

M2A STAND ALONE TRANSMITTER

LEADERS IN GAS DETECTION

M₂A

Since 197



Features:

- Operates with or without a controller
- Direct digital readout with OLED display
- Available gases include LEL and CO2
- 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 5 years typical for catalytic, 5 -10 years typical for IR)

Industry Applications

- Petrochemical plants
- Refineries
- Water & wastewater treatment plants
- Pulp & paper mills
- Manufacturing facilities
- Automotive
- Semiconductor plants

Description:

The 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 LCD menus. It utilises 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 and CO2. For CO2, a general purpose (not explosion proof) construction is also available. 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 M2A represents the latest leading edge technology in sensor / transmitters today. The "A" version of the M2 style instrument includes several improvements over the past design. This includes an OLED display for cold temperature operation (to -40), side access conduit opening for better leak protection, improved RFI/EMI resistance, and superior protection against power surges or spikes.



Unit 1 / 3 Deakin St















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Offices/Agents in:

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Part R65_2640RK R65_2641RK R65_2641RK R65_2643RK R65_2643RK R65_2640RK R65_2640RK R65_2640RK R65_2641RK R65_2640RK R65_2640RK R65_2641RK R65_2641RK R65_2640RK R65_2640R	EXPLOSION PROOF								
Resolution	CO2 Carbon Dioxid	HC Hydrocabons		Carbon	Hydrogen			General Pur-	
Measuring Ranges 0 - 100 % LEL 0 - 25.0% Vol. 0 - 100 ppm 0 - 300 0 - 100 % LEL 0 - 100 % LEL 0 - 100 % LEL 0 - 100 ppm 0 - 300 0 - 100 % LEL 0 - 100 % LEL 10 Vol. 1 ppm 1 % LEL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol. 1 ppm 1 % LeL / 1 % Vol.	R65-2660RK-0 R65-2660RK-0 R65-2660RK-0 R65-2660RK-1		-CH4 R65-2658RK			R65-2643RK-05			Part#
Resolution 1% LEL 0.1% Vol. 1 ppm 1% LEL 1.1% Vol. Lower Detectable Limit (LDL) 150 mA with alarm 1 and alarm 2 active and all relays energized 2 active and all relays energized 3 25 mA with alarm 1 and alarm 2 active and all relays energized 2 125 mA with alarm 1 and alarm 2 active and all relays energized 2 125 mA with alarm 1 and alarm 2 active and all relays energized 3 35 Seconds or less 3 30 Seconds or LIfe Expectancy 2 103 years with normal service 3 30 Seconds or less 4 2 to 3 years with normal service 3 years with normal service 4 2 to 3 years with normal service 8 years plus with normal service 9 4 2 pm hz 1 2 5 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 5% of reading or ± 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 5% of reading or ± 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 5% of reading or ± 5% of reading or ± 2 % LEL 2 5.5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ± 5% of reading or ± 2 % LEL 2 5% Vol. 0.2 2 ± 5% of reading or ±		Infrared		emical	Electroch	Galvanic cell	lytic	Cata	Sensors
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Response Time(T-90) Life Expectancy Life Expectancy Life Expectancy Life Expectancy Accuracy (which ever is greater) Meather Resistant Alarm Settings		2% of full scale							Limit (LDL)
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Digital Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud									Outputs
Approvals R65-2610RK R65-2611RK UL C CSA US C UL US R65-2610RK-05 C CSA US C CSA US C CSA US	Linear 4-20 mA signal, into 1000 ohms impedance max (24DC), 0 - 500 ohms max (12VDC) corresponding to 0 - full scale					Analog			
UL UL R65-2610RK-05 R65-2611RK-05 C CSA US C CSA US		TU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud					ŭ .		
		C UL US			C CSA US		UL R65-2611RK-05	UL R65-2610RK-05	Approvals
Compatible with all RKI Beacon controllers, as well as most DCS / PLC systems:	Compatible with all RKI Beacon controllers, as well as most DCS / PLC systems:					C CSA US			
Controllers Beacon 110, Beacon 200, Beacon 410, Beacon 800	Beacon 110, Beacon 200, Beacon 410, Beacon 800								
Warranty One year material and workmanship	One year material and workmanship				Warranty				

		NON EXPL	OSION PRO	OF				
	O2 Oxygen	H2S Hydrogen Sulfide	CO Carbon Monoxide	Toxics See Chart Below		CO2 Carbon Dioxide		
Part#	R65-2666RK *R65-2644RK	R65-2662RK	R65-2663RK	See Chart Below	R65-2661RK-02 R65-2661RK-03 R65-2661RK-05 R65-2661RK-10			
Sensors	Galvanic cell		Electrochemica	l		Infrared		
Measuring Ranges	0-25% Vol.	0-100 ppm	0-300 ppm	See Chart Below	-02	0 - 5000 ppm		
					-03 -05	0 - 5% Vol. 0 - 50% Vol.		
					-10	0 - 100% Vol.		
Resolution	0.1% Vol.		1 ppm	See Chart Below	20 pp	m / 0.1% Vol. / 1% Vol.		
Lower Detectable Limit (LDL)	0.1% Vol.			2% of full scale				
Response Time (T-90)	3.	5 Seconds or less		60 Seconds or less	(30 Seconds or less		
Max Current Draw (24VDC)		125 mA witl	n alarm 1 and alarm 2	active and all relays end	ergized			
Life Expectancy		2 to 3 years w	ith normal service		5 years plus			
Accuracy (which ever is greater)	± 0.5% Vol. O2	± 5% of read- ing 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	٦	Two fully program self-resetting, o	ımable alarm set point n delays, off delays, no	ts, increasing / decreasi ormally energized or de	ng, latchir -energize	ng / d		
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	(215 mm), Width: (13	32 mm), Depth: (114 mr	n)			
Display	2	Alph lines for gas cond	anumeric OLED display centration readout, plu	y. 8 characters per line; us user-friendly calibrat	ion and se	etup		
Sensor Rating	Non explosion proof construction, designed for Class I, Div. 2, Groups B, C, D (no certification)							
Housing J-Box	NEMA 4X, 6	explosion proof, v	vatertight, cast alumin	ium with o-ring seal and	d epoxy po	owder 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 (no	on explosion proof)				
Operating Environment								
Operating Temperature	-20°C to 45°C	-40°C to 40°C	-5°C to 40°C	-10°C to 40°C		-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 i	mpedance max (24DC)), 0 - 500 ohms max (12	VDC) corr	esponding to 0 - full scal		
Digital	Modbus RTU output standard, fully configurable, 2-wire RS-485, 1200 to 19.2k baud							
Controllers	Co			rs, as well as most DCS , eacon 410, Beacon 800		ems:		
Warranty			One year materials a	ind 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		
R65-2648RK-AsH3	Arsine (AsH3)	0 - 1.5 ppm	0.01 ppm		
R65-2648RK-NH3	Ammonia (NH3)	0 - 75.0 ppm	0.1 ppm		
R65-2648RK-PH3	Phosphine (PH3)	0 - 1.00 ppm	0.01 ppm		
R65-2648RK-HCN	Hydrogen Cyanide (HCN)	0 - 15.0 ppm	0.1 ppm		
R65-2648RK-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

Flow through adaptors



Splash guards



Dataloggers



Calibration kits

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

M2A Wiring Matrix						
	Number of Wires to Controller	Maximum Distance to Controller				
		14 AWG wire				
M2A Transmitter		2,4000				















DEFENCE



FUMIGATION

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