

CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM18US0211X
3. **Equipment:** FMP5x Levelflex Level Transmitter
(Type Reference and Name)

4. **Name of Listing Company:** Endress+Hauser SE+Co KG

5. **Address of Listing Company:** Hauptstrasse 1
Postfach 1261
Maulburg
D79689
Germany

6. The examination and test results are recorded in confidential report number:

3041625 dated 28th December 2010

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3610:2018, FM Class 3611:2004, FM Class 3615:2018, FM Class 3616:2011, FM Class 3810:2018, ANSI/ISA 61010-1:2012, ANSI/ISA 60079-0:2013, ANIS/ISA 60079-1:2015, ANIS/ISA 60079-11:2014, ANSI/UL 60079-26:2017, ANSI/ISA 12.27.01:2003, ANSI/NEMA 250:2008, ANSI/IEC 60529:2004

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

11 June 2019

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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10. Equipment Ratings:

Intrinsically Safe for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G. Intrinsically Safe for Class I, Zone 0, AEx ia IIC. Explosionproof and Intrinsically Safe for Class I, Division 1, Groups A, B, C and D. Associated intrinsically Safe for Class I, II, III, Div. 1, Groups A, B, C, D, E, F and G. Dust-Ignitionproof and Intrinsically Safe for Class II and III, Division 1, Groups E, F and G. Nonincendive with Nonincendive Field Wiring for Class I, Division 2, Groups A, B, C and D. Flameproof and Intrinsically Safe with Intrinsically Safe outputs for Class I, Zone 0/1, AEx ia/db [ia Ga] IIC Ga/Gb. Dual Seal per ANSI/ISA 12.27.01. For outdoor use (Type 4X, 6P, IP66 or IP68). Temperature classifications in accordance with applicable control drawing.

11. The marking of the equipment shall include:

IS Class I, II, III Division 1, Groups A, B, C, D, E, F and G; T*; Entity and FISCO; XA00531(Hart) or XA00573F (PA/FF)

Class I, Zone 0 AEx ia IIC T*; Entity and FISCO; XA00531(Hart) or XA00573F (PA/FF)

XP-IS Class I, Division 1, Groups A, B, C, D, T*; Entity and FISCO; XA00531F, XA00532F(Hart) or, XA00572F, XA00573F (PA/FF)

DIP-IS, Class II, III, Division 1, Group E, F and G; Entity and FISCO; XA00532F(Hart) or XA00572F (PA/FF)

AIS Class I, II, III, Division 1, Groups A, B, C, D, E, F and G; Entity and FISCO; XA00531F, XA00532F (HART) or XA00572F, XA00573F (PA/FF).

NI, Class I, Division 2, Groups A, B, C, D, T*; NIFW; XA00531F, XA00532F (HART) or XA00572F, XA00573F (PA/FF).

Class I, Zone 0/1, AEx ia/db [ia Ga] IIC Ga/Gb T*; Entity and FISCO; XA00532F(Hart) or XA00572F (PA/FF) Type 4, 4x, 6P, IP66, IP68

*For Entity, FISCO and Non-Incendive Field Wiring Parameters and temperature class refer to applicable control drawings.

12. **Description of Equipment:**

The Levelflex Type FMP5x is a "downward-looking" measuring system that functions according to the ToF (Time of Flight) method. The distance from the reference point (process connection) of the measuring device to the product surface is measured. High frequency pulses are supplied to a probe and led along the probe. The pulses are reflected by the product surface, received by the electronic evaluation unit and converted into level information. This method is also known as TDR (Time Domain Reflectometry). The Levelflex can be used in potentially explosive atmospheres caused by the presence of flammable gases, liquids, vapors or combustible dust.

Depending on the electronic insert (IO-Module) the output of the level transmitter is a 4...20mA current output signal with or without a superimposed HART signal, or a Fieldbus PA/FF communication. For the Levelflex sensor type FMP55, the guided HF-signal can be combined with a capacitive level gauging along the same probe, and by using the HF and the capacitive information, the gauging of an interlayer between two different liquids can be calculated. In this case both sensor electronics SPL and SPC are assembled together in the same electronic enclosure.

Operation Temperature Ranges:

See Control Drawings

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Electrical data:

Electrical data						IO Module Certificate	
I/O Interface							
Power supply / Output (I/O Interface)			Approval Code (010)	Type of protection	Electrical data/maximum values		
Code (020)	Mode (functional)	Module TRC			Supply/output (terminals 1 and 2)	Supply/ output (terminals 3 and 4)	
A	4..20mA HART (IO210)	[21] [31]	FA	I.S. Ex ia IIC	for connection to an intrinsically safe circuit, with the following maximum values: $U_i = 30\text{ V}$ $I_i = 300\text{ mA}$ $P_i = 1\text{ W}$ $L_i = 0$ μH $C_i = 12\text{ nF}$	non-existent	FM3046150
			FB				
			8B				
			8C				
			Div. 2*		$U_N = 35\text{ V dc}^{(2)}$ $I_N = 4\text{ to }20\text{ mA}$	non-existent	
			FB	NIFW*	for connection to an NIFW circuit, with the following maximum values: $U_i = 35\text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = 0$ μH $C_i = 12\text{ nF}$	non-existent	
* Galvanic isolation not provided by IO210_2 and when used in Div. 2 without I.S. barrier, probe is suitable for Division 2 only. For application/certificates which need probe suitable for Division 1/Zone 0 and use of 4...20mA HART in 1 channel mode (switch terminals closed), an intrinsic safety barrier must be used with							
A	4..20mA HART (IO211)	[02] [22]	FA FB 8B 8C	I.S. Ex ia IIC	for connection to an intrinsically safe circuit, with the following maximum values: $U_i = 30\text{ V}$ $I_i = 300\text{ mA}$ $P_i = 1\text{ W}$ $L_i = 0$ μH $C_i = 5\text{ nF}$	Not used	FM3046021 FM3049914

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			FB	NIFW [Exia]	for connection to an NIFW circuit, with the following maximum values: $U_i = 35\text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = \text{N/A}$	Not used																																								
A	4..20mA HART (IO212)	[03] [23]	FC FD FE	XP [Exia] Ex d [ia] IIC	$U_N = 35\text{ V}$ $\text{DC}^{(2)} U_m = 250\text{ V}$ $I_{\text{nom}} = 4 \dots 20\text{ mA}$ $I_{\text{max}} = 22\text{ mA}$ $P_{\text{nom}} = 0,7\text{ W}$	Not used	FM3046021 FM3049914																																							
			FD	Div. 2 [Exia]	$U_N = 35\text{ V}$ $\text{DC}^{(2)} U_m = 250\text{ V}$ $I_{\text{nom}} = 4 \dots 20\text{ mA}$ $I_{\text{max}} = 22\text{ mA}$ $P_{\text{nom}} = 0,7\text{ W}$	Not used																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Power supply / Output (I/O Interface)</th> <th rowspan="2" style="text-align: center;">Approval Code (010)</th> <th rowspan="2" style="text-align: center;">Type of protection</th> <th colspan="2" style="text-align: center;">Electrical data/maximum values</th> <th rowspan="2" style="text-align: center;">IO Module Certificate</th> </tr> <tr> <th style="text-align: center;">Code (020)</th> <th style="text-align: center;">Mode (functional)</th> <th style="text-align: center;">Module TRC</th> <th style="text-align: center;">Supply/output (terminals 1 and 2)</th> <th style="text-align: center;">Supply/output (terminals 3 and 4)</th> </tr> </thead> <tbody> <tr> <td rowspan="5" style="text-align: center;">B</td> <td rowspan="5" style="text-align: center;">4..20mA HART+ switch (IO211)</td> <td rowspan="5" style="text-align: center;">[02] [22]</td> <td>FA</td> <td rowspan="5" style="text-align: center;">I.S. Ex ia IIC</td> <td>for connection to an</td> <td>for connection to an</td> <td rowspan="5" style="text-align: center;">FM3046021</td> </tr> <tr> <td>FB</td> <td>intrinsically safe circuit, with the maximum values:</td> <td>intrinsically safe circuit, maximum</td> </tr> <tr> <td>8A¹⁾</td> <td>$U_i = 30\text{ V}$</td> <td>$U_i = 30\text{ V}$</td> </tr> <tr> <td>8B</td> <td>$I_i = 300\text{ mA}$ $P_i = 1\text{ W}$</td> <td>$I_i = 300\text{ mA}$ $P_i = 0,7\text{ W}/0,85\text{ W}/1\text{ W}^3$</td> </tr> <tr> <td>8C</td> <td>$C_i = 5\text{ nF}$</td> <td>$C_i = 3\text{ nF}$ $C_i = 5,28\text{ nF}$ (to ground)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>for connection to an</td> <td>for</td> <td style="text-align: center;">FM3049914</td> </tr> </tbody> </table>							Power supply / Output (I/O Interface)			Approval Code (010)	Type of protection	Electrical data/maximum values		IO Module Certificate	Code (020)	Mode (functional)	Module TRC	Supply/output (terminals 1 and 2)	Supply/output (terminals 3 and 4)	B	4..20mA HART+ switch (IO211)	[02] [22]	FA	I.S. Ex ia IIC	for connection to an	for connection to an	FM3046021	FB	intrinsically safe circuit, with the maximum values:	intrinsically safe circuit, maximum	8A ¹⁾	$U_i = 30\text{ V}$	$U_i = 30\text{ V}$	8B	$I_i = 300\text{ mA}$ $P_i = 1\text{ W}$	$I_i = 300\text{ mA}$ $P_i = 0,7\text{ W}/0,85\text{ W}/1\text{ W}^3$	8C	$C_i = 5\text{ nF}$	$C_i = 3\text{ nF}$ $C_i = 5,28\text{ nF}$ (to ground)					for connection to an	for	FM3049914
Power supply / Output (I/O Interface)			Approval Code (010)	Type of protection	Electrical data/maximum values		IO Module Certificate																																							
Code (020)	Mode (functional)	Module TRC			Supply/output (terminals 1 and 2)	Supply/output (terminals 3 and 4)																																								
B	4..20mA HART+ switch (IO211)	[02] [22]	FA	I.S. Ex ia IIC	for connection to an	for connection to an	FM3046021																																							
			FB		intrinsically safe circuit, with the maximum values:	intrinsically safe circuit, maximum																																								
			8A ¹⁾		$U_i = 30\text{ V}$	$U_i = 30\text{ V}$																																								
			8B		$I_i = 300\text{ mA}$ $P_i = 1\text{ W}$	$I_i = 300\text{ mA}$ $P_i = 0,7\text{ W}/0,85\text{ W}/1\text{ W}^3$																																								
			8C		$C_i = 5\text{ nF}$	$C_i = 3\text{ nF}$ $C_i = 5,28\text{ nF}$ (to ground)																																								
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			FB	NIFW [Exia]	NIFW circuit, with the following maximum values: $U_i = 35 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = 0 \mu\text{H}$ $C_i = 5 \text{ nF}$	connection to an NIFW circuit, with the following maximum values: $U_i = 35 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = 0.7\text{W}/0,85\text{W}/1\text{W}^3$		
B	4..20mA HART+ switch (IO212)	[03] [23]	FC	XP [Exia] Ex d [ia] IIC	$U_N = 35 \text{ V}$ DC ²⁾ $U_m = 35 \text{ V}$	$U_N = 35 \text{ V}$	FM3046021 FM3049914	
			FD		$I_{nom} = 4 \dots 20 \text{ mA}$ $I_{max} = 22 \text{ mA}$ $P_{nom} = 0,7 \text{ W}$	$P_{nom} = 0,7 \text{ W}$		
			FE 8A ¹⁾					
			C3	Div. 2 [Exia]	$U_N = 35 \text{ V}$ DC ²⁾ $U_m = 250 \text{ V}$ $I_{nom} = 4 \dots 20 \text{ mA}$ $I_{max} = 22 \text{ mA}$ $P_{nom} = 0,7 \text{ W}$	$U_N = 35 \text{ V}$ DC ²⁾ $U_m = 250 \text{ V}$ $P_{nom} = 0,7 \text{ W}$		
C	4..20mA HART+ 4..20mA (IO214)	[04] [24]	FA	I.S. Ex ia IIC	for connection to intrinsically safe circuits, with the following maximum values:		for connection to intrinsically safe circuits, with the following maximum values:	FM3041169
			FB		$U_i = 30 \text{ V}$ $I_i = 300 \text{ mA}$	$U_i = 30 \text{ V}$ $I_i = 300 \text{ mA}$		
			8A ¹⁾		$P_i = 1 \text{ W}$	$P_i = 1 \text{ W}$		
			8B		$L_i = 0 \mu\text{H}$ $C_i = 30 \text{ nF}$	$L_i = 0 \mu\text{H}$ $C_i = 30 \text{ nF}$		
			8C					
			FB	NIFW [Exia]	for connection to NIFW (energy limited) circuits, with the following maximum values: $U_i = 30 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = 0 \mu\text{H}$ $C_i = 30 \text{ nF}$	for connection to NIFW (energy limited) circuits, with the following maximum values: $U_i = 30 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$		
C	4..20mA HART+ 4..20mA (IO215)	[05] [25]	FC 8A ¹⁾	XP [Exia] Ex d [ia] IIC	$U_N = 10.4 \dots 30 \text{ V}$ dc ²⁾ $U_m = 250 \text{ V}$ $I_N = 4 \dots 20 \text{ mA}$ $I_{max} = 22 \text{ mA}$ $P_N = 0.7 \text{ W}$	$U_N = 10.4 \dots 30 \text{ V}$ dc ²⁾ $U_m = 250 \text{ V}$ $I_N = 4 \dots 20 \text{ mA}$ $I_{max} = 22 \text{ mA}$	FM3041169	
Power supply / Output (I/O Interface)					Electrical data/maximum values			

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Code (020)	Mode (functional)	Module TRC	Approval Code (010)	Type of protection	Supply/output (terminals 1 and 2)	Supply/output (terminals 3 and 4)	IO Module Certificate
			FD	Div. 2 [Exia]	$U_N = 10.4 \dots 30 \text{ V}$ $dc^2) U_m = 250 \text{ V}$ $I_N = 4 \dots 20 \text{ mA}$ $I_{max} = 22 \text{ mA}$ $P_N = 0.7 \text{ W}$	$U_N = 10.4 \dots 30 \text{ V}$ $dc^2) U_m = 250 \text{ V}$ $I_N = 4 \dots 20 \text{ mA}$ $I_{max} = 22$	FM3041169
E,G	Fieldbus +	[26]	FA	I.S.	for connection to an	passive: for connection to intrinsically safe circuits, with the following maximum values: $U_i = 30 \text{ V}$ $I_i = 300 \text{ mA}$	FM3046540
					intrinsically safe FISCO circuit, with the following maximum values: $U_i = 17.5 \text{ V}$ $I_i = 550 \text{ mA}$ $P_i = 5.5 \text{ W}$ $L_i = 10 \mu\text{H}$ $C_i = 5 \text{ nF}$		
					or for connection to an intrinsically safe circuit, with the maximum values: $U_i = 30 \text{ V}$ $I_i = 300$ $L_i = 10 \mu\text{H}$ $C_i = 5 \text{ nF}$		
	switch				for connection to an FNICO circuit, with		

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	(IO220)	[28]	FB	NIFW [Exia]	the following maximum values $U_i = 17.5 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = 10 \mu\text{H}$ $C_i = 5 \text{ nF}$ or for connection to an NIFW energy limited circuit, with the following maximum values $U_i = 32 \text{ V}$ $I_i = \text{N/A}$ (current controlled circuit) $P_i = \text{N/A}$ $L_i = 10 \mu\text{H}$	passive: for connection to an NIFW circuit, with the following maximum values: $U_i = 35 \text{ V}$ $I_i = 300 \text{ mA}$ $P_i = 0.7/0.85/1.0 \text{ W}^{(3)}$ $L_i = 0 \mu\text{H}$ $C_i = 3 \mu\text{F}$																										
E,G	Fieldbus + switch (IO221)	[27]	FC FD FE	XP [Exia] Ex d [ia] IIC	$U_N = 9..32 \text{ V dc}^{(2)}$ $U_m = 250 \text{ Vac}$ $P_N \leq 880 \text{ mW}$ Fieldbus	$U_N = 10.4..35 \text{ V dc}^{(2)}$ $P_N = 0.7/0.85/1.0 \text{ W}^{(3)}$	FM3046540																									
		[29]	8A ¹⁾ FD	Div. 2 [Exia]	$U_N = 9..32 \text{ V dc}^{(2)}$ $U_m = 250 \text{ Vac}$ $P_N \leq 880 \text{ mW}$ Fieldbus	$U_N = 10.4 \dots 35 \text{ V dc}^{(2)}$ $U_m = 250 \text{ Vac}$ $P_N \leq 0.7/0.85/1.0 \text{ W}^{(3)}$																										
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Power supply / Output (I/O Interface)			Approval Code (010)	Type of protection	Electrical data/maximum values		IO Module Certificate																									
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L	4-wire DC + 4..20mA HART (IO410)	[08]	FC FD FE	XP [Exia] Ex d [ia] IIC	$U_N = 10.4 \dots 48 \text{ V dc}^{(2)}$ $U_m = 250 \text{ V}$ $I_N = 112 \text{ mA}$ $I_{\text{max}} = 300 \text{ mA}$ $P_N = 1328 \text{ mW}$	$U_N = 22 \text{ V dc}^{(2)}$ $U_m = 250 \text{ V}$ $I_{\text{max}} = 22 \text{ mA}$	FM3041555																									
			FD	Div. 2 [Exia]	$U_N = 10.4 \dots 48 \text{ V dc}^{(2)}$ $U_m = 250 \text{ V}$ $I_N = 112 \text{ mA}$ $I_{\text{max}} = 300 \text{ mA}$ $P_N = 1328 \text{ mW}$	$U_N = 22 \text{ V dc}^{(2)}$ $U_m = 250 \text{ V}$																										

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K	4-wire AC + 4...20mA HART (IO411)	[09]	FC FD FE	XP [Exia] Ex d [ia] IIC	U _N = 90 ...253 V ac ²⁾ 50/60 Hz; U _m = 250 V I _N = 25 mA I _{max} = 160 mA P _N = 1540 mW	U _N = 22 V dc ²⁾ U _m = 250 V I _{max} = 22 mA	FM3041555
			FD	Div. 2 [Exia]	U _N = 90 ...253 V ac ²⁾ 50/60 Hz; U _m = 250 V I _N = 25 mA I _{max} = 160 mA P _N = 1540 mW	U _N = 22 V dc ²⁾ U _m = 250 V I _{max} = 22 mA	

- Note: 1) Multiple marking; type of protection selected for first installation must be indicated and may not be changed
 2) Specifies maximum value, which includes 10% safety margin for typical power line variations
 3) Different Pi values are applicable resulting in different maximum surface temperatures, refer to thermal data.

Model Codes

Levellflex with Dual Seal. FMP50-aabcdeffgghhh+(options).

aa	<p>Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FC – FM XP-IS Cl. I, Div. 1 Gr. ABCD, AIS Cl. I, Div 1 Gp A-D [Ex ia] FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ja Ga] IIC Ga/Gb 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb</p>
b	<p>Power Supply; Output: A – 2-wire; 4-20mA HART B – 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire 90-253VAC; 4-20 mA HART L – 4-wire 10.4-48VDC; 4-20 mA HART</p>
c	<p>Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>

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d	Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) C – GT20 dual compartment, Alu coated
e	Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B – Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D – Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8”, IP66/68 NEMA4X/6P (Approval FA only)
ff	Probe: AA -mm, rod 8mm 316L AB -inch, rod 1/3” 316L LA -mm, rope 4mm 316 LB -inch, rope 1/6” 316 YY -Special version (different rod or rope dimensions, or different corrosion resistant material)
gg	Seal: A1 – Viton, -20°C - 80°C (-22°F - 176°F) Y9 – Special version
hhh	Process Connection: not relevant for safety
(options)	NF – Bluetooth (Plus Other Options) Not relevant for safety

Levelflex with Dual Seal. FMP51-aabcdeffgghhh+(options).

aa	Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb FMFM
b	Power Supply; Output: A – 2-wire; 4-20mA HART B – 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 901-253VAC; 4-20 mA HART L – 4-wire; 10.48VDC; 4-20 mA HART

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c	<p>Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>
d	<p>Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B – GT18 dual compartment, 316L C – GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B – Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D – Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8", IP66/68 NEMA4X/6P (Approval FA only)</p>
ff	<p>Probe: AA -mm, rod 8mm 316L AB -inch, rod 1/3" 316L AC -mm, rod 12mm 316L AD -inch, rod 1/2 316L AL -mm, rod 12mm AlloyC AM -inch, rod 1/2 AlloyC BA -mm, rod 16mm 316L, 500mm divisible BB -inch, rod 0.63in 316L 20inch divisible BC -mm, rod 16mm 316L, 1000mm divisible BD -inch, rod 0.63in 316L 40inch divisible LA -mm, rope 4mm 316 LB -inch, rope 1/6" 316 LE -mm, twin rope 4mm 316, max 150mm nozzle height, center rod LF - inch, twin rope 1/6" 316, max 6" nozzle height, center rod MA - mm, rope 4mm 316, max 150mm MB -mm, rope 4mm 316, max 300mm MC -..... inch, rope 1/6" 316, max 6inch MD - inch, rope 1/6" 316, Max 12 inch ME -..... mm, twin rope 4mm 316, max 300mm nozzle height, center rod MF -..... inch, twin rope 1/6" 316, max 12" nozzle height, center rod UA -mm, coax 316L UB -inch, coax 316L UC -mm, coax AlloyC UD -inch, coax AlloyC YY -Special version (different rod or rope dimensions, or different corrosion resistant material)</p>
gg	<p>Seal: A4 – Viton, -30°C - 150°C (-22°F - 302°F)</p>

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	B3 – EPDM, -40°C - 120°C (-40°F - 248°F) C3 – Kalrez, -20°C - 200°C (-4°F - 392°F) E1 – FVMQ, -40°C – 150°C (-40°C - 302°F) Y9 – Special version
hhh	Process Connection: not relevant for safety
(options)	NF – Bluetooth (Plus Other Options) Not relevant for safety

Levellflex with Dual Seal. FMP52-aabcdeffhhh+(options).

aa	<p>Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb</p>
b	<p>Power Supply; Output: A – 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 90-253VAC; 4-20 mA HART L – 4-wire; 10.4-48VDC; 4-20 mA HART</p>
c	<p>Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>
d	<p>Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B – GT18 dual compartment, 316 C –GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only)</p>

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	M – Plug 7/8”, IP66/68 NEMA4X/6P (Approval FA only)
ff	Probe: CA -mm, rod 16mm PFA>316L CB -inch, rod 0.63in PFA>316L NE – mm, twin rope 4mm PFA>316 NF - inch, twin rope 1/6” PFA>316 OA -mm, rope 4mm PFA>316, max 150mm OB -mm, rope 4mm PFA>316, max 300mm OC -inch, rope 1/6” PFA>316, max 6inch OD -inch, rope 1/6” PFA>316, Max 12inch YY -Special version (different rod or rope dimensions, or different corrosion resistant material)
hhh	Process Connection: not relevant for safety
(options)	NF – Bluetooth (Plus Other Options) Not relevant for safety

Levelflex with Dual Seal. FMP53-aabcdeffgghh+(options).

aa	Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb
b	Power Supply; Output: A – 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 90-253V AC; 4-20 mA HART L – 4-wire; 10.4-48V DC 4-20 mA HART
c	Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection
d	Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only)

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	<p>B – GT18 dual compartment, 316 C – GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8”, IP66/68 NEMA4X/6P (Approval FA only)</p>
	<p>Probe: DA -mm, rod 8mm 316L, Ra<0.76um/30uin DB -inch, rod 0.31in 316L, Ra<0.76um/30uin EA -mm, rod 8mm 316L, ep=electro-polished, Ra<0.38um/15uin EB - inch, rod 0.31in 316L, ep=electro-polished Ra<0.38um/15uin FA - mm, rod 8mm 316L, Ra, 500mm divisible, Ra<0.76um/30uin FB - inch, rod 0.31in 316L, Ra, 20ub divisible, Ra<0.76um/30uin GA - mm, rod 8mm 316L, ep, Ra, 500mm divisible, ep=electro-polished Ra<0.38um/15uin GB - in, rod 0.31in 316L, ep, Ra, 20in divisible, ep=electro-polished Ra<0.38um/15uin HA -mm, rope 8mm 316L, Ra, 1000mm divisible, Ra<0.76um/30uin HB -in, rod 0.31in 316L, Ra, 40in divisible, Ra<0.76um/30uin IA -mm, rod 8mm 316L, ep, Ra, 1000mm divisible, ep=electro-polished, Ra<0.38um/15uin IB - in, rod 0.31in 316L, ep, Ra, 40in divisible, ep=electro-polished, Ra<0.38um/15uin YY -Special version (different rod or rope dimensions, or different corrosion resistant material)</p>
ff	
gg	<p>Seal: AD – FKM, FDA, USP, Cl.Vi. -10°C ... 150°C / -14°F ... 302°F B5 – EPDM, FDA, USP Cl. VI, -20°C ...130°C/ -4°F...266°F C4 – Kalrez, FDA, USP, Cl.VI, -20°C - 150°C (-4°F - 302°F) Y9 – Special version</p>
hhh	<p>Process Connection: not relevant for safety</p>
(options)	<p>NF – Bluetooth (Plus Other Options) Not relevant for safety</p>

Levelflex with Dual Seal. FMP54-aabccdeffgghhh+(options).

aa	<p>Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb FE – FM DIP-IS Cl. II, III Div. 1 Gr. EFG, AIS Cl I, II, III, Div 1, Gr. A-G [Exia] 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb</p>
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b	<p>Power Supply; Output: A - 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C - 2-wire; 4-20mA HART, 4-20mA E - 2-wire; FOUNDATION Fieldbus, PFS = Status G - 2-wire; 4-20mA PROFIBUS PA, PFS = Status K - 4-wire; 90-253VAC, 4-20mA HART L - 4-wire; 10.4-48VDC, 4-20mA HART</p>
c	<p>Display, Operation: A - w/o LCD, via communication C - LCD SD02, push button + data backup function E - LCD SD03, touch control + data backup function L - Prepared for remote display FHX50 + M12 connection M - Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>
d	<p>Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B - GT18 dual compartment, 316L C - GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8", IP66/68 NEMA4X/6P (Approval FA only)</p>
ff	<p>Probe: AE -mm, rod 16mm 316L AF -inch, rod 16mm 316L BA -mm, rod 16mm 316L, 500mm divisible BB -in, rod 0.63in 316L, 20 inch BC -mm, rod 16mm 316L, 1000mm BD -in, rod 0.63in 316L, 40inch LA -mm, rope 4mm 316 LB -inch, rope 1/6" 316 UA -mm, coax 316L UB -inch, coax 316L YY - Special version (different rod or rope dimensions, or different corrosion resistant material)</p>
gg	<p>Seal: D1 - Graphite, -196°C - 280°C (-321°F - 536°F) (XT) D2 - Graphite, -196°C - 280°C (-321°F - 536°F) (HT) Y9 - Special version</p>
hhh	<p>Process Connection: not relevant for safety</p>
(options)	<p>NF – Bluetooth (Plus Other Options) Not relevant for safety</p>

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Levellflex with Dual Seal. FMP55-aabcdeffhhh+(options).

aa	<p>Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl .I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb</p>
b	<p>Power Supply; Output: A – 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 90-253V AC; 4-20 mA HART L – 4-wire; 10.4-48V DC; 4-20 mA HART</p>
c	<p>Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>
d	<p>Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B – GT18 dual compartment, 316 C – GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8", IP66/68 NEMA4X/6P (Approval FA only)</p>
ff	<p>Probe: CA -mm, rod 16mm PFA>316L CB -inch, rod 0.63in PFA>316L NA -mm, rope 4mm PFA>316 ND -inch, rope 1/6" PFA>316 NE – mm, twin rope 4mm PFA>316 NF - inch, twin rope 1/6" PFA>316</p>

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	UA -mm, coax 316L UB -inch, coax 316L YY -Special version (different rod or rope dimensions, or different corrosion resistant material)
hhh	Process Connection: not relevant for safety
(options)	NF – Bluetooth (Plus Other Options) Not relevant for safety

Levellflex with Dual Seal. FMP56-aabcdeffgghhh+(options).

	Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb FE – FM DIP-IS Cl. II, III Div. 1 Gr. EFG, AIS Cl I, II, III, Div 1, Gr. A-G [Exia] 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb
	Power Supply; Output: A – 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 90-253V AC; 4-20 mA HART L – 4-wire; 10.4-48V DC; 4-20 mA HART
	Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection
	Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B – GT18 dual compartment, 316 C – GT20 dual compartment, Alu coated
	Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P

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	C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8", IP66/68 NEMA4X/6P (Approval FA only)
ff	Probe: LA -mm, rope 4mm 316 LB -inch, rope 1/6" 316 NB -mm, rope 6mm PA>Steel NE -inch, rope 1/4in PA>Steel YY -Special version (different rod or rope dimensions, or different corrosion resistant material)
gg	Seal: AB – Viton, -30°C - 120°C (-22°F - 248°F) B3 – EPDM, -40°C - 120°C (-40°F - 248°F) Y9 – Special version, other seal material in combination with gastight glass feed through
hhh	Process Connection: not relevant for safety
(options)	NF – Bluetooth (Plus Other Options) Not relevant for safety

6) Contact manufacturer for flamepath joint details when repair is necessary

Levelflex with Dual Seal. FMP57-aabcdeffgghhh+(options).

aa	Approval: FA – FM IS Cl. I, Div. 1 Gr. A-D FB – FM IS Cl. I, II, III, Div. 1 Gr. A-G, Cl. I, Zn 0, AEx/Ex ia IIC, NI Cl. I Div. 2 Gr. A-D FD - FM XP-IS Cl. I, Div. 1 Gr. ABCD, DIP-IS CL. II, III, Div 1 Gr EFG, NI Cl. I Div. 2, Gr. A-D, AIS Cl. I, II, III, Div 1 Gp A-G [Exia], Cl. I, Zn 0/1 AEx/Ex ia/db [ia Ga] IIC Ga/Gb FE – FM DIP-IS Cl. II, III Div. 1 Gr. EFG, AIS Cl I, II, III, Div 1, Gr. A-G [Exia] 8A - FM IS Cl. I, II, III, Div. 1 Gr. A-G; XP-IS Cl. I Div 1, Gr. A-D; DIP-IS Cl II, III Div 1, Gr A-G; AIS Cl I, II, III Div 1 Gr. A-G 8B - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga, ATEX II 1 G Ex ia IIC T6 Ga 8C - FM IS Cl. I Div.1 Grp. A,B,C,D T6, IECEx Ex ia IIC T6 Ga/Ga, ATEX II 1/2 G Ex ia IIC T6 Ga/Gb
b	Power Supply; Output: A – 2-wire; 4-20mA HART B - 2-wire; 4-20mA HART, PFS = Status C – 2-wire; 4-20mA HART, 4-20mA E – 2-wire; FOUNDATION Fieldbus, PFS = Status G – 2 –wire; PROFIBUS PA, PFS = Status K – 4-wire; 90-253V AC; 4-20 mA HART L – 4-wire; 10.4-48V DC; 4-20 mA HART
c	Display, Operation: A – W/o LCD, via communication C – LCD SD02, push button + data backup function

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	<p>E – LCD SD03, touch control + data backup function L – Prepared for remote display FHX50 + M12 connection M – Prepared for remote display FHX50 + custom connection N - Prepared for remote display FHX50 + NPT1/2 thread, custom connection</p>
d	<p>Housing: A – GT19 dual compartment, Plastic PBT (Approval FA only) B – GT18 dual compartment, 316 C – GT20 dual compartment, Alu coated</p>
e	<p>Electrical Connections: A – Gland M20, IP66/68 NEMA4X/6P (Approval FA only) B - Thread M20, IP66/68 NEMA4X/6P C – Thread G1/2, IP66/68 NEMA4X/6P (Approval FA only) D - Thread NPT 1/2, IP66/68 NEMA4X/6P I – Plug M12, IP66/68 NEMA4X/6P (Approval FA only) M – Plug 7/8”, IP66/68 NEMA4X/6P (Approval FA only)</p>
ff	<p>Probe: AE -mm, rod 16mm 316L AF -inch, rod 16mm 316L LA -mm, rope 4mm 316 LB -inch, rope 1/6” 316 LC -mm, rope 6mm 316 LD -inch, rope 1/4inch 316 NB -mm, rope 6mm PA>Steel NC -mm, rope 8mm PA>Steel NE -inch, rope 1/4in PA>Steel NF -inch, rope 1/3inch PA>Steel YY -Special version (different rod or rope dimensions, or different corrosion resistant material , different coatings or platings have to be evaluated for electrostatic)</p>
gg	<p>Seal: A4 – Viton, -30°C - 150°C (-22°F - 302°F) B3 – EPDM, -40°C - 120°C (-40°F - 248°F) C5 – Kalrez -5°C - 185°C (23°F - 365°F) Y9 – Special version, other seal material in combination with gastight glass feed through</p>
hhh	<p>Process Connection: not relevant for safety</p>
(options)	<p>NF – Bluetooth (Plus Other Options) Not relevant for safety</p>

13. Specific Conditions of Use:

- 1) Potential electrostatic discharge hazard, do not rub plastic surfaces with a dry cloth.
- 2) For enclosures made of aluminum, avoid impacts that can cause sparking. Refer to applicable control drawing for instructions.
- 3) For Div 2 installations, do not disconnect equipment unless power has been switched off.
- 4) For Explosionproof installations, do not open covers when explosive atmosphere is present.
- 5) Factory sealed, Explosionproof Seals not required. Refer to control drawing for instructions.
- 6) Contact manufacturer for flamepath joint details when repair is necessary.

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14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
28 th December 2010	Original Issue.
12 th September 2018	Supplement 5: Report Reference: – PR448852 dated 12 th September 2018 Description of the Change: 1) Add new ProToF modules TRC [14], [15], [24], [25], [28], [29], [38], [39], [41]. The Modules were recently added as components under Project ID 3062717. 2) Extend ambient operating temperature range to -50 °C for certain combinations of FMP51 and FMP54. 3) Add an additional probe option. 4) Update standards to the latest editions, including 61010-1. 5) Update nameplates and control drawings. 6) Addition of approval option codes 8B and 8C. (Option combines FM/ATEX/IECEx markings) 7) Extension of the protection concepts for the FMP5x-FD to include ia/db; Ga/Gb per ANSI/UL 60079-26.
11 th June 2019	Supplement 6: Report Reference: – PR218374 dated 11 th June 2019 Description of the Change: Add new ProToF Bluetooth module TRC [44]; model code Option NF.

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