



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER

Endress + Hauser SE + Co. KG
Hauptstraße 1
79689 Maulburg
GERMANY

DESCRIPTION

Level switch Liquiphant Failsafe

TYPES

FTL80[10][20][30][40][50][60][70][80][90][100][600][610][620]

[10] = Approval: Any double letter and/or number combination
[20] = Electronics; Output: S
[30] = Display; Operating: A
[40] = Housing: C, D, E, H, I
[50] = Electrical Connection: Any single letter and/or number
[60] = Application: A, B, C*, D* (*not in combination with enclosure F27)
[70] = Sensor Material: 1, 2, 5
[80] = Surface Refinement: Any single letter and/or number
[90] = Sensor Type: BC, BJ, CC, CJ, DC, DJ, YY* (*except for safety-relevant characteristics)
[100] = Process Connection: Any triple letter and/or number combination;
except for thread $\leq 1/2''$; except for synthetic material
[600] = Sensor Design: MP
[610] = Accessory Mounted: Any double letter and/or number combination, except for safety-relevant characteristics
[620] = Accessory Enclosed: No option allowed

Certificate No.

13/20046 (E1)

Issue Date

05 March 2019

Expiry Date

24 September 2023

Sheet

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Thorsten Wolff
Hamburg Technical Support Office
Lloyd's Register Deutschland GmbH

LR031.1.2016.06



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TYPES continued

FTL81[10][20][30][40][50][60][70][80][90][100][600][610][620]

- [10] = Approval: Any double letter and/or number combination
- [20] = Electronics; Output: S
- [30] = Display; Operating: A
- [40] = Housing: C, D, E, H, I
- [50] = Electrical Connection: Any single letter and/or number
- [60] = Application: A, B, C*, D* (*not in combination with enclosure F27)
- [70] = Sensor Material: 1, 2, 5
- [80] = Surface Refinement: Any single letter and/or number
- [90] = Sensor Type: BC, BJ, CC, CJ, DC, DJ, YY* (*except for safety-relevant characteristics)
- [100] = Process Connection: Any triple letter and/or number combination;
except for thread $\leq 1/2''$; except for synthetic material
- [600] = Sensor Design: MP
- [610] = Accessory Mounted: Any double letter and/or number combination, except for safety-relevant characteristics
- [620] = Accessory Enclosed: No option allowed

FTL85[10][20][30][40][50][60][70][80][90][100][600][610][620]

- [10] = Approval: Any double letter and/or number combination
- [20] = Electronics; Output: S
- [30] = Display; Operating: A
- [40] = Housing: C, D, E, H, I
- [50] = Electrical Connection: Any single letter and/or number
- [60] = Application: N, P, T
- [70] = Sensor Material: 1, 5
- [80] = Surface Refinement: Any single letter and/or number
- [90] = Sensor Type: BN, BP, BQ, BR, BT, CN, CP, CQ, CR, CT, DN, DP, DQ, DR, DT, ET, FE, GT, HT, IT, YY* (*except for safety-relevant characteristics)

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Thorsten Wolff
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TYPES continued

[100] = Process Connection: Any triple letter and/or number combination;
except for thread $\leq 1/2''$; except for synthetic material
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APPLICATION

Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 (ENV5 for level switches with [40] = Housing: I) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2002.

STANDARD

Manufacturer's specification

RATINGS

Power supply: 24 V DC
Output: 4-20 mA

OTHER CONDITIONS

Ratings for application in hazardous areas are to be obtained from the applicable Ex Certificates.
The pipe extension of level switches FTL81, 85 is to be supported every 1000 mm and the max. free length at the end is not to exceed 150 mm.

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 37931-19 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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