M2 STAND ALONE TRANSMITTER

RKI INSTRUMENTS

- Operates with or without a controller
- Direct digital readout on backlit LCD
- Available gases include
  - LEL, OXY, H2S, CO, H2, 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 & LCD menus
- Long-life sensors (2 + years typical)

The RKI M2™ is a state-of-the-art transmitter that can operate as an independent, stand-alone monitor or as part of an integrated system. The M2 connects with an analog or digital signal to virtually any controller, PLC, or DCS. Setup procedures are simplified with user friendly push buttons and LCD menus. 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. 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 M2 represents the latest leading edge technology in sensor / transmitters today.

World Leader In Gas Detection & Sensor Technology

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Explosion Proof

	LEL General Purpose	LEL H2 Specific	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	CH4 Methane	HC Hydrocarbons	CO2 Carbon Dioxide
 **Part#**	65-2610RK 65-2610RK-05	65-2611RK 65-2611RK-05	65-2613RK-05	65-2615RK-05	65-2616RK-05	65-2619RK-CH4 65-2628RK-CH4	65-2619RK-HC	65-2630RK-02 65-2630RK-03 65-2630RK-05 65-2630RK-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.
Lower Detectable Limit (LDL)	2% of full scale		0.1% Vol.	2% of full scale				
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% 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 display with backlighting. 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	-4°F to 122°F -20°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	19 VDC - 30 VDC, 12 VDC versions available							
Outputs								
Analog	4-20 mA signal, into 500 ohms impedance max, corresponding to 0 - full scale							
Digital	Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud							
Approvals	65-2610RK-05 UL	65-2611RK UL	CSA NRTL			$_{C}$ UL $_{US}$		
	65-2610RK-05 $_{C}$ CSA $_{US}$	65-2611RK-05 $_{C}$ CSA $_{US}$						
Controllers	Compatible with all RKI Beacon controllers, as well as most DCS / PLC systems: Beacon 110, Beacon 200, Beacon 410, Beacon 800, and Pioneer 4W and Pioneer 16R							
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#**	65-2613RK *65-2614RK	65-2632RK	65-2633RK	See Chart Below	65-2631RK-02 65-2631RK-03 65-2631RK-05 65-2631RK-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
Life Expectancy	2 to 3 years with normal service				5 years plus
Accuracy (which ever is greater)	± 0.5% 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 display with backlighting. 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 122°F -20°C to 50°C			14°F to 104°F -10°C to 40°C	-4°F to 122°F -20°C to 50°C
Relative Humidity	5 - 95% RH non-condensing				
Location	Indoor or outdoor.				
Operating Voltage	19 VDC - 30 VDC, 12 VDC versions available				
Outputs					
Analog	Linear 4-20 mA signal, into 500 ohms impedance max, 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, and Pioneer 4W and Pioneer 16R				
Warranty	One year materials and workmanship				

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

M2 Toxic Transmitter Sensor Ordering Information

Part Number With J-Box	Gas	Range	Resolution
65-2618RK-AsH3	Arsine (AsH3)	0 - 1.5 ppm	0.01 ppm
65-2618RK-NH3	Ammonia (NH3)	0 - 75.0 ppm	0.1 ppm
65-2618RK-PH3	Phosphine (PH3)	0 - 1.00 ppm	0.01 ppm
65-2618RK-HCN	Hydrogen Cyanide (HCN)	0 - 15.0 ppm	0.1 ppm
65-2618RK-SO2	Sulfur Dioxide (SO2)	0 - 6.00 ppm	0.01 ppm

M2 STAND ALONE TRANSMITTER

A

B

C

D

Available Accessories

A. Calibration adaptors

B. Flow through adaptors

C. Remote horns & lights

D. Calibration kits

E. Battery backups

F. Splash guards

G. Air aspirator adaptors / panels

H. Dataloggers

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

M2 Wiring Matrix				
	Number of Wires to Controller	Maximum Distance to Controller		
		18 AWG wire	16 AWG wire	14 AWG wire
M2 Transmitter	3	2500 ft.	5,000 ft.	8,000 ft.

Made in the USA

Authorized Distributor:

10000363 ISO 9001

Gas Detection For Life