

# STAND ALONE EXPLOSION PROOF TRANSMITTER

Gas Detection For Life

M2 Series



## Features

- Operates independent of a controller
- Direct digital readout on backlit LCD
- Available for LEL, H<sub>2</sub>S, CO, and O<sub>2</sub>
- 4-20 mA & digital Modbus outputs standard
- Non-intrusive calibration via magnetic wand
- 2 fully programmable alarm relays & fail relay
- H<sub>2</sub> specific LEL version available
- Infrared combustible version available
- Patented water repellent sensor coating
- User friendly setup push buttons & LCD menus
- Intrinsically safe, CSA, C/US classified

## Industry Applications

- Petrochemical plants
- Refineries
- Offshore drilling platforms
- Water & wastewater treatment plants
- Pulp & paper mills
- Gas, telephone, & electric utilities
- Parking garages
- Manufacturing facilities
- Steel
- Automotive

The RKI M2™ is a state-of-the-art transmitter that can operate as an independent, stand-alone system or as part of a system connected with an analog or digital signal to virtually any controller, PLC, or DCS. The M2 series detects LEL combustibles, oxygen, hydrogen sulfide, or carbon monoxide. It utilizes a magnetic wand technique for performing non-intrusive calibration. The M2 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 M2 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. The stainless steel flame arrestor housing that covers the sensor (LEL, H<sub>2</sub>S, CO, or XP Oxygen) is water repellent with a special patented water resistant coating.

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

The M2 represents the latest leading edge technology in sensor / transmitters today.

# M2 Series

<b>Sensors</b>		<b>LEL</b>		<b>O<sub>2</sub></b>	<b>H<sub>2</sub>S</b>	<b>CO</b>
<b>Types</b>	Catalytic	IR (infrared)		Galvanic cell	Electrochemical	Electrochemical
<b>Measuring Ranges</b>	0 - 100 % LEL		0 - 25.0 % Vol		0 - 100 ppm	0 - 300 ppm
<b>Weather Resistant</b>	Patented water repellent sensor coating		—		Patented water repellent sensor coating	
<b>Outputs</b>						
<b>Analog</b>	4-20 mA signal, into 500 ohms impedance max, corresponding to 0 - full scale					
<b>Digital</b>	Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud					
<b>Alarms</b>						
<b>Alarm Settings</b>	Fully programmable alarm setpoints, increasing / decreasing, latching / self-resetting, on delays, off delays, normally energized or de-energized, programmable deadband, programmable smoothing filter					
<b>Alarm Indication</b>	Visual LEDs. Alarm 1, Amber; Alarm 2, Red; Fail, Red					
<b>Relays</b>	5 amp form 'C' contacts for alarm 1, alarm 2, and fail					
<b>Physical</b>						
<b>Dimensions</b>	Height: 8.5" (215 mm), Width: 5.2" (132 mm), Depth: 4.5" (114 mm)					
<b>Display</b>	Alphanumeric display with backlighting. 8 characters per line; 2 lines for gas concentration readout, plus user-friendly calibration and setup					
<b>Enclosure</b>	Explosion proof for Class I, Div 1, Groups B, C, D.					
<b>Enclosure Rating</b>	NEMA 4, explosion proof, watertight, cast aluminum with o-ring seal and epoxy powder coating					
<b>Controls</b>	Magnet used for calibration functions. Calibrates without opening the housing. Internal push-button controls also available for calibration and setup					
<b>Operating Environment</b>						
<b>Operating Temperature</b>	-4°F ~ 122°F (-20°C ~ 50°C)					
<b>Relative Humidity</b>	5 - 95% RH non-condensing					
<b>Location</b>	Indoor or outdoor. Explosion proof for Class I, Div. 1, Groups B, C, and D. (Oxygen available in non XP version also)					
<b>Operating Voltage</b>	19 VDC - 30 VDC					
<b>Approvals</b>	IR LEL sensors: UL approval standard Catalytic LEL sensors: UL standard, CSA optional H <sub>2</sub> S and CO sensors: CSA Standard					
<b>Warranty</b>	One year material and workmanship					

**Note:**

IR LEL sensors are recommended for applications where catalytic sensors historically do not hold up, such as areas where catalytic poisons may be present (for example: silicone vapors, high H<sub>2</sub>S, or halogenated hydrocarbons). The IR LEL sensor is especially well suited for wastewater treatment plants.