal wires) 3 wires |
| Life Expectancy | 2 years normal service | 2 to 3 years with normal service | | | 5 years plus with normal service |
| Operating Environment | | | | | |
| Location | Indoor 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 | | 5-95% RH | | 0 - 99% RH non condensing |
| Housing | | | | | |
| Housing J-Box | Cast aluminum, explosion-proof | | | | |
| Sensor | Plastic or aluminum | | | | |
| 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 410A, and 800, also PLC and DCS systems | | | | |
| Warranty | One year materials and workmanship | | | | |

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

| | | S2 Non Explosion Proof Toxic Assemblies | | | | |
|--|--|--|-------------------------|--------------|-------------------|--------------------|
| | | Part Number With J-Box | Gas | Range | Resolution | Sensor Type |
|  ESM-01 |  CT-7 | 65-2340RK-NH3 | Ammonia (NH3)* | 0 - 75.0 ppm | 0.1 ppm | ESM -01 |
| | | 65-2341-NH3-75 | Ammonia (NH3) | 0 - 75.0 ppm | 0.1 ppm | CT-7 |
| | | 65-2341-NH3-1 | Ammonia (NH3) | 0 - 100 ppm | 1 ppm | CT-7 |
| | | 65-2341-NH3-2 | Ammonia (NH3) | 0 - 200 ppm | 1 ppm | CT-7 |
| | | 65-2341-NH3-5 | Ammonia (NH3) | 0 - 500 ppm | 1 ppm | CT-7 |
| | | 65-2340RK-AsH3 | Arsine (AsH3) | 0 - 1.50 ppm | 0.01 ppm | ESM -01 |
| | | 65-2341-CL2-3 | Chlorine (Cl2) | 0 - 3.00 ppm | 0.01 ppm | CT-7 |
| | | 65-2341-CL2-05 | Chlorine (Cl2) | 0 - 5.00 ppm | 0.02 ppm | CT-7 |
| | | 65-2341-CL2-10 | Chlorine (Cl2) | 0 - 10.0 ppm | 0.1 ppm | CT-7 |
| | | 65-2341-CLO2-1 | Chlorine Dioxide (ClO2) | 0 - 1.00 ppm | 0.01 ppm | CT-7 |
| | | 65-2340RK-HCN | Hydrogen Cyanide (HCN) | 0 - 15.0 ppm | 0.1 ppm | ESM -01 |
| | | 65-2340RK-PH3 | Phosphine (PH3) | 0 - 1.00 ppm | 0.01 ppm | ESM -01 |
| | | 65-2340RK-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

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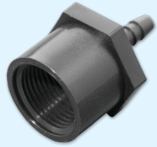
AC power supply



Remote horns & lights



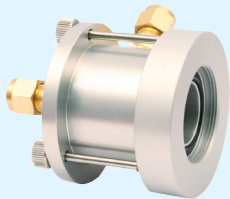
Calibration kits



Calibration adaptors



Splash guards



Flow through adaptors



Dataloggers



Remote Mount Calibration Adaptor

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

| S2 Wiring Matrix | | | | |
|------------------|-------------------------------|--------------------------------|-------------|-------------|
| S2 Transmitter | Number of Wires to Controller | Maximum Distance to Controller | | |
| | | 18 AWG wire | 16 AWG wire | 14 AWG wire |
| LEL / IR / CO2 | 3 | 2500 ft. | 5,000 ft. | 8,000 ft. |
| Oxygen | 2 | 2500 ft. | 5,000 ft. | 8,000 ft. |
| H2S | 2 | 2500 ft. | 5,000 ft. | 8,000 ft. |
| CO | 2 | 2500 ft. | 5,000 ft. | 8,000 ft. |
| Toxics | 2 | 2500 ft. | 5,000 ft. | 8,000 ft. |



Made in the USA



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