

RMA805 ENRAF FLEXLINE REMOTE INDICATOR

Technical Information

The RMA805 Enraf FlexLine Remote Indicator provides a means of remote-mounting a display that is associated with a Honeywell Enraf FlexLine Gauge.

The Remote Indicator can be located hundreds of meters away from the FlexLine Gauge providing easy access to data.

The Remote Indicator must be connected to the local HART compatible bus of the Enraf SmartRadar FlexLine 990 or the Enraf Smart Servo FlexLine 954.

The Remote Indicator can be used in hazardous or non-hazardous environments. When either the FlexLine Gauge or the Remote Indicator is used in a hazardous environment, the Remote Indicator must be configured as per local installation codes.

The display module fitting allows for rotation in 90-degree increments, allowing the Remote Indicator to be mounted in various orientations.

BEST IN CLASS FEATURES AND OPTIONS

- 0, 90, 180, & 270 degree viewing position adjustments
- Modular design characteristics
- Dual compartment housing
- Product level, temperature, operational status and alarm status on same screen
- Adjustable contrast and refresh indicator
- Configurable standby time



Figure 1: RMA805 Enraf FlexLine Remote Indicator

Honeywell

SPECIFICATIONS

PARAMETER		
Environmental		
Ambient Temperature	Deg. C	Deg. F
Rated	-40 to 85 °C	-40 to +185°F
Operative (display)	-20 to 70 °C	-4 to +158°F
Transportation/Storage	-50 to +100°C	-58 to +212°F

Humidity (% RH)	
Reference	10 – 55% RH
Rated	5 – 100% RH
Operative	5 – 100% RH
Transportation/Storage	5 – 100% RH

Design Specifications	
Electrical Compatibility	To be used with Honeywell Enraf FlexLine Gauges only. See note 1.
Functional Compatibility	To be used with Honeywell Enraf FlexLine Gauges only. See note 1.
Reverse Polarity Protection	Yes
Cable Length	1000 Meter. See note 2.
Display	
Display Resolution	Advanced graphical display
Display Update Rate	1 second
Display Performance	The LCD display may turn blank below -20 °C and above 70 °C (-4°F and 158°F). The display will again be readable when temperatures return to within operable limits.

Notes:

1. The Remote Indicator must be connected to the local HART compatible bus of the Enraf SmartRadar FlexLine or the Enraf SmartServo FlexLine 954.
2. Refer to HART Communication Foundation document number HCF_SPEC-54 (FSK Physical Layer Specification) for detailed length calculations.

MOUNTING AND DIMENSIONAL DRAWINGS

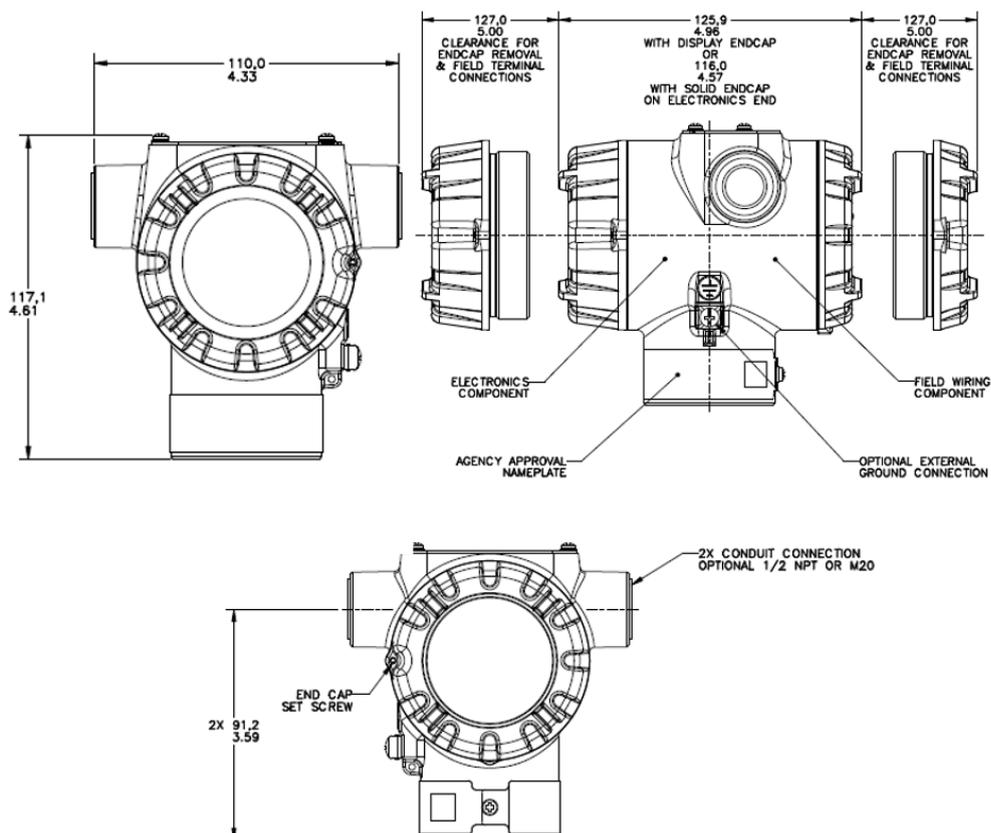


Figure 2: RMA805 Dimensions

APPROVAL CERTIFICATIONS

HAZARDOUS LOCATIONS 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 95oC Db	Note 1	T6: -50°C to 65°C T95°C, T5: -50°C to 85°C	
		Intrinsically Safe:  II 1 G Ex ia IIC T4 Ga	Note 2	-50°C to 70°C	
		Non-Incendive  II 3 G Ex ec IIC T4 Gc	Note 1	-50°C to 85°C	
		Enclosure: Type IP66/ IP67	ALL	ALL	
		STANDARDS: EN 60079-0: 2018; EN 60079-1: 2014; EN 60079-11: 2012; EN 60079-31: 2014; EN 60079-7: 2015/A1:2018			
D	IECEX	Flame-proof: Ex db IIC T6..T5 Gb Ex tb IIIC T 95oC Db	Note 1	T6: -50°C to 65°C T95°C, T5: -50°C to 85°C	
		Intrinsically Safe: Ex ia IIC T4 Ga	Note 2	-50°C to 70°C	
		Non-Incendive Ex ec IIC T4 Gc	Note 1	-50°C to 85°C	
		Enclosure: IP66/ IP67	ALL	ALL	
		STANDARDS: IEC 60079-0: 2017; IEC 60079-1: 2014; IEC 60079-11: 2011; IEC 60079-7: 2015/A1: 2018; IEC 60079-31: 2013			
G	NEPSI	Flame-proof: Ex d IIC Ga/Gb T4 Ex tb IIIC Db T 85°C	Note 1	-50 °C to 85°C	
		Intrinsically Safe: Ex ia IIC Ga T4	Note 2	-50 °C to 70°C	
		Nonincendive: Ex nA IIC Gc T4	Note 1	-50 °C to 85°C	
		Enclosure: IP 66/67	All	All	
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: -50 °C to 65°C T4 T5: -50 °C to 85°C	
		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: 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:

- Operating Parameters:
Voltage = 12 to 45 V Current = 25 mA
- Intrinsically Safe Entity Parameters
For details, see Control Drawing, 50089981.

MODEL SELECTION GUIDE

KEY NUMBER	BASE MODEL	SELECTION		
	Enraf FlexLine	RMA805	↓	
TABLE I	AGENCY APPROVALS (SEE DATA SHEET FOR APPROVAL CODE DETAILS)			
Approvals	ATEX Explosion proof, Intrinsically Safe & Non-incendive			
	IECEX Explosion proof, Intrinsically Safe & Non-incendive			
	NEPSI Explosion proof, Intrinsically Safe & Non-incendive			
TABLE II	TRANSMITTER ELECTRONICS SELECTIONS			
a. Electronic Housing Material & Connection Type	Material	Connection	Lightning Protection	
	Polyester Powder Coated Aluminum	1/2 NPT	None	
	Polyester Powder Coated Aluminum	M20	None	
	Polyester Powder Coated Aluminum	1/2 NPT	Yes	
	Polyester Powder Coated Aluminum	M20	Yes	
	316 Stainless Steel (Grade CF8M)	1/2 NPT	None	
	316 Stainless Steel (Grade CF8M)	M20	None	
	316 Stainless Steel (Grade CF8M)	1/2 NPT	Yes	
	316 Stainless Steel (Grade CF8M)	M20	Yes	
b. Protocol Compatibility	Communications Protocol			
	Enraf FlexLine Enabled			
c. Customer Interface Selections	Display	External Config Buttons	Languages	
	Advanced	External	English	
TABLE III	CONFIGURATION SELECTIONS			
a. Application Software	Application Software			
	Standard Software			
b. Configuration	Factory Configuration	Write Protection		
	Factory Standard	Disabled		
TABLE IV	ACCESSORY SELECTIONS			
a. Mounting Bracket	Bracket Type	Material		
	None	None		
	Flat Pipe Mounting Bracket	Carbon Steel		
	Flat Pipe Mounting Bracket	316 Stainless Steel		
	Wall Mounting Bracket	Carbon Steel		
	Wall Mounting Bracket	316 Stainless Steel		
	Marine Approved Mounting Bracket	316 Stainless Steel		
	Angle Pipe Mounting Bracket	Carbon Steel		
Angle Pipe Mounting Bracket	316 Stainless Steel			
b. Customer Tag	Customer Tag Type			
	No customer tag			
	One Wired Stainless Steel Tag (Up to 4 lines, 26 characters per line)			
	Two Wired Stainless Steel Tag (Up to 4 lines, 26 characters per line)			
c. Unassembled Conduit Plugs & Adapters	Unassembled Conduit Plugs & Adapters			
	No Conduit Plugs or Adapters Required			
	1/2 NPT Male to 3/4 NPT Female 316 SS Certified Conduit Adapter			
	1/2 NPT 316 SS Certified Conduit Plug			
	M20 316 SS Certified Conduit Plug			
TABLE V	OTHER Certifications & Options:(String in sequence comma delimited (XX, XX,..))			
Additional Options	None - No additional options required			
	Marine (LR only)			
	Calibration Test Report & Certificate of Conformance			
	Certificate of Conformance			
	Certificate of Origin			
	Extended Warranty Additional 1 year			
	Extended Warranty Additional 2 years			
	Extended Warranty Additional 3 years			
	Extended Warranty Additional 4 years			
	Extended Warranty Additional 15 years			
	TABLE VI	MANUFACTURING SPECIALS		
	Factory	Factory Identification		
		C	*	
		D	*	
		G	*	
		A__	*	
		B__	*	
		C__	*	
		D__	*	
		E__	*	
		F__	*	
		G__	*	
		H__	*	
		S	*	
		__S	*	
		1_	*	
		_S	*	
		0___	*	
		1___	*	
		2___	*	
		3___	*	
		4___	*	
		5___	*	
		6___	*	
		7___	*	
		_0__	*	
		_1__	*	
		_2__	*	
		__A0	*	
		__A2	n	
		__A6	n	
		__A7	m	
		00	*	
		MT		
		F1		
		F3	*	
		F5	*	
		01	b	
		02		
		03		
		04		
		15		
		0000	*	

MODEL RESTRICTIONS

RESTRICTION LETTER	AVAILABLE ONLY WITH		NOT AVAILABLE WITH	
	Table	Selection(s)	Table	Selection(s)
m	Ila	B, D, F, H, _		
n	Ila	A, C, E, G, _		
b	Select only one option from this group			

Control Drawing:

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PRE REL				
ISS	REVISION & DATE	APPD		
F	5/26/2020 ECN 2020-2672	OJM		

RMA 800 Series Remote Meter
Analog, DE Communications, Foundation Fieldbus and ENRAF FLEXLINE Communications

- Intrinsically safe installation shall be in accordance with:
 - FM (USA): ANSI/NFPA 70, NEC Articles 504 and 505.
 - CSA (Canada): Canadian Electrical Code (CEC), part I, section 18.
 - ATEX: Requirements of EN 60079-14, 12.3 (See also 5.2.4).
 - IECEX: Requirements of IEC 60079-14, 12.3 (See also 5.2.4).
- ENTITY approved equipment shall be installed in accordance with the manufacturer's Intrinsic Safety Control Drawing.
- The Intrinsic Safety ENTITY concept allows the interconnection of two ENTITY Approved Intrinsically safe devices with ENTITY parameters not specifically examined in combination as a system when:

$U_o, V_{oc}, \text{ or } V_t \leq U_i \text{ or } V_{max}; I_o, I_{sc}, \text{ or } I_t \leq I_i \text{ or } I_{max}; C_a \text{ or } C_o \geq C_i + C_{cable}, L_a \text{ or } L_o \geq L_i + L_{cable}, P_o \leq P_i$

Where two separate barrier channels are required, one dual-channel or two single-channel barriers may be used, where in either case, both channels have been Certified for use together with combined entity parameters that meet the above equations.
- System Entity Parameters:
 - RMA 800 Remote Meter: $V_{max} V_{oc}$ or U_o, I_{max} Isc or I_o
 - RMA 800 Remote Meter: $C_i + C_{cable} \leq C_{control} Apparatus C_a$
 - RMA 800 Remote Meter: $L_i + L_{cable} \leq C_{control} Apparatus L_a$
- When the electrical parameters of the cable are unknown, the following values may be used:
 - Capacitance: 17pF/m (60 pF/ft)
 - Inductance: 0.66µH/m (0.020µH/ft)
- Control equipment that is connected to Associated Equipment must not use or generate more than 250 V.
- Associated equipment must be FM, CSA ATEX or IECEx (depending on location) listed. Associated equipment may be installed in a Class I, Division 2 or Zone 2 Hazardous (Classified) location if so approved.
- Non-Galvanically isolated equipment (grounded Zener Barriers) must be connected to a suitable ground electrode per:
 - FM (USA): NFPA 70, Article 504 and 505. The resistance of the ground path must be less than 1.0 ohm.
 - CSA (Canada): Canadian Electrical Code (CEC), part I, section 10.
 - ATEX: Requirements of EN 60079-14, 12.2.4.
 - IECEX: Requirements of IEC 60079-14, 12.2.4.
- Intrinsically Safe DIVISION 2 / Zone 0 WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN HAZARDOUS LOCATIONS.
- Division 2 / Zone 2: WARNING: DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT.
- NO REVISION OF THIS CONTROL DRAWING IS PERMITTED WITHOUT AUTHORIZATION FROM THE AGENCIES LISTED.
- For release approvals see ECO-0103558.

DRAWN		<p style="text-align: center;">Honeywell</p> <p style="text-align: center;">CONTROL DRAWING RMA 800 SERIES REMOTE METER DIVISIONS 1 AND 2 / ZONE 0 AND 2</p> <p style="text-align: center;">A/A4 50089981</p> <p>SCALE: None USED ON SH. 1 OF 4</p>		
CHECKED				
DEV ENG				
MFG ENG				
QA ENG				
TOLERANCE UNLESS NOTED				
MASTER FILE TYPE: MS WORD				
ANGULAR DIMENSION				

RMA801, Analog/ DE Communications

ENTITY PARAMETERS "Ex ia" and Ex ic"	Associated Apparatus
$U_i \text{ or } V_{max} \geq 6 \text{ and } \leq 30V$	$U_o, V_{oc} \text{ or } V_t \leq 30V$
$I_i \text{ or } I_{max} \leq 225 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 225 \text{ mA}$
$P_i \text{ or } P_{max} = 1W$	$P_o \leq 1W$
$C_i = 28.2nF$	$C_a \text{ or } C_o \geq C_{cable} + C_{RMA800}$
$L_i = 4\mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{RMA800}$

Note: No Change in Parameters when Terminal 9, DE Communications is connected

NON-HAZARDOUS LOCATION **HAZARDOUS (CLASSIFIED) LOCATION**
 CLASS I, CLASS II, DIVISION 1, GROUPS A, B, C, D, E, F & G;
 ZONE 0 IIC & ZONE 2 IIC,
 CLASS I DIVISION 2, GROUPS A, B, C, D;

ASSOCIATED EQUIPMENT NOT REQUIRED FOR DIV 2 / ZONE 2 Ex ec or AEx nA INSTALLATIONS
 CONTROL EQUIPMENT PARAMETERS WHEN NO ASSOCIATED EQUIPMENT
 $U_{max} = U_i = 42V, 25 \text{ mA}, P_o \leq 1W$

<p style="text-align: center;">Honeywell</p> <p style="text-align: center;">A/A4 50089981</p> <p>SCALE: None REV F DATE 5/26/2020 SH. 2 of 4</p>			
		SCALE: None	REV F

RMA803, Foundation Fieldbus

ENTITY PARAMETERS "Ex ia" and Ex ic"	Associated Apparatus
$U_i \text{ or } V_{max} \leq 30V$	$U_o, V_{oc} \text{ or } V_t \leq 30V$
$I_i \text{ or } I_{max} \leq 180 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 180 \text{ mA}$
$P_i \text{ or } P_{max} = 1W$	$P_o \leq 1W$
$C_i = 0 \text{ nF}$	$C_a \text{ or } C_o \geq C_{cable} + C_{RMA800}$
$L_i = 9 \mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{RMA800}$

FISCO Parameters

ENTITY PARAMETERS "Ex ia" and Ex ic"
$U_i \text{ or } V_{max} \leq 17.5V$
$I_i \text{ or } I_{max} \leq 380 \text{ mA}$
$P_i \text{ or } P_{max} \leq 5.32W$
$L_i = 9 \mu H$
$C_i = 0 \text{ nF}$

NON-HAZARDOUS LOCATION **HAZARDOUS (CLASSIFIED) LOCATION**
 CLASS I, CLASS II, DIVISION 1, GROUPS A, B, C, D, E, F & G;
 ZONE 0 IIC & ZONE 2 IIC,
 CLASS I DIVISION 2, GROUPS A, B, C, D;

FERRITE CORE INSTALL PER 34-ST-33-75

ASSOCIATED EQUIPMENT NOT REQUIRED FOR DIV 2 / ZONE 2 Ex ec or AEx nA INSTALLATIONS
 CONTROL EQUIPMENT PARAMETERS WHEN NO ASSOCIATED EQUIPMENT
 $U_{max} = U_i = 32V, 28 \text{ mA}, P_o \leq 1W$

<p style="text-align: center;">Honeywell</p> <p style="text-align: center;">A/A4 50089981</p> <p>SCALE: None REV F DATE 5/26/2020 SH. 3 of 4</p>			
		SCALE: None	REV F

RMA805, ENRAF FLEXLINE COMMUNICATIONS

ENTITY PARAMETERS	Associated Apparatus
$U_i \text{ or } V_{max} \leq 30V$	$U_o, V_{oc} \text{ or } V_t \leq 30V$
$I_i \text{ or } I_{max} \leq 225 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 225 \text{ mA}$
$P_i \text{ or } P_{max} = 0.9W$	$P_o \leq 0.9W$
$C_i = 3.9 \text{ nF}$	$C_a \text{ or } C_o \geq C_{cable} + C_{R800/57300}$
$L_i = 0 \mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{57300}$

NON-HAZARDOUS LOCATION **HAZARDOUS (CLASSIFIED) LOCATION**
 CLASS I, DIVISION 1, GROUPS A, B, C, D, E, F & G;
 ZONE 0 IIC & ZONE 2 IIC,
 CLASS I DIVISION 2, GROUPS A, B, C, D;

ASSOCIATED EQUIPMENT NOT REQUIRED FOR DIV 2 / ZONE 2 INSTALLATIONS
 CONTROL EQUIPMENT PARAMETERS WHEN NO ASSOCIATED EQUIPMENT
 $U_{max} = U_i = 42V, 4-20 \text{ mA}, P_o \leq 1W$

<p style="text-align: center;">Honeywell</p> <p style="text-align: center;">A/A4 50089981</p> <p>SCALE: None REV F DATE 5/26/2020 SH. 4 of 4</p>			
		SCALE: None	REV F

For more information

To learn more about Honeywell Enraf's solutions, contact your Honeywell Enraf account manager or visit www.honeywellenraf.com

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**THE
FUTURE
IS
WHAT
WE
MAKE IT**

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