



1. **EC-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **EC-Type Examination Certificate Number:** ITS09ATEX26328X Issue 2

4. **Equipment or Protective System:** Level Switch LFFS 1xx.x

5. **Manufacturer:** Baumer A/S

6. **Address:** Runetofte 19
DK-8210 Aarhus V, Denmark

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report Ref G102374615 Issue dated December 2015 and Intertek Report Ref ETS 3572 dated July 2009.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2006, EN 60079-11:2007 and EN 60079-26:2007 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This EC Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

 II 1 G Ex ia IIC T5



A T Austin
Certification Officer
09 December 2015

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SCHEDULE
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13. **Description of Equipment or Protective System**

LFFS 1xx.x is used for level measuring of liquids or powder. The functionality is based on the DK value of the media. The product contains a printed circuit board which contains all the electronic for the functionality. This circuit board is mounted in a plastic housing and encapsulated in Silicone gel. Terminals are placed on the outside of this plastic housing. This plastic housing is again mounted in a stainless steel AISI 316L housing (diameter 55mm). The cable connections is lead through a cable gland made of brass or plastic or through a M12 plug mounted in the stainless steel housing. The sensor is terminated internally to the screw terminals on the plastic housing.

LFFS 1xx.x is to be connected via a certified zener barrier.

Level Switch	LFFS	x	x	x
Safety:				
Standard		0		
1G (Zone 0,1,2)		1		
1D (Zone 20, 21, 22)		2		
3G (Zone 2)		3		
Electrical connections:				
Plug, M12			1	
Cable gland Brass M16			2	
Cable gland Polyamide M16			3	
Process connection:				
G1/2, PEEK tip				1
3A Hygienic connection DN38				2
G1/2, PEEK tip, sliding connection, 100mm				3
G1/2, PEEK tip, sliding connection, 250mm				4

Intrinsic safe specifications.

Ui: 30Vdc
Ii: 100mA
Pi: 0.75 W
Ci: 33nF
Li: 10µH

14. **Report Number**

Intertek Report Ref G102374615 Issue dated December 2015
Intertek Report Ref ETS 3572 dated July 2009.

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15. **Conditions of Certification**

(a). Special Conditions for safe use

- Equipment is to be supplied from a suitable certified zener Barrier.
- Programming via terminal 4 (Teach in) must only be done in safe area.
- It is essential that the media temperature is considered according to the below tables and the description in the Installation Manual provided by the manufacturer.

Level Switch LFFS 1x1/2 (G1/2, PEEK tip and 3A Hygienic connection DN38)

Ambient temperature	Maximum media/process temperature	T-Class
-40°C < Tamb < 85°C	85°C	T5
-40°C < Tamb < 60°C	95°C (*)	T5
-40°C < Tamb < 40°C	115°C (*)	T5

(*) provided that the sensor tip at the sliding connection is the only part in contact with the media

Level Switch LFFS (G1/2, PEEK tip, sliding connection, 100mm)

Ambient temperature	Maximum media/process temperature	T-Class
-40°C < Tamb < 85°C	85°C	T5
-40°C < Tamb < 60°C	150°C (*)	T5
-40°C < Tamb < 40°C	175°C (*)	T5

(*) provided that the sensor tip at the sliding connection is the only part in contact with the media

Level Switch LFFS 1x4 (G1/2, PEEK tip, sliding connection, cooling neck, 250mm)

Ambient temperature	Maximum media/process temperature	T-Class
-40°C < Tamb < 85°C	85°C	T5
-40°C < Tamb < 60°C	195°C (*)	T5
-40°C < Tamb < 40°C	200°C (*)(**)	T5

(*) provided that the sensor tip at the sliding connection is the only part in contact with the media

(**) Maximum allowed media/process temperature.

(b). Conditions of Manufacture

- None

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16. **Essential Health and Safety Requirements (EHSR's)**

The relevant EHSR's have been identified and assessed in Intertek Report Ref ETS 3572 dated July 2009.

17. **Drawings and Documents**

Title	Drawing No.:	Rev. Level:	Date:
FlexLevel Switch 4xxx	5520-533	B1	2009-07-08
Assembly	5551533	B1	2009-07-08
FlexLevel Switch Samlingstegning	5502-007	B1	2009-06-15
Instrument Drawings ½" Nippel (1 of 3)	5502-005	A2	2009-07-06
DN38 3A Hygeenic (2 of 3)	5502-005	A2	2009-06-17
Sliding connection with welding parts and seal / clamp ring (3 of 3)	5502-005	A2	2009-07-07
Samling Control Unit	5502-008	A2	2009-04-14
Låg Ø55 mm Med lys indikatore.	3031-049	A1	2009-01-20
Dæksel for låg med lys. LSM	3031-050	A1	2009-01-19
Housing Ø55	3011087	A1	2009-04-21
Etiket	2008969	A1	2009-07-09

18. **Revision**

Intertek Report Ref 09 040594 ETS 3572; Supplementary Certificate ITS09ATEX26328X dated July 2010.

To permit the following change;

FlexLevel Switch 4401 1xx will now be known as the Level switch LFFS 1xx and is identical in every other aspect.

Drawings;

Title	Drawing No.:	Rev. Level:	Date:
Etiket Level switch LLFS 1xx Ex ia A3	2008969	B1	2010-07-27

Intertek Report Ref G102374615; Supplementary Certificate ITS09ATEX26328X Issue 2 dated December 2015.

To permit the following change;

- Modification of the Ingold connections used for the process connection.
- Applicant's address changed from Jacob Knudsens Vej 14 DK-8230 Aabyhoj, Denmark to Runetoften 19 DK-8210 Aarhus V Denmark.
- Name of equipment changed from LFSS 1xx to LFFS 1xx.x.
- Change to appropriate documents to reflect the above changes.

Drawings;

Title	Drawing No.:	Rev. Level:	Date:
Ingold Studs, LFFS9001	5523012	B1	06-03-2012
Kølehals-Ingold	2100482	A1	06-03-2012

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