



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx DEK 22.0008X**

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Certificate history:

Status: **Current**

Issue No: 1

[Issue 0 \(2022-08-01\)](#)

Date of Issue: 2025-03-04

Applicant: **Endress+Hauser SE+Co. KG**
Hauptstraße 1
79689 Maulburg
Germany

Equipment: **Level Switch Liquiphant Digital, types FTL51B, FTL62, FTL63 and FTL64**

Optional accessory:

Type of Protection: **Ex d, Ex t, Ex i, Ex e**

Marking:
Ex db IIC T6...T1 Ga/Gb
Ex db IIC T6...T1 Gb
Ex ta IIIC T₂₀₀ xxx °C Da / Ex tb IIIC T_L xxx °C Db
Ex tb IIIC T_L xxx °C Db
Ex tc IIIC T xxx °C Dc
Ex ia IIC T6...T1 Ga
Ex ia IIC T6...T1 Ga/Gb
Ex ia IIC T6...T1 Gb
Ex db ia IIC T6...T1 Ga/Gb
Ex db ia IIC T6...T1 Gb
Ex ia IIIC T₂₀₀ xxx °C Da / Ex ia IIIC T_L xxx °C Db
Ex ia IIIC T_L xxx °C Db
Ex ec IIC T6...T1 Gc

Approved for issue on behalf of the IECEx
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands





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Date of issue: 2025-03-04

Issue No: 1

Manufacturer: **Endress+Hauser SE+Co. KG**
Hauptstraße 1
Maulburg 79689
Germany

Manufacturing locations: **Endress+Hauser SE+Co. KG**
Hauptstraße 1
Maulburg 79689
Germany

Endress+Hauser (Suzhou)
Automation Instrumentation Co. Ltd.
China – Singapore Industrial Park
(SIP)
Su-Hong-Zhong-Lu, No. 491
Jiangsu Province, 215021 Suzhou
China

Endress+Hauser (USA)
Automation Instrumentation Inc.
2340 Endress Place
Greenwood, Indiana 46143
United States of America

See following pages for more locations

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2023 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

IEC 60079-26:2021 Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection
Edition:4.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

IEC TS 60079-47:2021 Explosive atmospheres – Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)
Edition:1.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

NL/DEK/ExTR22.0032/01

Quality Assessment Report:

DE/TUN/QAR06.0003/11



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Date of issue: 2025-03-04

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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. For detailed thermal data refer to the instructions.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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.
7. For Level Switch Liquiphant Digital, when used as EPL Gc equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.



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Date of issue: 2025-03-04

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. Introduction of type FTL63
2. Assessed per IEC 60079-11 Ed. 7 and IEC 60079-31 Ed. 3
3. Minor constructional changes, including change of product name from HART to Digital.



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Certificate No.: **IECEX DEK 22.0008X**

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Date of issue: 2025-03-04

Issue No: 1

Additional manufacturing locations:

Endress+Hauser (Brasil) Instrumentação e Aut.Ltda.

Estrada Municipal Antonio Sesti
600 Bairro Recreio Costa Verde
Itatiba, SP - 13254-085
Brazil

**Endress+Hauser (India) Automation
Instrumentation Pvt. Ltd.**

M-192, Waluj MIDC
Maharashtra State
Chhatrapati Sambhajnagar (former
Aurangabad) 431 136
India

Annex:

[229188700-Annex1 to ExTR22.0032.01.pdf](#)

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:
=	*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
	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:
=	A Process max 150 °C/302 °F, max 64bar
060	B Process max 150 °C/302 °F, max 100bar
	9 Changes not explosion protection relevant
g	Surface finish:
=	A Standard Ra <3.2um/126uin
080	Y Modification of the above named option in: Ra < 1.6um or better. Changes not explosion protection relevant
h	Probe version:
=	1 Compact version
085	2 Extension tube
	3 Short tube version
	9 Changes not explosion protection relevant
ii	Probe length, material:
=	AA Two characters representing different types of probe materials (316L or Alloy C) and length of probe in mm or inch
090	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 +	Process Connection, Sealing Surface: AA AAA	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.
110	99 9YY	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 oli+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 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 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 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	Approval:
=	*B ATEX/IEC II 1/2G, 2G Ex ia IIC/IIB T6 Ga/Gb,
010	*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	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-chape; 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
	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:
=	N Process max 120 °C/248 °F, max 40bar (ECTFE)
060	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	Surface Refinement:
=	N Coating ECTFE
080	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	Type of Probe:
=	2 Extension tube
085	3 Short tube version
	9 Changes not explosion protection relevant
ii	Sensor Length; Material:
=	BN
090	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.
+	99 9YY Modification of one of the above named option in:
110	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	to 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 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:
=	
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 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	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 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 NPT1/2, 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 150oC/302oF, max 64bar B Process max 150oC/302oF, max 100bar 9 Changes not explosion protection relevant
g	Surface Refinement:
=	
080	A Standard Ra <1,5um/59uin 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:
=	
085	1 Compact version 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:
=	
090	AA Two characters representing different types of probe materials (316L/AlloyC22) and length of probe in mm or inch to 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.
+	99 9YY Modification of one of the above named option in:
110	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	to 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	Approval:
=	
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 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	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	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	Surface Refinement:
=	
080	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	Type of Probe:
=	
085	1 Compact version 2 Extension tube 9 Modification of the above named option: Shorter than standard version, Probe angled. Changes not explosion protection relevant
ii	Sensor Length; Material:
=	
090	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.
+	99 9YY Modification of one of the above named option in:
110	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	to 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:
=	- 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	to Modification of one of the above named option:
	Z9 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: $U_i \leq 17.5 \text{ VDC}$ $C_i \leq 5 \text{ nF}$ Entity: $U_i \leq 24 \text{ VDC}$ $C_i \leq 5 \text{ nF}$	$I_i \leq 380 \text{ mA}$ $L_i = 0$ $I_i \leq 300 \text{ mA}$ $L_i = 0$	$P_i \leq 5.32 \text{ W}$ $P_i \leq 1.2 \text{ W}$
Ethernet APL (MA12):	DC-Bus Power supply with $U < 15 \text{ V}$ The max. power dissipation = 0.7 W	2-WISE: $U_i \leq 17.5 \text{ VDC}$ $C_i \leq 5 \text{ nF}$ Entity: $U_i \leq 17.5 \text{ VDC}$ $C_i \leq 5 \text{ nF}$	$I_i \leq 380 \text{ mA}$ $L_i = 0$ $I_i \leq 300 \text{ mA}$ $L_i = 0$	$P_i \leq 5.32 \text{ W}$ $P_i \leq 1.2 \text{ W}$