Honeywell

SmartLine

RMA801 SmartLine Remote DE or Analog Indicator Specification

34-ST-03-148, February 2022

Introduction

The Honeywell RMA801 is a DE or analog remote indicator suitable for use with any DE transmitter or a transmitter operating in analog, 4-20 mA mode. The RM801 is part to the RMA 800 family and delivers the ability to locate a remote indicator away from a SmartLine transmitter. In this specific instance, the RMA801 is the remote display offering that supports Honeywell's DE protocol and thus it connects to the SmartLine family of transmitters when using DE protocol. Besides supporting DE protocol, the RMA801 is also capable of operating in analog only mode allowing it to connect to any transmitter with a 4-20 mA output including HART protocol transmitters.

Best in Class Features:

- RMA auto-configuration when connected to DE protocol transmitters
- Modular design hardware
- Dual compartment housing separating sensitive electronics from termination wiring
- Standard and custom measurement units available
- Integrated two configuration buttons
- Simple, easy to use interface
- Remote indicator diagnostic displays
- Reverse wiring polarity protection
- Functions as a second, remotely-located display for ease of view

Integral Keypad

The RMA801 features a built-in 2-button keypad on display, permitting display set-up and operation, including:

- RMA configuration for LRV, URV and engineering unit
- RMA calibration
- Display appearance (contrast setting)

Figure 1–RMA801 Remote Indicator

Display Characteristics

The RMA801 Remote Indicator features the following:

- 360º rotation in 90º Increments
- 2 lines, 8 characters
- Diagnostic messaging
- Custom units of measurement
- Standard units of measurement:

Temperature	°C, °F, °R, K, mV, Ohm
Pressure	inH2O@39ºF, mH2O@4ºC, cmH2O@4ºC, Torr, mmH2O@68ºF, ftH2O@68ºF, inH2O@68ºF, inH2O@60ºF, atm, Pa, kPa, MPa, gf/cm2, kgf/cm2, psi, mbar, bar, inHg@0ºC, mmHg@0ºC, mmH2O@4ºC.
Flow	ft3/sec, gal/min, gal/hr, liter/min, liter/hr, m3/sec, m3/hr, Pounds per sec(lbm/sec), Pounds per min (lbm/min), Pounds per hr(lbm/hr), kg/sec, kg/hr, Standard Cubic Feet per min (SFt3/m), Standard Cubic Feet per hr (SFt3/h), Standard Cubic Feet per Day (SFt3/d), Metric Standard Cubic Feet per Hour(MSCFH), Normal Cubic meter per hr(NM3/h), Million Standard Cubic Feet per Day (MMSCFD), Million Standard Cubic Feet per Hour (MMSCFH)
Level	ft, in, m, cm, mm, %

Display Screens & Diagnostics

Similar to all other SmartLine products, the display rotation and contrast settings are user configurable.

The RMA801 remote indicator can rotate the display in 90 deg and cover 360 deg manually

Diagnostic messages

BAD-Tx
Transmitter critical diagnostic condition present

BAD-RMA
RMA diagnostics present

RMA DG
RMA Diagnostics

Figure 2: Standard Display screens

Specifications

Operating Conditions						
Parameter	**Reference Condition**		**Operative Limits**		**Transportation and Storage**	
	°C	°F	°C	°F	°C	°F
Ambient Temperature	25±1	77±2	-40 to 70*	-40 to 158	-30 to 80	-22 to 175
Humidity (%RH)	10 to 55		0 to 100		0 to 100	

Note: LCD display operating temperature is –20 to 70°C. At temperatures beyond this operating limit, display may not be readable but loop will remain intact.

Physical/Functional Specifications	
Parameter	**Description**
Input Signal	4-20 mA DC
Max Voltage drop	2.3V @ 21.5mA
Drop under Failure conditions	5.6V
Min loop operating current	3.6mA
Vibration:	IEC 60770-1 field or pipeline, vibration (10-2000 Hz: 0.21mm displacement / 3g max acceleration)
Electromagnetic Compatibility	IEC 61326-3-1
Electronic Housing	Pure Polyester Powder Coated Low Copper (<0.4%) Aluminum. Meets NEMA 4X, IP66, IP67 and NEMA 7 (explosion proof). All stainless steel housing is optional. Cover o-ring material: Silicone
Wiring	Accepts up to 16 AWG (1.5 mm diameter).
Mounting Bracket	Carbon Steel (zinc-chromate plated) or 316 Stainless Steel. Suitable for wall or 2” (50mm) vertical or horizontal pipe mounting.
Electrical Connections	½”-14 NPT or M20
Dimensions	See Figure 3 and Figure 5
Net Weight	2.5 lbs (1,1 kg) with aluminum housing

Performance	
Parameter	**Description**
Accuracy: • Analog 4-20 mA Mode • Temperature Effect • DE	 +/- 0.1% of Span under standard conditions +/- 0.01 % of Span under standard conditions Same as transmitter*
Display	Digital Readout: 7 digits,
Display Resolution	0.01 unit for reading range (-999 to 999) 0.1 unit for reading range (-9999 to -1000) or (1000 unit to 9999). 1 unit for reading range (-99999 to -10000) or (10000 to 99999). 10 units for reading range (-999999 to -100000) or (100000 to 999999).

*Reproduces the transmitter signal exactly to within its resolution

Mounting & Dimensional Drawings

Reference Dimensions: millimeters / inches

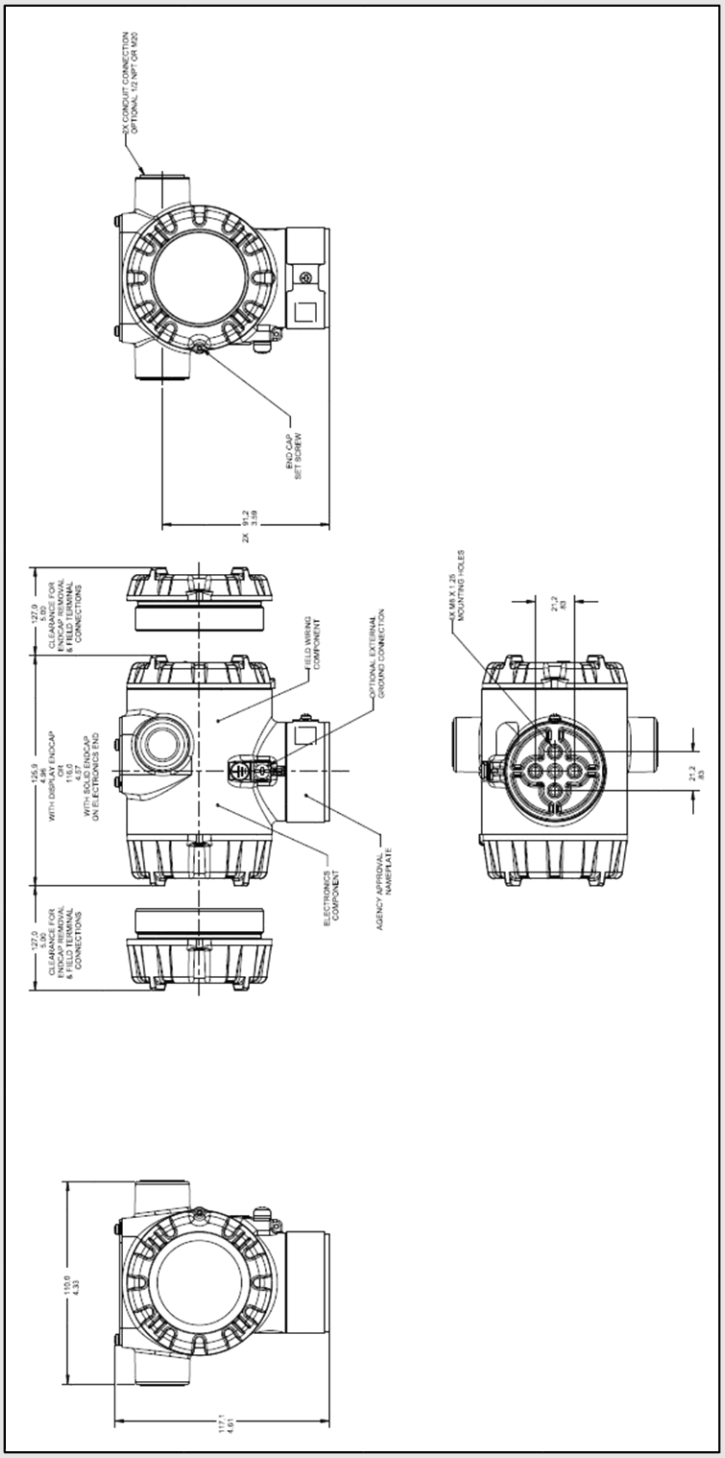

Figure 3 – RMA Dimensions

Mounting & Dimensional Drawings

TRANSMITTER ENCLOSURE CAN BE ROTATED A TOTAL OF 90^{O} FROM THE STANDARD MOUNTING POSITION

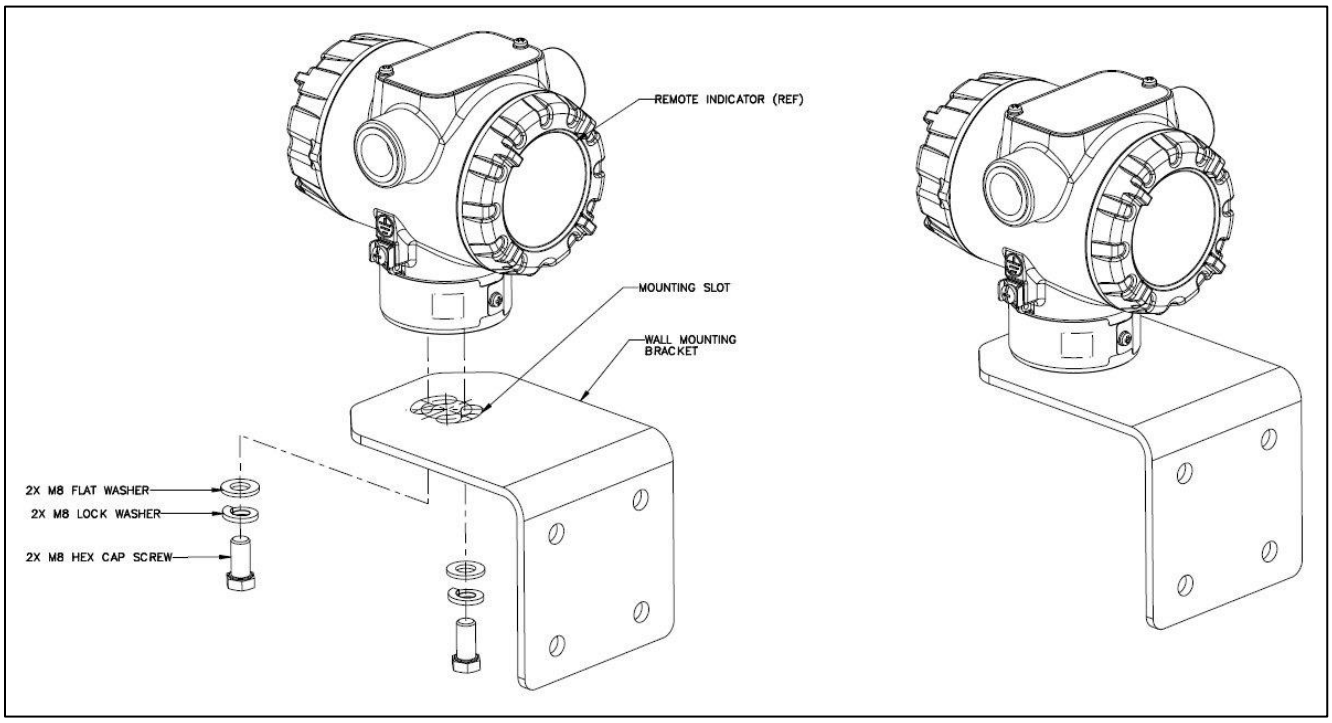

Figure 4 - Wall Mounting

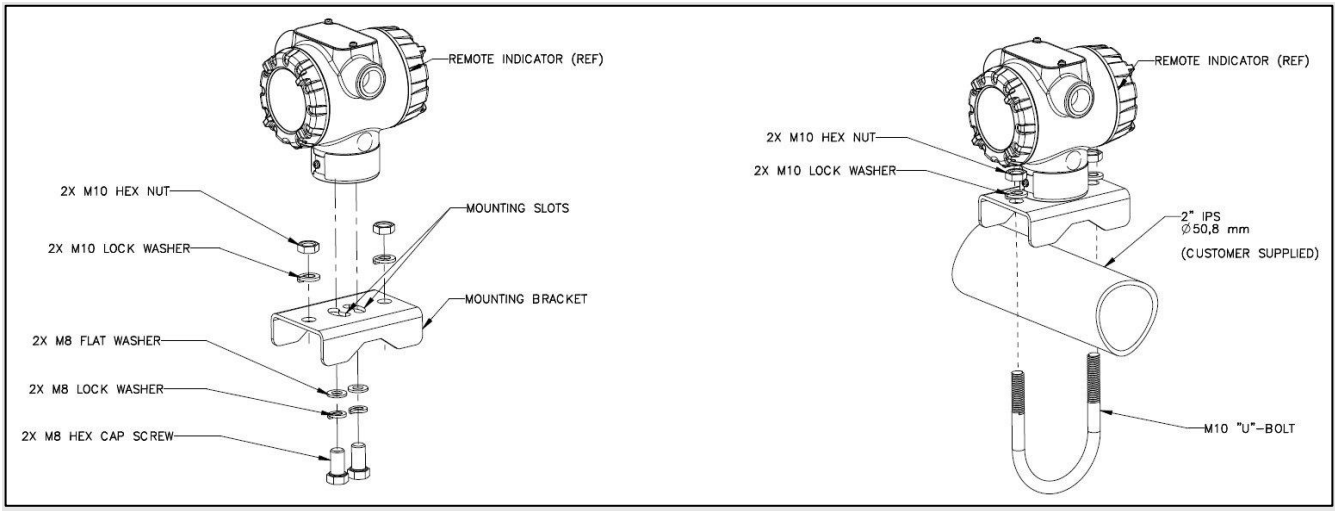

Figure 5 – Pipe Mount, Horizontal & Vertical

Mounting & Dimensional Drawings

TRANSMITTER ENCLOSURE CAN BE ROTATED A TOTAL OF 90^{O} FROM THE STANDARD MOUNTING POSITION

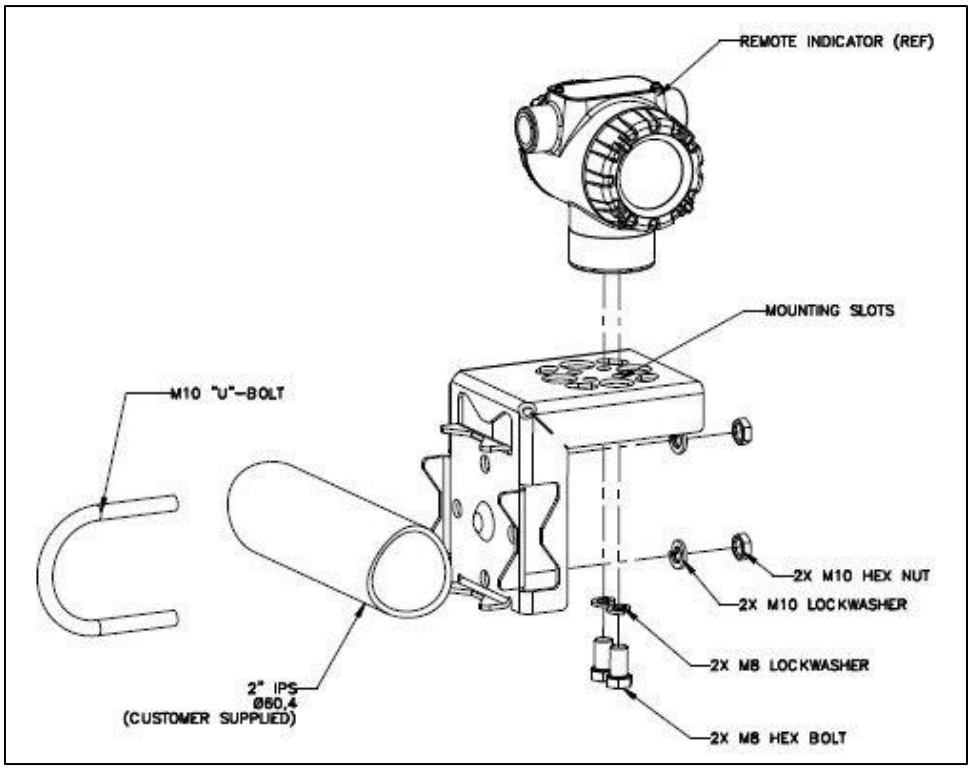

Figure 6: Pipe Mount - Horizontal Mounting Bracket

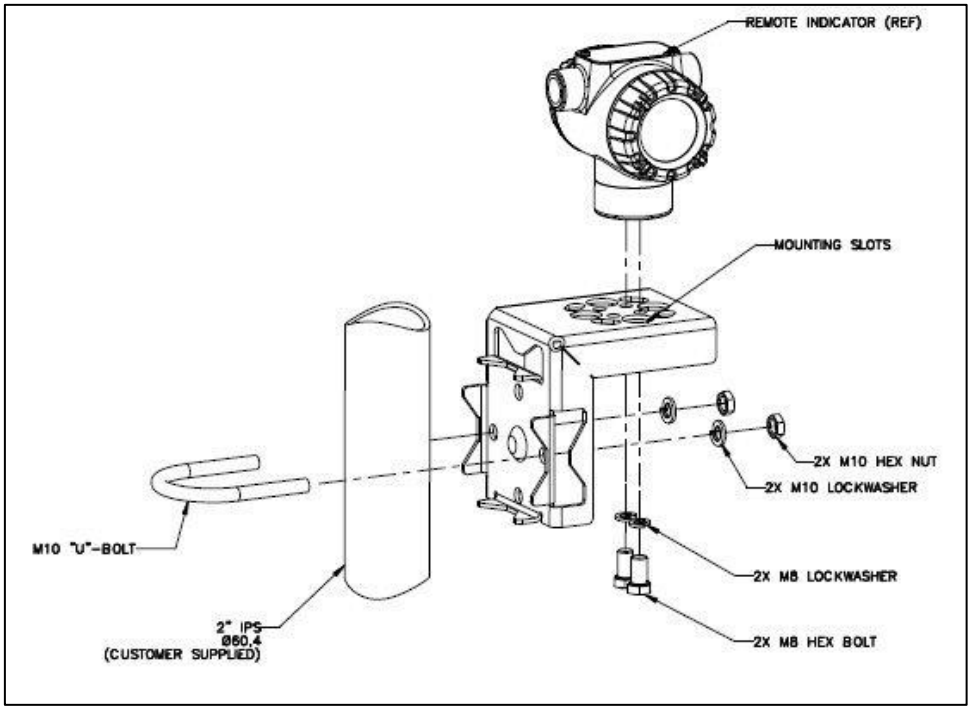

Figure 7: Pipe Mount - Vertical Mounting Bracket

Approval Certifications:

MSG CODE	AGENCY	TYPE OF PROTECTION	Electrical Parameters	Ambient Temperature
C	ATEX	**Flame-proof and Dust:** II 2 G Ex db IIC T6..T5 Gb II 2 D Ex tb IIIC T 95°C Db	Note 1	T6: -20°C to 65°C T95°C, T5: -20°C to 85°C
		Intrinsically Safe: II 1 G Ex ia IIC T4 Ga II 3 G Ex ic IIC T4 Gc	Note 2	-20°C to 70°C
		Non-Incendive II 3 G Ex ec IIC T4 Gc	Note 1	-20°C to 85°C
		Enclosure: Type IP66/ IP67	ALL	ALL
		STANDARDS: EN 60079-0: 2012+A11: 2013; EN 60079-1: 2014; EN 60079-11: 2012; EN 60079-31: 2014; EN 60079-7: 2015;		
D	IECEx	**Flame-proof:** Ex db IIC T6..T5 Gb Ex tb IIIC T 95°C Db	Note 1	T6: -20°C to 65°C T95°C, T5: -20°C to 85°C
		Intrinsically Safe: Ex ia IIC T4 Ga Ex ic IIC T4 Gc	Note 2	-20°C to 70°C
		Non-Incendive Ex ec IIC T4 Gc	Note 1	-20°C to 70°C
		Enclosure: IP66/ IP67	ALL	ALL
		STANDARDS: IEC 60079-0: 2011; IEC 60079-1: 2014; IEC 60079-11: 2011; IEC 60079-7: 2015; IEC 60079-31: 2014		
E	SAEx	**Flame-proof:** Ex db IIC T6..T5 Gb Ex tb IIIC T 95°C Db	Note 1	T6: -20°C to 65°C T95°C, T5: -20°C to 85°C
		Intrinsically Safe: Ex ia IIC T4 Ga Ex ic IIC T4 Gc	Note 2	-20°C to 70°C
		Non-Incendive Ex ec IIC T4 Gc	Note 1	--20°C to 85°C
		Enclosure: IP66/ IP67	ALL	ALL
		STANDARDS: IEC 60079-0: 2011; IEC 60079-1: 2014; IEC 60079-11: 2011; IEC 60079-7: 2006; IEC 60079-31: 2013		
F	INMETRO	**Flame-proof:** Ex db IIC T6..T5 Gb Ex tb IIIC T 95°C Db	Note 1	T6: -20°C to 65°C T95°C, T5: -20°C to 85°C
		Intrinsically Safe: Ex ia IIC T4 Ga Ex ic IIC T4 Gc	Note 2	-20°C to 70°C
		Non-Incendive Ex ec IIC T4 Gc	Note 1	--20°C to 85°C
		Enclosure: IP66/ IP67	ALL	ALL
		STANDARDS: ABNT NBR IEC 60079-0: 2013; ABNT NBR IEC 60079-1: 2016; ABNT NBR IEC 60079-11: 2013; ABNT NBR IEC 60079-7: 2018; ABNT NBR IEC 60079-31: 2014		

MSG CODE	AGENCY	TYPE OF PROTECTION	Electrical Parameters	Ambient Temperature
G	NEPSI	**Flame-proof:** Ex d IIC T6/T5 Gb Ex tD A21 IP66/67 T95°C	Note 1	T6: -20°C to 65°C T95°C, T5: -20°C to 85°C
		Intrinsically Safe: Ex ia IIC T4 Ga Ex ic IIC T4 Gc	Note 2	-20°C to 70°C
		Non-Incendive Ex nA IIC T4 Gc	Note 1	--20°C to 85°C
		Enclosure: IP66/ IP67	ALL	ALL
		STANDARDS: GB 3836.1-2010; GB 3836.2-2010; GB 3836.4-2014; GB 3836.19-2010; GB 3836.20-2010; GB 12476.1-2013; GB 12476.5-2013		
P	CCoE/ PESO	**Flame-proof:** Ex db IIC T6..T5 Gb	Note 1	T6: -20°C to 65°C T5: -20°C to 85°C
		Intrinsically Safe: Ex ia IIC T4 Ga	Note 2	-20°C to 70°C
		Enclosure: IP66/ IP67	ALL	ALL
		STANDARDS: IEC 60079-0: 2011; IEC 60079-1: 2014; IEC 60079-11: 2011; IEC 60079-7: 2006; IEC 60079-31: 2013		
K	cCSAus	**Explosion proof:** Class I, Division 1, Groups A, B, C, D;T6..T4 **Dust Ignition Proof:** Class II, III, Division 1, Groups E, F, G; T4 Class I Zone 1 Ex db IIC T4 Gb Ex db IIC T4 Gb Zone 21 Ex tb IIIC T 95°C Db Ex tb IIIC T 95°C Db	Note 1	T6: -50ºC to +65ºC T4, T5: -50 ºC to 85ºC
		Intrinsically Safe: CSA 14.2689056 Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T4 Ex ia IIC T4 Ga	Note 2	-50°C to 70°C
		Non-Incendive Class I, Division 2, Groups A, B, C, D; T4 Class I Zone 2 Ex nA IIC T4 Gc Ex nA IIC T4 Gc	Note 1	-50°C to 85°C
		Enclosure: Type 4X/ IP66/ IP67	ALL	ALL
		Standards: CSA C22.2 No. 0: 2015; CSA C22.2 No. 30: 2016; CSA C22.2 No. 94-M91; CSA C22.2 No. 25: 2017; CSA C22.2 No. 61010-1: 2017; CSA-C22.2No.157: 2016; C22.2 No. 213: 2017; C22.2 No. CSA 60079-0:2015; C22.2 No. 60079-1: 2016; C22.2 No. 60079-11: 2014; C22.2 No. 60079-15: 2016; C22.2 No. 60079-31: 2015; ANSI/ ISA12.12.01-2017; ANSI/ ISA 61010-1: 2016; ANSI/ UL 60079-0: 2013; ANSI/ UL 60079-1: 2015; ANSI/ UL 60079-11: 2014; ANSI/ UL 60079-15: 2013; ANSI/ UL 60079-31: 2015 ; FM 3600: 2011; FM 3615: 2006; FM Class 3616: 2011; ANSI/ UL 913: 2015; UL 916: 2015; ANSI/ UL 12.27.01: 2017; ANSI/UL 50E: 2015		

Notes

1. Operating Parameters:

Input : 4-20 mA ; 42VDC max, 30mA.

2. Intrinsically Safe Entity Parameters

For details see Control Drawing, 50089981.

Model Selection Guide

The Model Selection Guide is subject to change and is inserted into the specification as guidance only.

Model RMA800
Remote Indicator

Model Selection Guide
34-ST-16-90 Issue 14U

Instructions: Make selections from all Tables Key through VI using column below the proper arrow. Asterisk indicates availability. Letter (a) refer to restrictions highlighted in the restrictions table. Tables delimited with dashes.
List Price: Price equals the sum of prices for all selections made.

Key	I	II	III	IV	V	VI
RMA80_	- _	- _ _ _	- _ _	- _ _ _ _	- _ _, _ _,_ _	- 00000

List Price equals the sum of prices for all selections.

KEY NUMBER	BASE MODEL	Selection		
Remote Indicator	DE Protocol or Analog (4-20mA DC)	RMA801	↓	
	Foundation Fieldbus	RMA803		↓

TABLE I	AGENCY APPROVALS (see data sheet for Approval Code Details)			
Approvals	No Approvals Required	0	*	*
	FM Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	A		*
	CSA Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	B		*
	ATEX Explosion proof, Intrinsically Safe & Non-incendive	C	*	*
	IECEx Explosion proof, Intrinsically Safe & Non-incendive	D	*	*
	cCSAus Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof-Canada & US	K	*	
	SAEx/CCoE Explosion proof, Intrinsically Safe & Non-incendive	E	*	*
	INMETRO Explosion proof, Intrinsically Safe & Non-incendive	F	*	*
	NEPSI Explosion proof, Intrinsically Safe & Non-incendive	G	*	*
	KOSHA Explosion proof, Intrinsically Safe & Non-incendive	H	*	
	CCoE Explosion proof, Intrinsically Safe & Non-incendive	P		*

TABLE II	TRANSMITTER ELECTRONICS SELECTIONS					
a. Electronic Housing Material & Connection Type	Material	Connection	Lightning Protection	A _ _	*	*
	Polyester Powder Coated Aluminum	1/2 NPT	None	B _ _	*	*
	Polyester Powder Coated Aluminum	M20	None	C _ _		*
	Polyester Powder Coated Aluminum	1/2 NPT	Yes	D _ _		*
	Polyester Powder Coated Aluminum	M20	Yes	E _ _	*	*
	316 Stainless Steel (Grade CF8M)	1/2 NPT	None	F _ _	*	*
	316 Stainless Steel (Grade CF8M)	M20	None	G _ _		*
	316 Stainless Steel (Grade CF8M)	1/2 NPT	Yes	H _ _		*
	316 Stainless Steel (Grade CF8M)	M20	Yes			
b. Protocol Compatibility	Communications Protocol					
	DE protocol or Analog (4-20mA DC)			_ D _	*	
	Foundation Fieldbus Enabled			_ F _		*
c. Customer Interface Selections	Display	External Config Buttons	Languages			
	Standard	None (Integrated on Display)	English	_ _ A	*	
	Advanced	None	EN, GE, FR, IT, SP, RU, TU	_ _ D		*
	Advanced	External	EN, GE, FR, IT,SP, RU, TU	_ _ E		*
	Advanced	None	EN, CH, JP	_ _ H		*
	Advanced	External	EN, CH, JP	_ _ J		*

TABLE III	CONFIGURATION SELECTIONS				
a. Application Software	Application Software		1 _	*	*
	Standard Software		2 _		*
	Additional Function Blocks (Fieldbus Only: Adds PID, Char, Arith, Selector & Integ blocks)				
b. Configuration	Factory Configuration	Write Protection	_S	*	*
	Factory Standard	Disabled	_T	*	
	Factory Standard	Enabled			

TABLE IV	ACCESSORY SELECTIONS		RMA803 / RMA801		
	Bracket Type	Material			
a. Mounting Bracket	None	None	0 _ _ _	*	*
	Flat Pipe Mounting Bracket	Carbon Steel	1 _ _ _	*	*
	Flat Pipe Mounting Bracket	316 Stainless Steel	2 _ _ _	*	*
	Wall Mounting Bracket	Carbon Steel	3 _ _ _	*	*
	Wall Mounting Bracket	316 Stainless Steel	4 _ _ _	*	*
	Marine Approved Mounting Bracket	316 Stainless Steel	5 _ _ _	*	*
	Angle Pipe Mounting Bracket	Carbon Steel	6 _ _ _	*	*
	Angle Pipe Mounting Bracket	316 Stainless Steel	7 _ _ _	*	*
b. Customer Tag	Customer Tag Type				
	No customer tag		_ 0 _ _	*	*
	One Wired Stainless Steel Tag (Up to 4 lines 26 char/line)		_ 1 _ _	*	*
	Two Wired Stainless Steel Tag (Up to 4 lines 26 char/line)		_ 2 _ _	*	*
c. Unassembled Conduit Plugs & Adapters	Unassembled Conduit Plugs & Adapters				
	No Conduit Plugs or Adapters Required		_ _ A0	*	*
	1/2 NPT Male to 3/4 NPT Female 316 SS Certified Conduit Adapter		_ _ A2	n	n
	1/2 NPT 316 SS Certified Conduit Plug		_ _ A6	n	n
	M20 316 SS Certified Conduit Plug		_ _ A7	m	m

TABLE V	OTHER Certifications & Options:(String in sequence comma delimited (XX, XX, XX,..)				
a. Additional Options	None - No additional options required		00	*	*
	Marine (LR Only)		MT		d
	Certificate of Conformance		F3	*	*
	Certificate of Origin		F5	*	*
	Extended Warranty Additional 1 year		01	*	*
	Extended Warranty Additional 2 years		02	*	*
	Extended Warranty Additional 3 years		03	*	*
	Extended Warranty Additional 4 years		04	*	*
	Extended Warranty Additional 15 years		15	*	*

b

TABLE VI	MANUFACTURING SPECIALS			
Factory	Factory Identification	0000	*	*

MODEL RESTRICTIONS

Restriction Letter	Available Only with		Not Available with	
	Table	Selection(s)	Table	Selection(s)
d	IIa	C, D, G, H _ _	IVa	1,2,3,4,6,7 _ _ _
m	IIa	B, D, F, H _ _		
n	IIa	A, C, E, G _ _		
b	Select only one option from this group			

PRODUCT MANUALS

Description	Part Number
RMA801 Remote Meter Assembly HART / DE manual - English	34-ST-25-62
RMA803 Remote Meter Assembly Foundation Fieldbus manual - English	34-ST-25-51

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC

Honeywell Process Solutions,
(TAC) **hfs-tac-support@honeywell.com**

Australia
Honeywell Limited
Phone: +(61) 7-3846 1255
FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36
Toll Free Fax:
1300-36-04-70

China – PRC - Shanghai
Honeywell China Inc.
Phone: (86-21) 5257-4568
Fax: (86-21) 6237-2826

Singapore
Honeywell Pte Ltd.
Phone: +(65) 6580 3278
Fax: +(65) 6445-3033

South Korea
Honeywell Korea Co Ltd
Phone: +(822) 799 6114
Fax: +(822) 792 9015

EMEA

Honeywell Process Solutions,
Phone: (TAC) + 80012026455 or
+44 1202645583

Email: (Sales)
FP-Sales-Apps@Honeywell.com
or
(TAC)
hfs-tac-support@honeywell.com

Web

Knowledge Base search
engine http://bit.ly/2N5Vldi

AMERICA'S

Honeywell Process Solutions,
Phone: (TAC) 1-800-423-9883 or
215/641-3610
(Sales) 1-800-343-0228

Email: (Sales)
FP-Sales-Apps@Honeywell.com
or
(TAC)
hfs-tac-support@honeywell.com

Web

Knowledge Base search
engine http://bit.ly/2N5Vldi

Specifications are subject to change without notice.

For more information
To learn more about SmartLine devices,
visit **https://process.honeywell.com/**

Or contact your Honeywell Account Manager

Process Solutions
Honeywell
1250 W Sam Houston Pkwy S
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House, Skimped Hill Lane
Bracknell, England, RG12 1EB

Shanghai City Centre, 100 Jungi Road
Shanghai, China 20061

https://process.honeywell.com/

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