

M2A-XL 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, AsH₃, Cl₂, ClO₂, HCN, NO₂ & SO₂
- 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-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, 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, AsH₃, Cl₂, ClO₂, HCN, PH₃, NO₂ and SO₂.

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

			Combustibles		LEL	O2	H2S	CO	CH4	HC	CO2
	Part #	UL	LEL	PPM	H2 Specific	Oxygen	Hydrogen Sulfide	Carbon Monoxide	Methane	Hydrocarbons	Carbon Dioxide
		CSA									
		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							
Sensors		Catalytic			Galvanic cell	Electrochemical			Infrared		
Measuring Ranges		0 - 100% LEL	0 - 9000 ppm CH4	0 - 100% LEL	0 - 25.0% Vol.	0 - 100 ppm	0 - 300 ppm	0 - 100% LEL 0 - 100% Vol.	0 - 100% LEL	-02 -03 -05 -10	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.
Resolution		1% LEL	20 ppm	1% LEL	0.1% Vol.	1 ppm		1% LEL / 1% Vol.		20 ppm / 0.01% Vol / 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			160 mA with alarm 1 and alarm 2 active and all relays energized			
Response Time (T-90)		35 Seconds or less			90 Seconds or less	60 Seconds or less	90 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% ŠÖŠ			± 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: 6.2" (158 mm), Width: 5.66" (144 mm), Depth: 4.86" (124 mm) (Height measurement does not include sensor)									
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 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			
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		65-2640XL UL	65-2641XL UL	C CSA US				C UL US			
		65-2640XL-05 C CSA US	65-2641XL-05 C CSA US								
Controllers		Beacon 110, Beacon 200, Beacon 410A, Beacon 800, Beacon 3200 as well as most DCS / PLC systems									
Warranty		One year material and workmanship									

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

Toxic Gas Transmitters

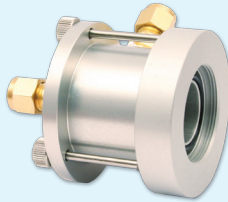
Class I, Div. 2

		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	
Sensors		Galvanic cell	Electrochemical			Infrared	
Measuring Ranges		0-25% Vol.	0-100 ppm	0-300 ppm	See Chart Below	-02 -03 -05 -10	0 - 5000 ppm 0 - 5% Vol. 0 - 50% Vol. 0 - 100% Vol.
Resolution		0.1% Vol.	1 ppm		See Chart Below	20 ppm / 0.01% / 0.1% / 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				160 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,					
	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: 6.2" (158 mm)*, Width: 5.66" (144 mm), Depth: 4.86" (124 mm) (Height measurement does not include sensor)					
	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		Beacon 110, Beacon 200, Beacon 410A, Beacon 800, Beacon 3200 as well as most DCS / PLC systems					
Warranty		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

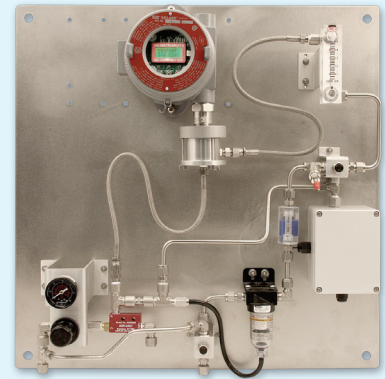
AVAILABLE ACCESSORIES



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



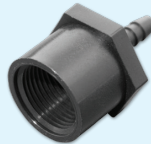
Flow through adaptors



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

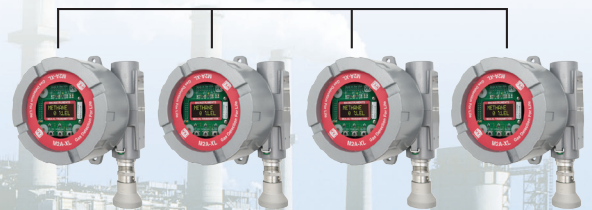
Authorized Distributor:



Tel (+84) 28 3526 2986
Email info@rikenviet.vn
Web https://rikenviet.vn



Hotline
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Gas Detection For Life