The RKI M2A™ is a state-of-the-art transmitter that can operate as an independent, stand-alone monitor or as part of an integrated system. The M2A connects with an analog or digital signal to virtually any controller, PLC, or DCS. Setup procedures are simplified with user friendly push buttons and OLED menus. It utilizes a magnetic wand technique for performing non-intrusive calibration. The M2A provides an automatic zero drift correction feature, which results in more stable readings and reduces the need for adjustments due to sensor aging.

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The transmitter provides a 4-20 mA output in addition to a Modbus digital output. It also has two levels of alarms with relays, plus a fail alarm with relay. A digital display of the gas concentration, as well as alarm and status lights, can be viewed through the front window.

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, & SO2

The M2A represents the latest leading edge technology in sensor / transmitters today.

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

<table>
<thead>
<tr>
<th>M2A Wiring Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Wires to Controller</td>
</tr>
<tr>
<td>16 AWG wire</td>
</tr>
<tr>
<td>M2A Transmitter</td>
</tr>
</tbody>
</table>

Authorized Distributor:

Made in the USA
### Explosion Proof

<table>
<thead>
<tr>
<th>Combinability</th>
<th>LEL</th>
<th>ppm</th>
<th>CO</th>
<th>CH4</th>
<th>LEL</th>
<th>ppm</th>
<th>ppm</th>
<th>ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>O2</td>
<td></td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
<td>0.1% Vol.</td>
</tr>
</tbody>
</table>

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

- 65-2648RK-CL2 Chlorine (Cl2) 0 - 3.00 ppm 0.01 ppm CT-7
- 65-2648RK-AsH3 Arsine (AsH3) 0 - 1.50 ppm 0.1 ppm ESM -01
- 65-2648RK-NH3 Ammonia (NH3) 0 - 75.0 ppm 0.1 ppm ESM -01
- 65-2670RK-CL2 Chlorine (Cl2) 0 - 3.00 ppm 0.01 ppm CT-7
- 65-2648RK-PH3 Phosphine (PH3) 0 - 1.00 ppm 0.01 ppm ESM -01
- 65-2648RK-HCN Hydrogen Cyanide (HCN) 0 - 15.0 ppm 0.1 ppm ESM -01
- 65-2648RK-HC Methane (CH4) 0 - 2000 ppm 0.1 ppm ESM -01
- 65-2648RK-CH4 Methane (CH4) 0 - 2000 ppm 0.1 ppm ESM -01
- 65-2648RK-SO2 Sulfur Dioxide (SO2) 0 - 6.00 ppm 0.01 ppm ESM -01
- 65-2648RK-PH3 Phosphine (PH3) 0 - 20 ppm 0.1 ppm ESM -01
- 65-2648RK-H2S Hydrogen Sulfide (H2S) 0 - 100 ppm 0.1 ppm ESM -01
- 65-2648RK-N2 Nitrogen (N2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-H2 Hydrogen (H2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-O2 Oxygen (O2) 0 - 20.0 ppm 0.1 ppm ESM -01

**Physical**

- **Dimensions**: Height: 8.5" (215 mm), Width: 5.2" (132 mm), Depth: 4.5" (114 mm)
- **Display**: Alphanumeric OLED display, 8 characters per line
- **Enclosure**: Explosion proof for Class I, Div. 1, Groups B, C, D
- **Rating**: NEMA 4X, explosion proof, watertight, cast aluminum with o-ring seal and epoxy powder coating
- **Controls**: Magnet used for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup
- **Environment**: Indoor or outdoor, Explosion proof for Class I, Div. 1, Groups B, C, D
- **Voltage**: 10 VDC - 30 VDC

**Warranty**

- One year materials and workmanship

**Part Number With J-Box**

- 65-2648RK-CH4 Methane (CH4) 0 - 2000 ppm 0.1 ppm ESM -01
- 65-2648RK-AsH3 Arsine (AsH3) 0 - 1.50 ppm 0.1 ppm ESM -01
- 65-2670RK-CL2 Chlorine (Cl2) 0 - 3.00 ppm 0.01 ppm CT-7
- 65-2648RK-PH3 Phosphine (PH3) 0 - 1.00 ppm 0.01 ppm ESM -01
- 65-2648RK-H2S Hydrogen Sulfide (H2S) 0 - 100 ppm 0.1 ppm ESM -01
- 65-2648RK-N2 Nitrogen (N2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-H2 Hydrogen (H2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-O2 Oxygen (O2) 0 - 20.0 ppm 0.1 ppm ESM -01

**Part Number**

- 65-2646FRK 65-2644FRK
- 65-2658RK 65-2649RK
- 65-2660RK 65-2651RK
- 65-2661RK 65-2652RK
- 65-2666RK 65-2653RK
- 65-2668RK 65-2654RK
- 65-2670RK 65-2655RK

**Part Number With J-Box**

- 65-2648RK-CH4 Methane (CH4) 0 - 2000 ppm 0.1 ppm ESM -01
- 65-2648RK-AsH3 Arsine (AsH3) 0 - 1.50 ppm 0.1 ppm ESM -01
- 65-2670RK-CL2 Chlorine (Cl2) 0 - 3.00 ppm 0.01 ppm CT-7
- 65-2648RK-PH3 Phosphine (PH3) 0 - 1.00 ppm 0.01 ppm ESM -01
- 65-2648RK-H2S Hydrogen Sulfide (H2S) 0 - 100 ppm 0.1 ppm ESM -01
- 65-2648RK-N2 Nitrogen (N2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-H2 Hydrogen (H2) 0 - 1000 ppm 0.1 ppm ESM -01
- 65-2648RK-O2 Oxygen (O2) 0 - 20.0 ppm 0.1 ppm ESM -01

**Digestion**

- Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud

**Environment**

- Indoor or outdoor

**Outputs**

- Linear 4-20 mA signal, into 1000 ohms impedance max (24VDC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale

**Controls**

- Beacon 110, Beacon 200, Beacon 410A, Beacon 800 as well as most DCS / PLC systems

**Warranty**

- One year materials and workmanship

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

One year material and workmanship.

### Explosion Proof

- **Part Number:** 65-2644RK
- **Sensor:** Galvanic cell
- **Measuring Ranges:**
  - LEL: 0 - 100 % LEL
  - Vol.: 0 - 25.0 % Vol.
- **Max Current Draw:** 200 mA with alarm 1 and alarm 2
- **Life Expectancy:** 3 to 5 years
- **Accuracy:** ± 2 % of full scale
- **Resolution:** 1 % Vol.
- **Relays:** 5 Amp form “C” contacts for alarm 1, alarm 2, and fail
- **Display:** Alphanumeric OLED display, 8 characters per line; 2 lines for gas concentration readout, plus user-friendly calibration and setup
- **Housing J-Box:** NEMA 4X, explosion proof, non metal, aluminum with o-ring seal and epoxy powder coating
- **Controls:** Magnet used for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup
- **Sensor Rating:** Non explosion proof construction, designed for Class 1, Div. 2, Group B, C, D (no certification)
- **Response Time (T-90):** 30 Seconds or less
- **Dimensions:** 8.5” (215 mm), Width: 5.2” (132 mm), Depth: 4.5” (114 mm)
- **Enclosure Rating:** NEMA 4X, explosion proof, with internal push-button controls also available for calibration and setup
- **Relay Contacts:** Magnetic controls for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup

### Non Explosion Proof

- **Part Number:** 65-2661RK
- **Sensor:** Galvanic cell
- **Measuring Ranges:**
  - LEL: 0 - 100 % LEL
  - Vol.: 0 - 25.0 % Vol.
- **Max Current Draw:** 120 mA with alarm 1 and alarm 2
- **Life Expectancy:** 3 to 5 years
- **Accuracy:** ± 2 % of full scale
- **Resolution:** 1 % Vol.
- **Relays:** 5 Amp form “C” contacts for alarm 1, alarm 2, and fail
- **Display:** Alphanumeric OLED display, 8 characters per line; 2 lines for gas concentration readout, plus user-friendly calibration and setup
- **Housing J-Box:** NEMA 4X, explosion proof, with internal push-button controls also available for calibration and setup
- **Controls:** Magnetic controls for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup
- **Sensor Rating:** Non explosion proof construction, designed for Class 1, Div. 2, Groups B, C, D (no certification)
- **Response Time (T-90):** 30 Seconds or less
- **Dimensions:** 8.5” (215 mm), Width: 5.2” (132 mm), Depth: 4.5” (114 mm)
- **Enclosure Rating:** NEMA 4X, explosion proof, with internal push-button controls also available for calibration and setup
- **Relay Contacts:** Magnetic controls for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup
- **Sensor Rating:** Non explosion proof construction, designed for Class 1, Div. 2, Group B, C, D (no certification)

### Sensors

- **General Purpose:** General Purpose
- **Oxygen:** 0 - 25.0 Vol.
- **Hydrogen Sulfide:** 0 - 1000 ppm
- **Carbon Monoxide:** 0 - 50% Vol.
- **Hydrocarbons:** 0 - 100% LEL
- **Carbon Dioxide:** 0 - 100% Vol.

### Measuring Ranges

- **Temperature:** -40°F to 167°F
- **Relative Humidity:** 5 - 95% RH non-condensing
- ** housed Location:** Indoor or outdoor
- **Powered by:** 10 VDC - 30 VDC

### Part Number With J-Box

- **ANU2:** Ammonia (NH3)
- **ANH2:** Hydrogen (H2)
- **AS2:** Hydrogen Sulfide (H2S)
- **AO2:** Oxygen (O2)
- **CL2:** Chlorine (Cl2)
- **CO:** Carbon Monoxide (CO)
- **HC:** Hydrocarbons (HC)
- **H2S:** Hydrogen Sulfide (H2S)
- **Sulfur Dioxide (SO2)
- **CLO2:** Chlorine Dioxide (ClO2)
- **CT-7:** Carbon Monoxide (CO)

### M2A Toxic/Monitor Sensor Order Information

- **Sensor Type:** ESM-01
- **Part Number:** 65-2644RK
- **Range:** 0 - 75 ppm
- **Resolution:** 0.1 ppm
- **Display:** Linear 4-20 mA signal, into 1000 ohms impedance max (24VDC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale
- **Outputs:** Analog 4-20 mA signal, into 1000 ohms impedance max (24VDC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale
- **Controllers:** Beacon 110, Beacon 200, Beacon 410A, Beacon 800 as well as most DCS / PLC systems
- **Warranty:** One year material and workmanship.
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