

RMA 3000 Remote Meter Assemblies Specifications

34-ST-03-81, July 2017



Introduction

Overview

The Remote Meter Assembly RMA 3000 functions as an output and status indicator for a compatible Honeywell Smartline transmitter or as an output indicator for a non-Honeywell transmitter operating in a 4-20mA current loop. The RMA 3000 is a convenient method to mount the meter (display) separately from the transmitter, thus it consists of a meter mounted in an aluminum explosion-proof housing in several protective paint styles available.

Two meter types are available for mounting in the RMA 3000 housing:

- the **Analog Meter** (RMA300-ME), and
- the **Engineering Unit Display Meter** (RMA300-EU)

The **Analog Meter ME** is used with analog output transmitters to give % output using a needle-type meter movement.

The **Engineering Units Meter EU** provides digital display of temperature, pressure, level, flow, or other measurements in engineering units. This meter provides a universal solution for 4-20mA measurement displays by converting any 4-20mA signal into an LCD digital display in the preferred engineering units.

The EU Display Meter is available for remote-mount field use or can be integrally mounted with the STT250 temperature transmitter models STT25M (4-20mA only output), STT25H or STT25S (HART protocol output versions).

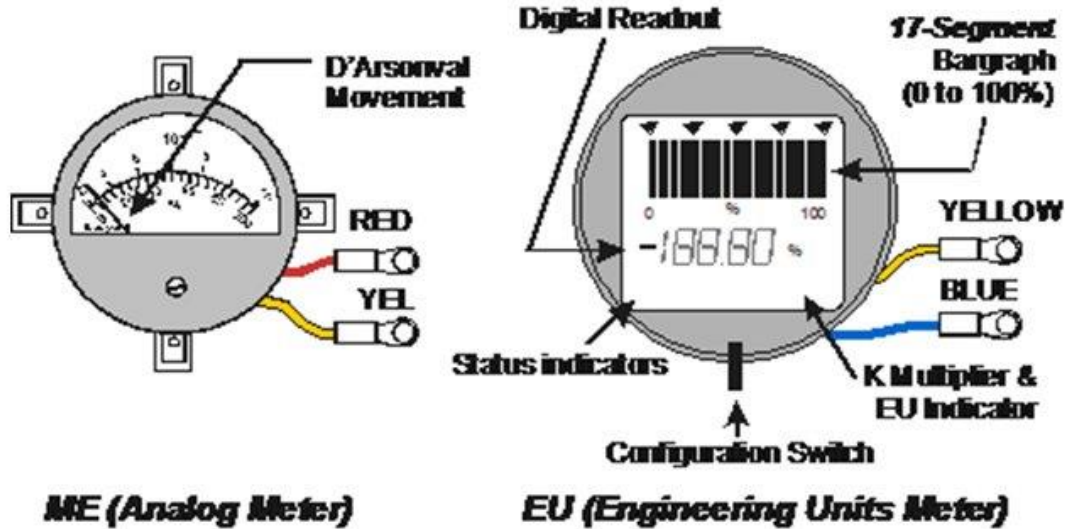


ME



EU

Highlights of Meter Features



Features and Functions

RMA300 - ME

Function - The ME is an analog device that functions as an output indicator for any transmitter that operates in the 4-20 mA current mode.

Application - The ME can be used as a Remote Meter Assembly component with any one of the Smartline transmitters operating in the analog (4 to 20 mA) mode.

Electrical Characteristics – The ME is an electromechanical device of the D'Arsonval type. That is, the current passing through a coil in the meter is used to deflect a needle to indicate the magnitude of the current, where a current of 4-20 mA represents 0% to 100%.

RMA300 - EU

The EU Display Meter is connected in series with the 4-20mA loop and is powered by the loop power. It operates by processing the 4-20mA signal via an analog-to-digital converter and scaling the digital measurement linearly into the desired operating range, which the user configures into the meter. The LCD display includes a selection of integral engineering units for temperature and pressure applications (for example - °C, °F, in H₂O, psi, etc. and a "K" multiplier that can be included when larger ranges require it).

The EU Display Meter also includes a bar-graph display of measured signal as a percentage of the 16mA signal span. This enables confirmation from some distance away that the measurement loop is operating satisfactorily or that attention is required. The meter is configured by an integral selection switch, which enables setting the Low (4mA) and High (20mA) display range limits.

HART™ is a trademark of the HART Communication Foundation.

RMA300ME Specifications

Operating Conditions		
Parameter	Rated	Extreme, Transportation and Storage
Ambient Temperature	-40 to +176 °F -40 to +80 °C	-58 to +194 °F -50 to +90 °C
Relative Humidity	0 – 100%	0 – 100%
Design		
Display Resolution	± 1% reading	

RMA300EU Specifications

Operating Conditions		
Parameter	Rated	Extreme, Transportation and Storage
Ambient Temperature	-40 to +185 °F -40 to +85 °C	-58 to +194 °F -50 to +90 °C
Relative Humidity	10 – 90%, non condensing	0 – 100%
Design		
Digital Display Accuracy	± 0.5% of span	
Digital Display Resolution	± 0.05% for ± 199.9 reading range, ± 0.5% for ± 1999 reading range, ± 5% for ± 19990 reading range ± 50% for ± 199900 reading range ± 500% for ± 1999000 reading range ± 5000% for ± 19990000 reading range	<i>Shown as:</i> 199.9 1999 19990 199.9 K 1999 K 19990 K
Bargraph % Display Resolution	± 3% of reading on 17-segment scale	
Power Supply Volts drop across meter	2.3 VDC with reverse polarity protection.	
Connection Polarity	Yellow = Positive (+ve); Blue = Negative (-ve)	
Minimum Loop Current	3.6 mA	
Available Engineering Units Integral LCD indicator As stick on label	°F, °C, %, in H ₂ O, GPH, GPM, mmHg, PSI, PSIA Wide selection of printed units for temperature, pressure, and flow.	

All Displays





Certification Conditions	
Installation	Ambient Limits
Explosionproof/Flameproof	-4°F to +149°F -20°C to +65°C
Intrinsically Safe	-40°F to +140°F -40°C to +60°C

Enclosure Specifications

Material of Construction	Aluminum (SS available)
Number of Conduit Openings	Two ½" NPT openings
Available Adapters	½ NPT to M-20 316SS conduit adapter ½ NPT to ¾ NPT 316SS conduit adapter
Paint	Beige or Red Epoxy

Approval and Certification

Model Selection Guide, Table III

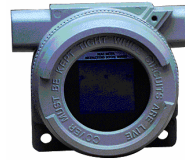
Approval Body	Approval Type	Location or Classification
None	None	
Factory Mutual	Explosionproof, Dust Ignitionproof, Non-Incendive	Class I, Div. 1, Groups A, B, C, D; Class II, III, Div. 1, Groups E, F, G; Class I, Div. 2, Groups A, B, C, D (DM, ME & SM, T4 at 40°C)
	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G; (ME T4 at 40°C)
	Enclosure: Type 4X	
CSA	Explosion Proof & Dust Ignition Proof	Class I, Div. 1, Groups B, C, D; Class II, III, Div. 1, Groups E, F, G (ME T4 at 93°C; EU, T4 at 60°C)
	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G; (ME T4 at 93°C; EU, T4 at 60°C)
	Enclosure: Type 4X	
ATEX *	Intrinsically Safe	 LCIE 02ATEX 6178X II 1 GD (Table II= TG or TB); II 2 GD (Table II= XC or XR); Ex ia IIC T5 (Ta= -40° to 60°C) Ex tD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)
	Flameproof	 LCIE 02ATEX6177X II 2 GD Ex d IIC T6(Ta= -40 °C to 65 °C) or T5 (Ta= -40 °C to 85 °C) Ex tD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)
	Non Sparking	 HON 02.202 II 3 GD Ex nA IIC T6 (Ta= -40 °C to 65 °C) or T5 (Ta= -40 °C to 85 °C) Ex tD A22 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)
	Multiple Marking ** Intrinsically Safe, Flameproof and Non Sparking	 LCIE 02ATEX 6178X II 1 GD (Table II= TG or TB); II 2 GD (Table II= XC or XR); Ex ia IIC T5 (Ta= -40° to 60°C) Ex tD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C) LCIE 02ATEX6177X II 2 GD Ex d IIC T6(Ta= -40 °C to 65 °C) or T5 (Ta= -40 °C to 85 °C) Ex tD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C) HON 02.202 II 3 GD Ex nA IIC T6, -40 ≤ Ta ≤ 65°C Ex tD A22 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)
IECEX	Intrinsically Safe And Flameproof	Ex ia IIC T4 (Ta = -40°C to +85°C), T5 (Ta = -20°C to +60°C) Ex d IIC T6 (Ta = -20°C to +65°C), T5 (Ta = -40°C to +85°C)
SAEx	Intrinsically Safe And Flameproof	Ex ia IIC T4 (Ta = -40°C to +85°C), T5 (Ta = -20°C to +60°C) Ex d IIC T6 (Ta = -20°C to +65°C), T5 (Ta = -40°C to +85°C)

* See ATEX Installation requirements in the Operator manual

Model Selection Guides are subject to change and are inserted into the specifications as guidance only. Prior to specifying or ordering a model check for the latest revision Model Selection Guides which are published at: <https://www.honeywellprocess.com/en-US/pages/default.aspx>

Model Selection Guide

RMA 3000 Remote Meter Assemblies



Model Selection Guide
34-ST-16-46 Issue 37

Instructions

- Select the desired key number. The arrow to the right marks the selection available.
- Make one selection from Table I. Select Table II options as desired.

Key Number	I	II (Optional)	III
RMA300	-	-	-

KEY NUMBER	Description	Selection	Availability
	Remote Meter	RMA300	↓

TABLE I - METER TYPE

EU Meter	EU	•
Analog Meter	ME	•

EU



ME



TABLE II - OPTIONS

No Selection		00	•	
Meter Housing Options				
Stainless Steel Customer wired-on Tag (4 lines, 28 characters per line, customer supplied information)		TG	•	b
Stainless Steel Customer wired-on Tag (blank)		TB	•	
Mounting Bracket - Carbon Steel		MB	•	b
Mounting Bracket - SS		SB	•	
1/2" NPT to M20 316 SS Conduit Adapter (BASEEFA EEx d IIC)		A1	g	b
1/2" NPT to 3/4" NPT 316 SS Conduit Adapter		A2	h	
Wiring Entry Plugs	No Conduit Entry plugs supplied For conduit plugs, adapters and cable glands see the "Supplemental Accessories and Kits" section below this table			
Beige Epoxy Painted Housing		XC	•	b
Red Epoxy Painted Housing		XR	•	
End Cap Live Circuit Warning Label in Spanish		SP	a	b
End Cap Live Circuit Warning Label in Portuguese		PG	a	
End Cap Live Circuit Warning Label in Italian		TL	a	
End Cap Live Circuit Warning Label in German		GE	a	
Warranty Options and Certificates				
User's Manual Paper Copy		UM	•	
Certificate of Conformance (F2474)		F3	•	
Additional Warranty - 1 Year		W1	•	b
Additional Warranty - 2 Years		W2	•	
Additional Warranty - 3 Years		W3	•	
Additional Warranty - 4 Years		W4	•	


Supplemental Accessories and Kits

Conduit Plugs and Adapters may be ordered separately (*Meter Assemblies come with plastic dust plugs as standard*)

Description	Material of Construction	Part Number
Certified conduit plugs for CSA, ATEX and IECEx		
1/2 NPT Certified Socket Plug	Zinc-plated Carbon Steel	50021832-501
1/2 NPT Certified Socket Plug	316 SS	50021832-502
Certified adapters for CSA, ATEX and IECEx		
1/2 NPT (<i>male</i>) to 3/4 NPT (<i>female</i>)	316 SS	50000682-501
1/2 NPT (<i>male</i>) to M20 (<i>female</i>)	316 SS	51202409-501
Certified cable glands for UL and cUL		
1/2 NPT	Brass Nickel plated	50023212-501


** Consult Honeywell Order Entry System for current parts pricing

TABLE III - APPROVALS

TABLE III - APPROVALS			RMA300	Availability
Approval Body	Approval Type	Location or Classification	Selection	↓
None	None		9X	•
Factory Mutual	Explosionproof, Dust Ignitionproof, Non-Incendive	Class I, Div. 1, Groups A, B, C, D; Class II, III, Div. 1, Groups E, F, G; T4 at 40°C	1C	•
		Class I, Div. 2, Groups A, B, C, D		
	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G; T4 at 40°C		
	Enclosure Rating	Type 4X		
CSA	Explosion Proof & Dust Ignition Proof	Class I, Div. 1, Groups B, C, D; Class II, III, Div. 1, Groups E, F, G (ME, T4 at 93°C; EU, T4 at 60°C)	2J	•
		Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G; (ME, T4 at 93°C; EU, T4 at 60°C)		
	Enclosure Rating	Type 4X		
ATFX* 	Intrinsically Safe Zone 0/1 / Zone 20/21	II 1 GD (Table II = TG or TB); II 2 GD (Table II = XC or XR) Ex ia IIC T5 (Ta = -20°C to +60°C), ExtD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)	3U	•
		II 2 GD Exd IIC T5 (Ta = -40°C to +85°C) T6 (Ta = -40°C to +65°C) ExtD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C) Enclosure IP66/67	33	•
	Non-Sparking Zone 2 / Zone 22	II 3 GD Ex nA, IIC T5 (Ta = -40°C to +85°C) T6 (Ta = -20°C to +65°C) ExtD A22 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C)	3Y	•

(continued on next page)

Model Selection Guide

ATEX* 	Multiple Marking ** Int. Safe, Zone 0/1, or Flameproof, Zone 1, or Non-Sparking Zone 2	II 1 GD (Table II TG or TB) II 2 GD (Table II= XC or XR) Ex ia IIC T5 (Ta= -40° to 60°C) II 2 GD Ex d IIC T6 (Ta= -40 °C to 65 °C) or T5 (Ta = -40°C to +85°C) Ex tD A21 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C) II 3 GD Ex nA IIC T6 (Ta = -20°C to +65°C) or T5 (Honeywell) T5 (Ta = -40°C to +85°C) Ex tD A22 IP6X T95°C (at Ta = 85°C) or T80°C (at Ta = 65°C) Enclosure IP66/67	3C	•
	Flameproof, Zone 1 <hr/> Intrinsically safe, Zone 0/1	Ex d IIC T6 (Ta = -20°C to +65°C), T5 (Ta = -40°C to +85°C) Enclosure IP66/67 <hr/> Ex ia IIC T4 (Ta = -40°C to +85°C), T5 (Ta = -20°C to +60°C)	CA	•
SAEx	Flameproof, Zone 1 <hr/> Intrinsically safe, Zone 0/1	Ex d IIC T6 (Ta = -20°C to +65°C), T5 (Ta = -40°C to +85°C) Enclosure IP66/67 <hr/> Ex ia IIC T4 (Ta = -40°C to +85°C), T5 (Ta = -20°C to +60°C)	ZA	•

* See ATEX installation requirements in the Operator's Manual

**The user must determine the type of protection required for installation of the equipment. The user shall then check the box [✓] adjacent to the type of protection used on the equipment certification nameplate. Once a type of protection has been checked on the nameplate, subsequently the equipment shall not be reinstalled using any of the other certification types.

RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
a	III	3U,33,3Y,3C		
b	Select only one option from this group			
g	III	3U, 33, 3Y, 3C, CA, ZA		
h	III	1C, 2J		

Notes: See 13:ST-OE-9 for OMS Order Entry Information including TC, manuals, certificates, drawings and SPINS. See 13:ST-27 for Published Specials with pricing.

Ordering Example: RMA300-EU-MB,TG-2J

Sales and Service

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

ASIA PACIFIC

Honeywell Process Solutions,
Phone: + 800 12026455 or
+44 (0) 1202645583
(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: + 800 12026455 or
+44 (0) 1202645583

Email: (Sales)

FP-Sales-Apps@Honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

AMERICAS

Honeywell Process Solutions,
Phone: (TAC) (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

The information and specifications in this document are subject to change without notice

For more information

To learn more about RMA300 ,
visit www.honeywellprocess.com
Or contact your Honeywell Account Manager

Process Solutions

Honeywell
1250 W Sam Houston Pkwy S
Houston, USA, TX 77042

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

Shanghai City Centre, 100 Jungi Road
Shanghai, China 20061

www.honeywellprocess.com



34-ST-03-81

July 2017

©2017 Honeywell International Inc.