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, CO, 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 non-hazardous atmospheres. 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.

### S2 Wiring Matrix

<table>
<thead>
<tr>
<th>S2 Transmitter</th>
<th>Number of Wires to Controller</th>
<th>Maximum Distance to Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEL / IR / CO2</td>
<td>3</td>
<td>18 AWG wire: 2500 ft, 5000 ft, 8000 ft; 16 AWG wire: 5000 ft, 8000 ft; 14 AWG wire: 8000 ft.</td>
</tr>
<tr>
<td>Oxygen</td>
<td>2</td>
<td>2500 ft, 5000 ft, 8000 ft.</td>
</tr>
<tr>
<td>H2S</td>
<td>2</td>
<td>2500 ft, 5000 ft, 8000 ft.</td>
</tr>
<tr>
<td>CO</td>
<td>2</td>
<td>2500 ft, 5000 ft, 8000 ft.</td>
</tr>
<tr>
<td>Toxics</td>
<td>2</td>
<td>2500 ft, 5000 ft, 8000 ft.</td>
</tr>
</tbody>
</table>

Made in the USA

Authorized Distributor:

Gas Detection For Life
### Explosion Proof

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Catalytic Metal-oxide semiconductor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring Range</td>
<td>0-100% LEL</td>
<td>1000 ppm</td>
<td>0-200 ppm</td>
<td>0-1000 LEL</td>
</tr>
<tr>
<td>Lower Detectable Limit (LDL)</td>
<td>0.1% Vol.</td>
<td>2% of full scale</td>
<td>0.1% Vol.</td>
<td>2% of full scale</td>
</tr>
<tr>
<td>Accuracy (whichever is greater)</td>
<td>± 5% of reading or ± 2% LEL</td>
<td>± 5% of reading or ± 2% LEL</td>
<td>± 5% of reading or ± 2% of full scale</td>
<td></td>
</tr>
<tr>
<td>Time Constant (T-90)</td>
<td>45 Seconds</td>
<td>90 Seconds</td>
<td>90 Seconds</td>
<td>30 Seconds</td>
</tr>
<tr>
<td>Max Current Draw (24VDC)</td>
<td>20 mAs (power wires) 25 mAs (signal wires) 3 wires</td>
<td>25 mAs (power wires) 25 mAs (signal wires) 3 wires</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>2 years with normal exposure to flammable gas</td>
<td>3 years with normal service</td>
<td>5 years plus with normal service</td>
<td>5 years plus with normal service</td>
</tr>
</tbody>
</table>

**Operating Environment**
- **Location**: Indoor or outdoor. Explosion proof for Class I, Div. 2, Groups B, C, and D.
- **Temperature**: -4°F to 122°F (-20°C to 50°C)
- **Humidity**: 0 - 95% RH non condensing
- **Housing**: Cast aluminum explosion-proof

### Non Explosion Proof

<table>
<thead>
<tr>
<th>Part #</th>
<th>65-2330RK</th>
<th>65-2330RK</th>
<th>65-2330RK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Galvanic cell</td>
<td>Electrochemical</td>
<td>Infrared</td>
</tr>
<tr>
<td>Measuring Range</td>
<td>0-100% Vol.</td>
<td>0-100 ppm</td>
<td>0-300 ppm</td>
</tr>
<tr>
<td>Lower Detectable Limit (LDL)</td>
<td>0.1% Vol.</td>
<td>2% of full scale</td>
<td></td>
</tr>
<tr>
<td>Accuracy (whichever is greater)</td>
<td>± 5% of reading</td>
<td>± 5% of reading</td>
<td>± 5% of reading</td>
</tr>
<tr>
<td>Time Constant (T-90)</td>
<td>20 Seconds</td>
<td>45 Seconds</td>
<td>30 Seconds</td>
</tr>
<tr>
<td>Max Current Draw (24VDC)</td>
<td>25 mAs, 2 wires</td>
<td>60 mAs (power wires) 25 mAs (signal wires) 3 wires</td>
<td></td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>2 years normal service</td>
<td>2 to 3 years with normal service</td>
<td>5 years plus with normal service</td>
</tr>
</tbody>
</table>

**Operating Environment**
- **Location**: Indoor Class I, Div. 2
- **Temperature**: -4°F to 122°F (-20°C to 50°C)
- **Humidity**: 5-95% RH
- **Housing**: Cast, aluminum, explosion-proof

**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

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**Part Number With J-Box Gas Range Resolution Sensor Type**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>LEL</th>
<th>Hydrogen Sulfide (H2S)</th>
<th>Carbon Monoxide (CO)</th>
<th>Toxics</th>
<th>Carbon Dioxide (CO2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-2340RK-HN</td>
<td>0 - 200 ppm</td>
<td>0.1 ppm</td>
<td>ESM-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2340RK-AH</td>
<td>0 - 1.5 ppm</td>
<td>0.01 ppm</td>
<td>ESM-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2341-CL2</td>
<td>0 - 3.0 ppm</td>
<td>0.01 ppm</td>
<td>CT-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2341-CL2-10</td>
<td>0 - 10 ppm</td>
<td>0.1 ppm</td>
<td>CT-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2340-CO2</td>
<td>0 - 1 ppm</td>
<td>0.01 ppm</td>
<td>CT-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2340-CO2-HC</td>
<td>0 - 15 ppm</td>
<td>0.1 ppm</td>
<td>ESM-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2340-RK-PH</td>
<td>0 - 1 ppm</td>
<td>0.01 ppm</td>
<td>ESM-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-2340-CO2-SO2</td>
<td>0 - 6.0 ppm</td>
<td>0.01 ppm</td>
<td>ESM-01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Part Number**
- 65-2305RK
- 65-2330RK
- 65-2350RK
- 65-2360RK

**Sensor Type**
- ESM-01
- CT-7
## Explosion Proof

<table>
<thead>
<tr>
<th>Part #</th>
<th>LEL General Purpose</th>
<th>LEL H2 Specific</th>
<th>H2 PPM Hydrogen</th>
<th>O2 Oxygen</th>
<th>H2S Hydrogen Sulphide</th>
<th>CO Carbon Monoxide</th>
<th>CH4 Methane</th>
<th>HC Hydrocarbons</th>
<th>CO2 Carbon Dioxide</th>
</tr>
</thead>
</table>

**Sensor**
- Catalytic
- Metal oxide semiconductor
- Galvanic cell
- Electrochemical
- Infrared

**Measuring Range**
- 0-100% LEL
- 0-100 ppm
- 0-300 ppm
- 0-100% LEL
- 0 - 500 ppm
- 0 - 5% Vol.
- 0 - 50 Vol.
- 0 - 100% Vol.

**Response Time (T-90)**
- 30 Seconds
- 20 Seconds
- 45 Seconds
- 45 Seconds
- 30 Seconds

**Max Current Draw (24VDC)**
- 60 mA (power wires)
- 25 ma (signal wires)
- 25 ma (signal wires) 3 wires

**Life Expectancy**
- 2 to 3 years with normal service
- 2 years normal service
- 2-3 years with normal service
- 2 to 3 years with normal service

**Operating Environment**
- Indoor Class I, Div. 2
- Temperature
  - -4°F to 122°F
  - -35°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 proper level when span gas is applied

**Output**
- 4-20 mA signal

**Part Number With J-Box**
- 65-2340RK-HS
- 65-2340RK-AH
- 65-2341-CL2
- 65-2341-CL2-10
- 65-2340RK-AH
- 65-2340RK-AsH3
- 65-2340RK-AsH3
- 65-2340RK-NH3
- 65-2340RK-ClO2
- 65-2340RK-Cl2

**Life Expectancy**
- 2 years normal service
- 2 years normal service
- 2 to 3 years with normal service
- 2 to 3 years with normal service

**Non Explosion Proof**

<table>
<thead>
<tr>
<th>Part #</th>
<th>O2 Oxygen</th>
<th>H2S Hydrogen Sulphide</th>
<th>CO Carbon Monoxide</th>
<th>Toxics</th>
<th>CO2 Carbon Dioxide</th>
</tr>
</thead>
</table>

**Sensor**
- Galvanic cell
- Electrochemical
- Infrared

**Measuring Range**
- 0-25% Vol.
- 0-100 ppm
- 0-300 ppm

**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 years normal service
- 2 years normal service
- 2 years normal service

**Operating Environment**
- Indoor Class I, Div. 2
- Temperature
  - -4°F to 122°F
  - -35°C to 50°C
  - -40°F to 122°F
- 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**
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**Output**
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- 65-2340RK-HS
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- 65-2341-CL2
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- 65-2340RK-AsH3
- 65-2340RK-NH3
- 65-2340RK-ClO2
- 65-2340RK-Cl2

**Warranty**
- One year materials and workmanship

**Non Explosion Proof Toxics Assemblies**

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Non Explosion Proof</th>
<th>Gas</th>
<th>Range</th>
<th>Resolution</th>
<th>Sensor Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESM-01</td>
<td>CT-7</td>
<td></td>
<td></td>
<td></td>
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**Partial pressure sensor for helium (He) applications. Consult factory for details.**
S2 SENSOR / TRANSMITTER

AC power supply
Remote horns & lights
Calibration adaptors
Flow through adaptors
Splash guards
Dataloggers
Remote Mount Calibration Adaptor
Calibration kits

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

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<thead>
<tr>
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<th>Number of Wires to Controller</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18 AWG wire</td>
<td>16 AWG wire</td>
</tr>
<tr>
<td>LEL / IR / CO2</td>
<td>3</td>
<td>2500 ft.</td>
</tr>
<tr>
<td>Oxygen</td>
<td>2</td>
<td>2500 ft.</td>
</tr>
<tr>
<td>H2S</td>
<td>2</td>
<td>2500 ft.</td>
</tr>
<tr>
<td>CO</td>
<td>2</td>
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<tr>
<td>Toxics</td>
<td>2</td>
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Authorized Distributor: Gas Detection For Life

Made in the USA

Available gases include
- LEL, H2S, CO, PPM H2, and CO2
- Toxic gases include NH3, AsH3, CI2, CIO2, 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

RKI Instruments, Inc.  |  33248 Central Ave. Union City, CA  94587  |  Phone (800) 754-5165  |  (510) 441-5656  |  Fax (510) 441-5650
www.rkiinstruments.com
World Leader In Gas Detection & Sensor Technology