

M2A STAND ALONE TRANSMITTER



- Operates with or without a controller
- Direct digital readout with OLED cold temperature display
- Available gases include
 - LEL, O₂, H₂S, CO, CO₂, and 100% Vol CH₄
 - Toxic gases include NH₃, SO₂, HCN, and more
- Infrared sensor for combustibles and CO₂
- 4-20 mA & digital Modbus outputs standard
- 2 fully programmable alarm relays & fail relay
- Non-intrusive calibration via magnetic wand
- Explosion proof construction
- Patented water repellent sensor cover
- User friendly setup, push buttons & OLED menus
- Long-life sensors (2 + years typical)

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.

The housing of the M2A does not need to be opened for zeroing or calibration, making it unnecessary to declassify the area for routine maintenance. It is designed so that a complete field calibration can be performed by one person. Sensor construction is rated Class I, Div. 1 Groups B, C, D for flammables, CO, H₂S, O₂, and CO₂, and Class I, Div. 2 for all other toxics.


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, SO₂, PH₃, AsH₃, and HCN.


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

World Leader In Gas Detection & Sensor Technology


Explosion Proof

| | LEL General Purpose | LEL H2 Specific | O2 Oxygen | H2S Hydrogen Sulfide | CO Carbon Monoxide | CH4 Methane | HC Hydrocarbons | CO2 Carbon Dioxide |
|--|--|---|---|--------------------------------|---------------------------------|--|--------------------|--|
|  Part# | 65-2640RK 65-2640RK-05 | 65-2641RK 65-2641RK-05 | 65-2643RK-05 | 65-2645RK-05 | 65-2646RK-05 | 65-2649RK-CH4 65-2658RK-CH4 | 65-2649RK-HC | 65-2660RK-02 65-2660RK-03 65-2660RK-05 65-2660RK-10 |
| Sensors | Catalytic | | Galvanic cell | Electrochemical | | Infrared | | |
| Measuring Ranges | 0 - 100 % LEL | | 0 - 25.0% Vol. | 0 - 100 ppm | 0 - 300 ppm | 0 - 100% LEL 0 - 100% Vol. | 0 - 100% LEL | -02 0 - 5000 ppm -03 0 - 5% Vol. -05 0 - 50% Vol. -10 0 - 100% Vol. |
| Resolution | 1% LEL | | 0.1% Vol. | 1 ppm | | 1% LEL / 1% Vol. | | 20 ppm / 0.1% Vol. / 1% Vol. |
| Lower Detectable Limit (LDL) | 2% of full scale | | 0.1% Vol. | 2% of full scale | | | | |
| Max Current Draw (24VDC) | 160 mA with alarm 1 and alarm 2 active and all relays energized | | 125 mA with alarm 1 and alarm 2 active and all relays energized | | | | | |
| Response Time (T-90) | 35 Seconds or less | | | | | 30 Seconds or less | | |
| 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 | | |
| Accuracy (which ever is greater) | ± 5% of reading or ± 2 % LEL | | ± 0.5% Vol. O2 | ± 5% of reading or ± 2 ppm H2S | ± 5% of reading or ± 5 ppm CO | ± 5% of reading or ± 2 % of full scale | | |
| Weather Resistant | Patented water repellent sensor coating | | | | | | | |
| Alarms | | | | | | | | |
| Alarm Settings | Two fully programmable alarm set points, increasing / decreasing, latching / self-resetting, on delays, off delays, normally energized or de-energized | | | | | | | |
| Alarm Indication | Visual LEDs. Alarm 1, Amber; Alarm 2, Red; Fail, Red | | | | | | | |
| Relays | 5 amp form 'C' contacts for alarm 1, alarm 2, and fail | | | | | | | |
| 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; 2 lines for gas concentration readout, plus user-friendly calibration and setup | | | | | | | |
| Enclosure | Explosion proof for Class I, Div 1, Groups B, C, D. | | | | | | | |
| Enclosure 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 | | | | | | | |
| Operating Environment | | | | | | | | |
| Operating 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 | | | |
| Relative Humidity | 5 - 95% RH non-condensing | | | | | | | |
| Location | Indoor or outdoor. Explosion proof for Class I, Div. 1, Groups B, C, D. | | | | | | | |
| Operating Voltage | 10 VDC - 30 VDC | | | | | | | |
| Outputs | | | | | | | | |
| Analog | Linear 4-20 mA signal, into 1000 ohms impedance max (24DC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale | | | | | | | |
| Digital | Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud | | | | | | | |
| Approvals | 65-2610RK UL 65-2610RK-05 c CSA US | 65-2611RK UL 65-2611RK-05 c CSA US | c CSA US | | | c UL US | | |
| Controllers | Compatible with all RKI Beacon controllers, as well as most DCS / PLC systems: Beacon 110, Beacon 200, Beacon 410, Beacon 800 | | | | | | | |
| Warranty | One year material and workmanship | | | | | | | |

Non Explosion Proof

| | O2 Oxygen | H2S Hydrogen Sulfide | CO Carbon Monoxide | Toxics See Chart Below | CO2 Carbon Dioxide |
|--|--|-----------------------------------|----------------------------------|---|--|
|  Part# | 65-2666RK *65-2644RK | 65-2662RK | 65-2663RK | See Chart Below | 65-2661RK-02 65-2661RK-03 65-2661RK-05 65-2661RK-10 |
| Sensors | Galvanic cell | Electrochemical | | | Infrared |
| Measuring Ranges | 0-25% Vol. | 0-100 ppm | 0-300 ppm | See Chart Below | -02 0 - 5000 ppm -03 0 - 5% Vol. -05 0 - 50% Vol. -10 0 - 100% Vol. |
| Resolution | 0.1% Vol. | 1 ppm | | See Chart Below | 20 ppm / 0.1% Vol. / 1% Vol. |
| Lower Detectable Limit (LDL) | 0.1% Vol. | 2% of full scale | | | |
| Response Time (T-90) | 35 Seconds or less | | | 60 Seconds or less | 30 Seconds or less |
| Max Current Draw (24VDC) | 125 mA with alarm 1 and alarm 2 active and all relays energized | | | | |
| Life Expectancy | 2 to 3 years with normal service | | | | 5 years plus |
| Accuracy (which ever is greater) | ± 0.5% Vol. O2 | ± 5% of reading or ± 2 ppm H2S | ± 5% of reading or ± 5 ppm CO | ± 10% of reading or ± 5% of full scale | ± 5% of reading or ± 2% of full scale |
| Alarms | | | | | |
| Alarm Settings | Two fully programmable alarm set points, increasing / decreasing, latching / self-resetting, on delays, off delays, normally energized or de-energized, | | | | |
| Alarm Indication | Visual LEDs. Alarm 1=Amber; Alarm 2=Red; Fail=Red | | | | |
| Relays | 5 Amp form 'C' contacts for alarm 1, alarm 2, and fail | | | | |
| 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; 2 lines for gas concentration readout, plus user-friendly calibration and setup | | | | |
| Sensor Rating | Non explosion proof construction, designed for Class I, Div. 2, Groups B, C, D (no certification) | | | | |
| Housing J-Box | 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 | | | | |
| Sensor | Aluminum / Plastic (non explosion proof) | | | | |
| Operating Environment | | | | | |
| Operating Temperature | -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 | 14°F to 104°F -10°C to 40°C | -40°F to 122°F -40°C to 50°C |
| Relative Humidity | 5 - 95% RH non-condensing | | | | |
| Location | Indoor or outdoor | | | | |
| Operating Voltage | 10 VDC - 30 VDC | | | | |
| Outputs | | | | | |
| Analog | Linear 4-20 mA signal, into 1000 ohms impedance max (24DC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale | | | | |
| Digital | Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud | | | | |
| Controllers | Compatible with all RKI Beacon controllers, as well as most DCS / PLC systems: Beacon 110, Beacon 200, Beacon 410, Beacon 800 | | | | |
| Warranty | One year materials and workmanship | | | | |

* Partial pressure sensor for helium applications. Consult factory for details.

|  | M2A Toxic Transmitter Sensor Ordering Information | | | |
|---|--|------------------------|--------------|-------------------|
| | Part Number With J-Box | Gas | Range | Resolution |
| | 65-2648RK-AsH3 | Arsine (AsH3) | 0 - 1.5 ppm | 0.01 ppm |
| | 65-2648RK-NH3 | Ammonia (NH3) | 0 - 75.0 ppm | 0.1 ppm |
| | 65-2648RK-PH3 | Phosphine (PH3) | 0 - 1.00 ppm | 0.01 ppm |
| | 65-2648RK-HCN | Hydrogen Cyanide (HCN) | 0 - 15.0 ppm | 0.1 ppm |
| | 65-2648RK-SO2 | Sulfur Dioxide (SO2) | 0 - 6.00 ppm | 0.01 ppm |

AVAILABLE ACCESSORIES



AC power supply



Remote horns & lights



Air aspirator adaptors / panels



Calibration adaptors



Splash guards



Flow through adaptors



Dataloggers



Calibration kits

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

| M2A Wiring Matrix | | | | |
|-------------------|-------------------------------|--------------------------------|-------------|-------------|
| | Number of Wires to Controller | Maximum Distance to Controller | | |
| | | 18 AWG wire | 16 AWG wire | 14 AWG wire |
| M2A Transmitter | 3 | 2500 ft. | 5,000 ft. | 8,000 ft. |



Made in the USA

Authorized Distributor:



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Gas Detection For Life