

# M2A-XL STAND ALONE TRANSMITTER



- Operates with or without a controller
- Direct digital readout with OLED cold temperature display
- Available gases include
  - LEL, O<sub>2</sub>, H<sub>2</sub>S, CO, CO<sub>2</sub>, and 100% Vol CH<sub>4</sub>
  - Toxic gases include NH<sub>3</sub>, AsH<sub>3</sub>, Cl<sub>2</sub>, ClO<sub>2</sub>, HCN, NO<sub>2</sub> & SO<sub>2</sub>
- Infrared sensor for combustibles and CO<sub>2</sub>
- 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-XL™ 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-XL 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-XL 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-XL 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, H<sub>2</sub>S, O<sub>2</sub>, and CO<sub>2</sub>, 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 NH<sub>3</sub>, AsH<sub>3</sub>, Cl<sub>2</sub>, ClO<sub>2</sub>, HCN, PH<sub>3</sub>, NO<sub>2</sub> and SO<sub>2</sub>.

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

World Leader In Gas Detection & Sensor Technology

# Explosion Proof


Class I, Div. 1 , Groups B, C, D



Part #	UL	Combustibles		LEL	O <sub>2</sub>	H <sub>2</sub> S	CO	CH <sub>4</sub>	HC	CO <sub>2</sub>
		LEL	PPM	H <sub>2</sub> Specific	Oxygen	Hydrogen Sulfide	Carbon Monoxide	Methane	Hydrocarbons	Carbon Dioxide
65-2640XL-05	65-2640XL	65-2647XL	65-2641XL	65-2643XL-05	65-2645XL-05	65-2646XL-05	65-2649XL-CH4 65-2658XL-CH4	65-2649XL-HC	65-2660XL-02 65-2660XL-03 65-2660XL-05 65-2660XL-10	
	65-2640XL-05	65-2647XL-05	65-2641XL-05							
<b>Sensors</b>		Catalytic			Galvanic cell	Electrochemical		Infrared		
<b>Measuring Ranges</b>	0 - 100% LEL	0 - 9000 ppm CH <sub>4</sub>	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.	
<b>Resolution</b>	1% LEL	20 ppm	1% LEL	0.1% Vol.	1 ppm		1% LEL / 1% Vol.			
<b>Lower Detectable Limit (LDL)</b>	2% of full scale			0.1% Vol.	2% of full scale					
<b>Max Current Draw (24VDC)</b>	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			160 mA with alarm 1 and alarm 2 active and all relays energized			
<b>Response Time (T-90)</b>	35 Seconds or less			90 Seconds or less	60 Seconds or less	90 Seconds or less	30 Seconds or less			
<b>Life Expectancy</b>	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			
<b>Accuracy (which ever is greater)</b>	± 5% of reading or ± 2% ŠÖŠ			± 0.5% Vol. O <sub>2</sub>	± 5% of reading or ± 2 ppm H <sub>2</sub> S	± 5% of reading or ± 5 ppm CO	± 5% of reading or ± 2 % of full scale			
<b>Weather Resistant</b>	Patented water repellent sensor coating									
<b>Alarms</b>										
<b>Alarm Settings</b>	Two fully programmable alarm set points, increasing / decreasing, latching / self-resetting, on delays, off delays, normally energized or de-energized									
<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: 6.2" (158 mm), Width: 5.66" (144 mm), Depth: 4.86" (124 mm) (Height measurement does not include sensor)									
<b>Display</b>	Alphanumeric OLED display. 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 4X, 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>	-40°F to 167°F -40°C to 75°C			-4°F to 122°F -20°C to 50°C	-40°F to 122°F -40°C to 50°C	-4°F to 122°F -20°C to 50°C	-40°F to 122°F -40°C to 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, D.									
<b>Operating Voltage</b>	10 VDC - 30 VDC									
<b>Outputs</b>										
<b>Analog</b>	Linear 4-20 mA signal, into 1000 ohms impedance max (24DC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale									
<b>Digital</b>	Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud									
<b>Approvals</b>	65-2640XL UL		65-2641XL UL	C CSA US			C UL US			
	65-2640XL-05 C CSA US		65-2641XL-05 C CSA US							
<b>Controllers</b>	Beacon 110, Beacon 200, Beacon 410A, Beacon 800, Beacon 3200 as well as most DCS / PLC systems									
<b>Warranty</b>	One year material and workmanship									

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

# Toxic Gas Transmitters

Class I, Div. 2

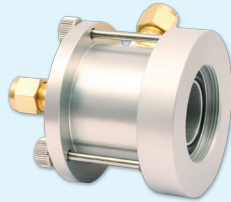
	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	Toxics See Chart Below	CO2 Carbon Dioxide
 Part#	65-2666XL *65-2644XL	65-2662XL	65-2663XL	See Chart Below	65-2661XL-02 65-2661XL-03 65-2661XL-05 65-2661XL-10
<b>Sensors</b>	Galvanic cell	Electrochemical			Infrared
<b>Measuring Ranges</b>	0-25% Vol.	0-100 ppm	0-300 ppm	See Chart Below	-02 0 - 5000 ppm -03 0 - 5% Vol. -05 0 - 50% Vol. -10 0 - 100% Vol.
<b>Resolution</b>	0.1% Vol.	1 ppm		See Chart Below	20 ppm / 0.01% / 0.1% / 1% Vol.
<b>Lower Detectable Limit (LDL)</b>	0.1% Vol.	2% of full scale			
<b>Response Time (T-90)</b>	35 Seconds or less			60 Seconds or less	30 Seconds or less
<b>Max Current Draw (24VDC)</b>	125 mA with alarm 1 and alarm 2 active and all relays energized				160 mA with alarm 1 and alarm 2 active and all relays energized
<b>Life Expectancy</b>	2 to 3 years with normal service				5 years plus
<b>Accuracy (which ever is greater)</b>	± 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
<b>Alarms</b>	<b>Alarm Settings</b>	Two fully programmable alarm set points, increasing / decreasing, latching / self-resetting, on delays, off delays, normally energized or de-energized,			
	<b>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: 6.2" (158 mm)*, Width: 5.66" (144 mm), Depth: 4.86" (124 mm) (Height measurement does not include sensor)			
	<b>Display</b>	Alphanumeric OLED display. 8 characters per line; 2 lines for gas concentration readout, plus user-friendly calibration and setup			
	<b>Sensor Rating</b>	Non explosion proof construction, designed for Class I, Div. 2, Groups B, C, D (no certification)			
	<b>Housing J-Box</b>	NEMA 4X, 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>Sensor</b>	Aluminum / Plastic (non explosion proof)				
<b>Operating Environment</b>					
<b>Operating Temperature</b>	-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
<b>Relative Humidity</b>	5 - 95% RH non-condensing				
<b>Location</b>	Indoor or outdoor				
<b>Operating Voltage</b>					
10 VDC - 30 VDC					
<b>Outputs</b>	<b>Analog</b>	Linear 4-20 mA signal, into 1000 ohms impedance max (24DC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale			
	<b>Digital</b>	Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud			
<b>Controllers</b>					
Beacon 110, Beacon 200, Beacon 410A, Beacon 800, Beacon 3200 as well as most DCS / PLC systems					
<b>Warranty</b>					
One year materials and workmanship					

Toxic Transmitter Sensor Ordering Information		Part Number With J-Box	Gas	Range	Resolution	Sensor Type
 ESM-01 Sensor   CT-7 Sensor  * Sensor being phased out, use CT-7 type when possible.		65-2670XL-NH3-75	Ammonia (NH3)	0 - 75.0 ppm	0.1 ppm	CT-7
		65-2670XL-NH3-1	Ammonia (NH3)	0 - 100 ppm	1 ppm	CT-7
		65-2670XL-NH3-2	Ammonia (NH3)	0 - 200 ppm	1 ppm	CT-7
		65-2670XL-NH3-5	Ammonia (NH3)	0 - 500 ppm	1 ppm	CT-7
		65-2648XL-AsH3	Arsine (AsH3)	0 - 1.50 ppm	0.1 ppm	ESM -01
		65-2670XL-CL2-3	Chlorine (Cl2)	0 - 3.00 ppm	0.01 ppm	CT-7
		65-2670XL-CL2-5	Chlorine (Cl2)	0 - 5.00 ppm	0.01 ppm	CT-7
		65-2670XL-CL2-10	Chlorine (Cl2)	0 - 10.0 ppm	0.1 ppm	CT-7
		65-2670XL-CLO21	Chlorine Dioxide (ClO2)	0 - 1.00 ppm	0.01 ppm	CT-7
		65-2670XL-CLO21	Chlorine Dioxide (ClO2)	0 - 1.00 ppm	0.01 ppm	CT-7
		65-2670XL-CLO23	Chlorine Dioxide (ClO2)	0 - 3.00 ppm	0.01 ppm	CT-7
		65-2670XL-CLO25	Chlorine Dioxide (ClO2)	0 - 5.00 ppm	0.01 ppm	CT-7
		65-2670XL-HCN15	Hydrogen Cyanide (HCN)	0 - 15.0 ppm	0.1 ppm	CT-7
		65-2670XL-NO2	Nitrogen Dioxide (NO2)	0 - 15.0 ppm	0.1 ppm	CT-7
		65-2648XL-PH3	Phosphine (PH3)	0 - 1.00 ppm	0.01 ppm	ESM -01
		65-2670XL-SO210	Sulfur Dioxide (SO2)	0 - 6.00 ppm	0.01 ppm	CT-7

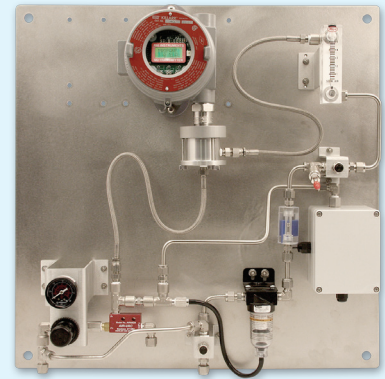
# AVAILABLE ACCESSORIES



**Remote Mount Calibration Adaptor**  
(only recommended for LEL, O2, CO, H2S, and CO2 sensors)



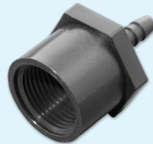
**Flow through adaptors**



**Air aspirator adaptors / panels**



**Remote horns & lights**



**Calibration adaptors**



**Calibration kits**

## Direct Interface with Beacon 110 / 200 / 410A / 800 / 3200 Controllers

**M2A-XL Wiring Matrix**

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



Made in the USA

Authorized Distributor:

