

CERTIFICATE

(1) EU-Type Examination

(2) Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU

(3) EU-Type Examination Certificate Number: **DEKRA 22ATEX0008X** Issue Number: 1

(4) Product: **Level Switch Liquiphant Digital types FTL51B, FTL62, FTL63 and FTL64**

(5) Manufacturer: **Endress+Hauser SE+Co. KG**

(6) Address: **Hauptstraße 1, 79689 Maulburg, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report mentioned in item (16).

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018 + A11 : 2024

IEC 60079-11 : 2023

IEC 60079-26 : 2021

IEC 60079-31 : 2022

CLC IEC TS 60079-47 : 2021

EN 60079-1 : 2014 + A11 : 2024

EN 60079-11 : 2012

EN 60079-26 : 2015

EN 60079-31 : 2014

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



See marking under item (15)

Date of certification: 4 March 2025

DEKRA Certification B.V.

R. Schuller
Certification Manager



Throughout this document, a point is used as the decimal separator.

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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 22ATEX0008X** Issue No. 1

(15) **Description**

Liquid Level Switch Liquiphant Digital, types FTL51B, FTL62, FTL63 and FTL64 for use in explosive atmospheres caused by the presence of combustible gases, fluids, vapours or dusts, directly detects a liquid level by means of a symmetrical vibrating fork.

The electronic inserts FEL60H, FEL60A or FEL60P in the transmitter enclosure, convert the fork frequency into respectively a 4...20 mA HART, PROFIBUS PA or PROFINET/ Ethernet-APL electrical signal.

The enclosure is either a single electronics compartment version made of aluminium or a dual compartment version made of aluminium or stainless steel providing a separate electronics and a terminal compartment. The stainless steel sensor, either as compact or extended tube version with a length up to 6 m, is directly fitted through a M48-M30 thread adapter to the enclosure.

Optionally the electronics compartment can be equipped with a graphic display with a or without Bluetooth in combination with a windowed cover or a preparation for a separate display FHX50B.

For the Nomenclature and Electrical data refer to Annex 1 to test report mentioned in item (16). For detailed thermal data refer to the instructions.

Pre-certified (separately certified) part used: ISO7041* Quad Channel Digital Isolators made by Texas Instruments Inc; IECEx CSA 19.0040U Iss. 0; Ex ia IIC Ga.

Marking



II 1/2 G Ex db IIC T6...T1 Ga/Gb
 II 2 G Ex db IIC T6...T1 Gb
 II 1/2 D Ex ta IIIC T₂₀₀ xxx °C Da / Ex tb IIIC T_L xxx °C Db
 II 2 D Ex tb IIIC T_L xxx °C Db
 II 1 G Ex ia IIC T6...T1 Ga
 II 1/2 G Ex ia IIC T6...T1 Ga/Gb
 II 1/2 G Ex db ia IIC T6...T1 Ga/Gb
 II 2 G Ex ia IIC T6...T1 Gb
 II 2 G Ex db ia IIC T6...T1 Gb
 II 1/2 D Ex ia IIIC T₂₀₀ xxx °C Da / Ex ia IIIC T_L xxx °C Db
 II 2 D Ex ia IIIC T_L xxx °C Db

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

NL/DEK/ExTR22.0032/01.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 22ATEX0008X** Issue No. 1

(17) **Specific conditions of use**

1. The flameproof joints are not intended to be repaired.
2. The risk of electrostatic discharge from Level Switch Liquiphant Digital shall be minimized, see instructions.
3. When used as Group III equipment, only cable glands, thread adapters and blanking elements conforming to the requirements of IEC 60079-0 may be used with the apparatus.
4. For Level Switch Liquiphant Digital with an aluminium enclosure, when used as EPL Ga equipment, shall be installed in such a way that, even in the event of rare incidents, ignition sources due to impact and friction between the enclosure and iron or steel are excluded.
5. The FTL63 with a sensor that is mechanically polished and installed in the boundary of EPL Ga/Gb or EPL Da/Db shall not be exposed to environmental conditions that could affect the partition.
6. For maximum surface temperature (temperature class), ambient temperature range and maximum process temperatures see safety instructions.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in test report mentioned in item (16).

Nomenclature:

1) type FTL51B

FTL51B – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss	
aa	Approval:
=	
010	*A ATEX/IEC II 1G Ex ia IIC T6 Ga *B ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb *C ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb *K ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb, II 1/2D, 2D Ex ia IIC Da/Db *L ATEX/IEC II 3G Ex ec IIC T6 Gc, II 3D Ex tc IIC Dc *M ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb, II 1/2D, 2D Ex ta/tb IIC Da/Db
bb	Electronic, Output:
=	
020	BA FEL60H, 2-wire 4...20 mA HART + test button DA FEL60A, 2-wire, PROFIBUS PA FA FEL60P, 2-Wire, PROFINET over Ethernet-APL, 10Mbit/s 9Y Changes not explosion protection relevant.
c	Display, Operating:
=	
030	A W/o; switch E Graphic display with touch control F Graphic display with touch control + Bluetooth L Prepared for separated display FHX50B + M12 connector M Prepared for separated display FHX50B + M20 cable entry N Prepared for separated display FHX50B + 1/2-NPT entry thread O Prepared for separated display FHX50B + M20 entry thread Y Changes not explosion protection relevant
d	Housing; Material:
=	
040	B Single compartment; Alu, coated M Dual compartment L-shape; Alu, coated N Dual compartment L-shape; 316L Y Changes not explosion protection relevant
e	Electrical Connection:
=	
050	A Gland M20, plastic, IP66/68, NEMA Type 4X/6P B Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P C Gland M20, 316L, IP66/68 NEMA Type 4X/6P F Thread M20, IP66/68 NEMA Type 4X/6P G Thread G1/2, IP66/68 NEMA Type 4X/6P H Thread NPT1/2, IP66/68 NEMA Type 4X/6P J Gland M20, plastic blue, IP66/68 NEMA Type 4X/6P M Plug M12, IP66/67 NEMA Type 4X Y Changes not explosion protection relevant
f	Application:
=	
060	A Process max 150 °C/302 °F, max 64bar B Process max 150 °C/302 °F, max 100bar 9 Changes not explosion protection relevant
g	Surface finish:
=	
080	A Standard Ra <3.2um/126uin Y Modification of the above named option in: Ra < 1.6um or better. Changes not explosion protection relevant
h	Probe version:
=	
085	1 Compact version 2 Extension tube 3 Short tube version 9 Changes not explosion protection relevant
ii	Probe length, material:
=	
090	AA Two characters representing different types of probe materials (316L or Alloy C) and length of probe in mm or inch to YY Changes not explosion protection relevant

FTL51B – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss

jj kkk = 105 + 110	Process Connection, Sealing Surface: AA AAA to 99 9YY	Combination of two characters representing different types of process connections (Flange, thread, or Hygienic types), plus a triple number of combinations representing the different sizes of process connections. Not explosion protection relevant. Modification of one of the above named option in: Special version not given in the standard order code. Changes not explosion protection relevant
yy = 500	Operating Language: AA to AY	Customer operating language Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
ll = 540	Application Package: EH to E9	E plus a character or figure representing different Application packages as EH=Heartbeat Verification + Monitoring. EL= Prepared for Heartbeat Verification + Monitoring Not mandatory. Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
mm = 570	Services: HA to I9	H or I plus a character or figure representing different services like cleaned from oil+fat, cleaned for Oxygen applications, or settings to the device different from delivery standard. Not mandatory, multiple selection possible. Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
nn = 580	Test, Certificate, Declaration: JL JT JA to K9	Ambient temperature -50 °C/-58 °F Ambient temperature -60 °C/-76 °F J or K plus a character or figure representing different production tests (Pressure test, He-Leakage test, PMI test, ...) or material certificates for the wetted materials. Not mandatory, multiple selection possible. Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
oo = 590	Additional approvals: LA to L9	L plus a character or figure representing different additional approvals (SIL, WHG, ship building, CRN, ...). Not mandatory, multiple selection possible. Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
pp = 600	Sensor design: MR MS to M9	Temperature separator Temperature separator + Pressure tight feed through (Second line of defense) Modification of one of the above named option: Special version not given in the standard order code, shorter, longer or angled version. Changes not explosion protection relevant
qq = 610	Accessories mounted: NA OB to O9	Overvoltage protection Plug marking according to IEC/ATEX Ex d Venting Element in not used cable entry assembled (only for Ex i, Ex e, Ex t) Changes not explosion protection relevant
rr = 620	Accessories enclosed: PA PB to R9	Weather protection cover, 316L Weather protection cover, plastic Changes not explosion protection relevant
zz = 850	Firmware-Version: 01 to 99	Tagging (TAG), 316L plate, Paper plate, Customer plate, RFID TAG Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant
ss = 895	Marking: Z1 to Z9	Tagging (TAG), 316L plate, Paper plate, Customer plate, RFID TAG Modification of one of the above named option: Special version not given in the standard order code. Changes not explosion protection relevant

2) type FTL62

FTL62 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss	
aa = 010	Approval: *B ATEX/IEC II 1/2G, 2G Ex ia IIC/IIB T6 Ga/Gb, *C ATEX/IEC II 1/2G, 2G Ex db IIC/IIB T6 Ga/Gb, *K ATEX/IEC II 1/2G, 2G Ex ia IIC/IIB T6 Ga/Gb, II 1/2D, 2D Ex ia IIIC Da/Db *L ATEX/IEC II 3G Ex ec IIC/IIB T6 Gc, II 3D Ex tc IIIC Dc *M ATEX/IEC II 1/2G, 2G Ex db IIC/IIB T6 Ga/Gb, II 1/2D, 2D Ex ta/tb IIIC Da/Db
bb = 020	Electronic, Output: BA FEL60H, 2-wire 4...20 mA HART + test button DA FEL60A, 2-wire, PROFIBUS PA FA FEL60P, 2-Wire, PROFINET over Ethernet-APL, 10Mbit/s 9Y Changes not explosion protection relevant
c = 030	Display, Operating: A W/o; switch E Graphic display with touch control F Graphic display with touch control + Bluetooth L Prepared for separated display FHX50B + M12 connector M Prepared for separated display FHX50B + M20 cable entry N Prepared for separated display FHX50B + 1/2-NPT entry thread O Prepared for separated display FHX50B + M20 entry thread Y Changes not explosion protection relevant
d = 040	Housing; Material: B Single compartment; Alu, coated M Dual compartment L-shape; Alu, coated N Dual compartment L-chape; 316L Y Changes not explosion protection relevant
e = 050	Electrical Connection: A Gland M20, plastic, IP66/68, NEMA Type 4X/6P B Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P C Gland M20, 316L, IP66/68 NEMA Type 4X/6P F Thread M20, IP66/68 NEMA Type 4X/6P G Thread G1/2, IP66/68 NEMA Type 4X/6P H Thread NPT1/2, IP66/68 NEMA Type 4X/6P J Gland M20, plastic blue, IP66/68, NEMA Type 4X/6P M Plug M12, IP66/67 NEMA Type 4X Y Changes not explosion protection relevant
f = 060	Application: N Process max 120 °C/248 °F, max 40bar (ECTFE) P Process max 150 °C/302 °F, max 40bar (PFA) T Process max 150 °C/302 °F, max 25bar (Email) 9 Changes not explosion protection relevant
g = 080	Surface Refinement: N Coating ECTFE P Coating PFA (Edlon) Q Coating PFA (RubyRed) R Coating PFA (conductive) T Coating Enamel Y Coating Metal plating, electrically conductive and without risk of impact and friction sparks. E.g. tantalum, gold , ...
h = 085	Type of Probe: 2 Extension tube 3 Short tube version 9 Changes not explosion protection relevant
ii = 090	Sensor Length; Material: BN to Two characters representing different types of probe coating materials (ECTFE, PFA, ENAMEL) and length of probe in mm or inch Modification of one of the above named option: YY Special version not given in the standard order code, Duplex Steel, different Alloy-C-version. Changes not explosion protection relevant

FTL62 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss

jj kkk	Process Connection, Sealing Surface:
=	AA AAA Combination of two characters representing different types of process connections (Flanges), plus a
105	to triple number of combinations representing the different sizes of process connections. Not explosion protection relevant.
+	Modification of one of the above named option in:
110	99 9YY Special version not given in the standard order code. Changes not explosion protection relevant
yy	Operating Language:
=	AA Customer operating language
500	to
	AY Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
ll	Application Package:
=	EH E plus a character or figure representing different Application packages as
540	EH=Heartbeat Verification + Monitoring or
	to EL= Prepared for Heartbeat Verification + Monitoring.
	Not mandatory.
	E9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
mm	Services:
=	HA H or I plus a character or figure representing different services like cleaned from oli+fat, cleaned for Oxygen applications, or settings to the
570	to device different from delivery standard. Not mandatory, multiple selection possible.
	I9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
nn	Test, Certificate, Declaration:
=	JL Ambient temperature -50 °C/-58 °F
580	JT Ambient temperature -60 °C/-76 °F
	JA J or K plus a character or figure representing different production tests (Pressure test, He-Leakage test, PMI test, ...) or material
	to certificates for the wetted materials. Not mandatory, multiple selection possible.
	K9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
oo	Additional approvals:
=	LA L plus a character or figure representing different additional approvals (SIL, WHG, ship building, CRN, ...).
590	to Not mandatory, multiple selection possible.
	L9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
pp	Sensor design:
=	MR Temperature separator
600	MS Temperature separator + Pressure tight feed through (Second line of defence)
	M9 Modification of one of the above named option:
	Special version not given in the standard order code, shorter, longer or angled version. Changes not explosion protection relevant
qq	Accessories mounted:
=	NA Overvoltage protection
610	OB Plug marking according to IEC/ATEX Ex d
	O9 Venting Element in not used cable entry assembled (only for Ex i, Ex e, Ex t)
	Changes not explosion protection relevant
rr	Accessories enclosed:
=	PA Weather protection cover, 316L
620	PB Weather protection cover, plastic
	R9 Changes not explosion protection relevant
zz	Firmware-Version:
=	01 Version of the firmware if available for the Electronic, Output (bb=020)
850	to 99 Not explosion protection relevant
ss	Marking:
=	Z1 Tagging (TAG), 316L plate, Paper plate, Customer plate, RFID TAG
895	Z9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant

3) type FTL63

FTL63 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss	
aa	Approval:
=	*A ATEX/IEC II 1G Ex ia IIC T6 Ga
010	*B ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb
	*C ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb
	*K ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb, II 1/2D, 2D Ex ia IIC Da/Db
	*L ATEX/IEC II 3G Ex ec IIC T6 Gc, II 3D Ex tc IIC Dc
	*M ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb, II 1/2D, 2D Ex ta/tb IIC Da/Db
bb	Electronic, Output:
=	BA FEL60H, 2-wire 4...20 mA HART + test button
020	DA FEL60A, 2-wire, PROFIBUS PA
	FA FEL60P, 2-Wire, PROFINET over Ethernet-APL, 10Mbit/s
	9Y Changes not explosion protection relevant
c	Display, Operating:
=	A W/o; switch
030	E Graphic display with touch control
	F Graphic display with touch control + Bluetooth
	L Prepared for separated display FHX50B + M12 connector
	M Prepared for separated display FHX50B + M20 cable entry
	N Prepared for separated display FHX50B + 1/2-NPT entry thread
	O Prepared for separated display FHX50B + M20 entry thread
	Y Changes not explosion protection relevant
d	Housing; Material:
=	B Single compartment; Alu, coated
040	M Dual compartment L-shape; Alu, coated
	N Dual compartment L-shape; 316L
	Y Changes not explosion protection relevant
e	Electrical Connection:
=	A Gland M20, plastic, IP66/68, NEMA Type 4X/6P
050	B Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P
	C Gland M20, 316L, IP66/68 NEMA Type 4X/6P
	D Gland M20, 316L, hygienic, IP66/68 NEMA Type 4X/6P
	F Thread M20, IP66/68 NEMA Type 4X/6P
	G Thread G1/2, IP66/68 NEMA Type 4X/6P
	H Thread NPT 1/2, IP66/68 NEMA Type 4X/6P
	M Plug M12, IP66/67 NEMA Type 4X
	Y Changes not explosion protection relevant
f	Application:
=	A Process max 150oC/302oF, max 64bar
060	B Process max 150oC/302oF, max 100bar
	9 Changes not explosion protection relevant
g	Surface Refinement:
=	A Standard Ra <1,5um/59uin
080	B Hygienic Ra <0,76um/30uin
	D Hygienic Ra <0,3um/12uin
	E Hygienic Ra <0,38um/15uin electr. polished
	Y Modification of the above named option in: Ra < 0,3um or better. Changes not explosion protection relevant
h	Type of Probe:
=	1 Compact version
085	2 Extension tube
	3 Short tube version
	9 Modification of the above named option: Shorter than standard version, Probe angled. Changes not explosion protection relevant
ii	Sensor Length; Material:
=	AA
090	to Two characters representing different types of probe materials (316L/AlloyC22) and length of probe in mm or inch
	YY Changes not explosion protection relevant

FTL63 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss

jj kkk	Process Connection, Sealing Surface:
=	AA AAA Combination of two characters representing different types of process connections (Flanges), plus a
105	to triple number of combinations representing the different sizes of process connections. Not explosion protection relevant.
+	Modification of one of the above named option in:
110	99 9YY Special version not given in the standard order code. Changes not explosion protection relevant
yy	Operating Language:
=	AA Customer operating language
500	to
	AY Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
ll	Application Package:
=	EH E plus a character or figure representing different Application packages as
540	EH=Heartbeat Verification + Monitoring or
	EL= Prepared for Heartbeat Verification + Monitoring.
	Not mandatory.
	E9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
mm	Services:
=	HA H or I plus a character or figure representing different services like cleaned from oil+fat, cleaned for Oxygen applications, or settings to the
570	to device different from delivery standard. Not mandatory, multiple selection possible.
	I9 Changes not explosion protection relevant
nn	Test, Certificate, Declaration:
=	JL Ambient temperature -50 °C/-58 °F
580	JT Ambient temperature -60 °C/-76 °F
	JA J or K plus a character or figure representing different production tests (Pressure test, He-Leakage test, PMI test, ...) or material
	to certificates for the wetted materials. Not mandatory, multiple selection possible.
	K9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
oo	Additional approvals:
=	LA L plus a character or figure representing different additional approvals (SIL, WHG, ship building, CRN, ...).
590	to Not mandatory, multiple selection possible.
	L9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
pp	Sensor design:
=	MR Temperature separator
600	MS Temperature separator + Pressure tight feed through (Second line of defence)
	Modification of one of the above named option:
	M9 Special version not given in the standard order code, shorter, longer or angled version.
	Changes not explosion protection relevant
qq	Accessories mounted:
=	NA Overvoltage protection
610	OB Plug marking according to IEC/ATEX Ex d
	O9 Venting Element in not used cable entry assembled (only for Ex i, Ex e, Ex t)
	Changes not explosion protection relevant
rr	Accessories enclosed:
=	PA Weather protection cover, 316L
620	PB Weather protection cover, plastic
	R9 Changes not explosion protection relevant
zz	Firmware-Version:
=	01 Version of the firmware if available for the Electronic, Output (bb=020)
850	to Not explosion protection relevant
	99
ss	Marking:
=	Z1 Tagging (TAG), 316L plate, Paper plate, Customer plate, RFID TAG
895	Z9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant

4) type FTL64

FTL64 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss	
aa = 010	Approval: *B ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb *C ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb *K ATEX/IEC II 1/2G, 2G Ex ia IIC T6 Ga/Gb, II 1/2D, 2D Ex ia IIIC Da/Db *L ATEX/IEC II 3G Ex ec IIC T6 Gc, II 3D Ex tc IIIC Dc *M ATEX/IEC II 1/2G, 2G Ex db IIC T6 Ga/Gb, II 1/2D, 2D Ex ta/tb IIIC Da/Db
bb = 020	Electronic, Output: BA FEL60H, 2-wire 4...20 mA HART + test button DA FEL60A, 2-wire, PROFIBUS PA FA FEL60P, 2-Wire, PROFINET over Ethernet-APL, 10Mbit/s 9Y Changes not explosion protection relevant
c = 030	Display, Operating: A W/o; switch E Graphic display with touch control F Graphic display with touch control + Bluetooth L Prepared for separated display FHX50B + M12 connector M Prepared for separated display FHX50B + M20 cable entry N Prepared for separated display FHX50B + 1/2-NPT entry thread O Prepared for separated display FHX50B + M20 entry thread Y Changes not explosion protection relevant
d = 040	Housing; Material: B Single compartment; Alu, coated M Dual compartment L-shape; Alu, coated N Dual compartment L-shape; 316L Y Changes not explosion protection relevant
e = 050	Electrical Connection: A Gland M20, plastic, IP66/68, NEMA Type 4X/6P B Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P C Gland M20, 316L, IP66/68 NEMA Type 4X/6P F Thread M20, IP66/68 NEMA Type 4X/6P G Thread G1/2, IP66/68 NEMA Type 4X/6P H Thread NPT1/2, IP66/68 NEMA Type 4X/6P J Gland M20, plastic blue, IP66/68, NEMA Type 4X/6P M Plug M12, IP66/67 NEMA Type 4X Y Changes not explosion protection relevant
f = 060	Application: D Process max 280 °C/536 °F, max 100bar E Process max 230 °C/446 °F, max 100bar R Process max 230 °C/446 °F, max 40bar (PFA) 9 Process max 300 °C/572 °F, max 100bar Modification of the above named option in: Changes not explosion protection relevant
g = 080	Surface Refinement: A Standard Ra<3,2µm/126µin R Coating PFA (conductive) Modification of the above named option in: Y For Example: surface Refinement Ra<= 0,5µm, or Surface electropolished; Coated with ECTFE, Email, EDLON, PFA or RubyRed: or additional options not explosion protection relevant
h = 085	Type of Probe: 1 Compact version 2 Extension tube Modification of the above named option: 9 Shorter than standard version, Probe angled. Changes not explosion protection relevant
ii = 090	Sensor Length; Material: AC Two characters representing different types of probe materials (316L/AlloyC22) and length of probe in mm or inch to Modification of one of the above named option: YY Special version not given in the standard order code, Duplex Steel, different Alloy-C-version. Changes not explosion protection relevant

FTL64 – aa bb c d e f g h ii jj kkk + yy ll mm nn oo pp qq rr zz ss

jj kkk	Process Connection, Sealing Surface:
=	AA AAA Combination of two characters representing different types of process connections (Flanges), plus a
105	to triple number of combinations representing the different sizes of process connections. Not explosion protection relevant.
+	Modification of one of the above named option in:
110	99 9YY Special version not given in the standard order code. Changes not explosion protection relevant
yy	Operating Language:
=	AA Customer operating language
500	to
	AY Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
ll	Application Package:
=	EH E plus a character or figure representing different Application packages as
540	EH=Heartbeat Verification + Monitoring or
	to EL= Prepared for Heartbeat Verification + Monitoring.
	Not mandatory.
	E9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
mm	Services:
=	HA H or I plus a character or figure representing different services like cleaned from oli+fat, cleaned for Oxygen applications, or settings to the
570	to device different from delivery standard. Not mandatory, multiple selection possible.
	I9 Changes not explosion protection relevant
nn	Test, Certificate, Declaration:
=	JL Ambient temperature -50 °C/-58 °F
580	JT Ambient temperature -60 °C/-76 °F
	JA J or K plus a character or figure representing different production tests (Pressure test, He-Leakage test, PMI test, ...) or material
	to certificates for the wetted materials. Not mandatory, multiple selection possible.
	K9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
oo	Additional approvals:
=	LA L plus a character or figure representing different additional approvals (SIL, WHG, ship building, CRN, ...).
590	to Not mandatory, multiple selection possible.
	L9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant
pp	Sensor design:
=	- No option available
600	to Modification of one of the above named option:
	M9 Special version not given in the standard order code, shorter, longer or angled version.
	Changes not explosion protection relevant
qq	Accessories mounted:
=	NA Overvoltage protection
610	OB Plug marking according to IEC/ATEX Ex d
	O9 Venting Element in not used cable entry assembled (only for Ex i, Ex e, Ex t)
	Changes not explosion protection relevant
rr	Accessories enclosed:
=	PA Weather protection cover, 316L
620	PB Weather protection cover, plastic
	R9 Changes not explosion protection relevant
zz	Firmware-Version:
=	01 Version of the firmware if available for the Electronic, Output (bb=020)
850	to Not explosion protection relevant
	99
ss	Marking:
=	Z1 Tagging (TAG), 316L plate, Paper plate, Customer plate, RFID TAG
895	Z9 Modification of one of the above named option:
	Special version not given in the standard order code. Changes not explosion protection relevant

Electrical data

Electronic output:	Supply For non-IS application:	Supply For IS application and the following maximum values:
4...20mA HART (MA10):	DC-Power supply with $U < 35 \text{ V}$ The max. power dissipation = 1 W	$U < 30 \text{ V}$ $U_i = 30 \text{ V DC}$; $I_i = 300 \text{ mA}$; $P_i = 1 \text{ W}$; $C_i = 10 \text{ nF}$; $L_i = 0$
Profibus PA (MA11):	DC-Bus Power supply with $U < 32 \text{ V}$ The max. power dissipation = 0.7 W	FISCO: $U_i \leq 17.5 \text{ VDC}$ $I_i \leq 380 \text{ mA}$ $P_i \leq 5.32 \text{ W}$ $C_i \leq 5 \text{ nF}$ $L_i = 0$ Entity: $U_i \leq 24 \text{ VDC}$ $I_i \leq 300 \text{ mA}$ $P_i \leq 1.2 \text{ W}$ $C_i \leq 5 \text{ nF}$ $L_i = 0$
Ethernet APL (MA12):	DC-Bus Power supply with $U < 15 \text{ V}$ The max. power dissipation = 0.7 W	2-WISE: $U_i \leq 17.5 \text{ VDC}$ $I_i \leq 380 \text{ mA}$ $P_i \leq 5.32 \text{ W}$ $C_i \leq 5 \text{ nF}$ $L_i = 0$ Entity: $U_i \leq 17.5 \text{ VDC}$ $I_i \leq 300 \text{ mA}$ $P_i \leq 1.2 \text{ W}$ $C_i \leq 5 \text{ nF}$ $L_i = 0$