

Translation

(1) **EC-Type Examination Certificate**

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3) **Certificate Number** TÜV 11 ATEX 076877 X

(4) for the equipment: Level Switch  
type: LBFS 1xxx x (x) and LBFS 2xxx x (x)

(5) of the manufacturer: Baumer A/S

(6) Address: Jacob Knudsens Vej 14  
8230 Aabyhøj, Denmark

Order number: 8000391740

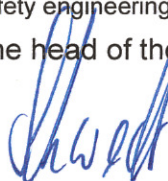
Date of issue: 2011-05-13

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), 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 the confidential report No. 11 203 391740.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2009      EN 60079-11:2007      EN 60079-26:2007      EN 60079-31:2009**
- (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 in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment or protective system must include the following:

 **II 1 G Ex ia IIC T4/T5 and II 1 D Ex ta IIIC T100 °C Da**

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt

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(13) **SCHEDULE**

(14) **EC-Type Examination Certificate No. TÜV 11 ATEX 076877 X**

(15) Description of equipment

The Level Switch LBFS is designed to detect levels in tanks, media separation and provide empty-pipe detection or dry-run protection for pumps. A high frequency sweep signal is radiated from the sensor tip into the tank. The media will act as a virtual capacitor, which together with a coil in the sensor head, will form a circuit creating the switch point signal. The virtual capacitance will depend of the dielectric value of the media.

The Level sensor can be delivered in different mechanical type variants covering e.g , output configuration, process connection thread size, housing material in accordance with the below listed type code list.

<b>Type key</b>	<b>LBFS</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>(x)</b>
<b>Ex classification:</b>							
"Gas Version": Ex ia IIC T5		<b>1</b>					
„Dust Version“: Ex ta IIIC T100 °C Da		<b>2</b>					
<b>Electrical Connection:</b>							
Plug, M12			<b>1</b>				
type code reserved for fixed cable version							
<b>Process Connection:</b>							
Various connections such as:				<b>x</b>			
G1/2"				<b>x</b>			
G3/4"				<b>x</b>			
G1"							
<b>Process Connection material;</b>							
Stainless Steel AISI 304					<b>1</b>		
Stainless Steel AISI 316L					<b>2</b>		
<b>Output Configuration:</b>							
PNP output						<b>1</b>	
NPN output						<b>2</b>	
<b>Configuration:</b>							
Configuration according to customer specification							<b>C</b>

**Intrinsically safe entity parameters**

U<sub>i</sub> : 30 VC  
 I<sub>i</sub> : 100 mA  
 P<sub>i</sub> : 0,75W  
 C<sub>i</sub> : 43 nF  
 L<sub>i</sub> : 10µH

Permitted range of the ambient temperature      -40 °C to + 85 °C

Temperature Class: T5 for max. Ambient temp. of 74 °C  
 Temperature Class: T4 for max. Ambient temp. of 85 °C

Ingress protection class: IP 67

**Translation**

**1. SUPPLEMENT**

<b>to Certificate No.</b>	<b>TÜV 11 ATEX 076877 X</b>
Equipment:	Level Switch
	Type LBFS 4xxx x (x)
Manufacturer:	<b>Baumer A/S</b>
Address:	Runetoften 19
	8210 Aarhus V
	Denmark
Order number:	8000411990
Date of issue:	2012-09-26

Amendements:

**Amendments related to this "1<sup>st</sup> Supplement to TÜV 11 ATEX 076877X":**

1. The type: LBFS 4xxx x (C) has been added to the type number system. This model is marked for use in both Gas and Dust environments. Ex ia IIC T5 and Ex ta IIC T100°C Da. The type LBFS 4xxx x (C) version must be supplied through a zenerbarrier and with an IP 67 protected connection cable.
2. Due to the electrical measurement principle the 500 Vrms isolation separation between outer metal housing and electrical circuit cannot be fulfilled. The max. insulation voltage is limited to 40 V between intrinsically safe circuits and the housing.
3. Some mechanical type variants has been introduced – i.e. housing with threads in G1/2", G3/4" and G1".
4. Manufacturers address has changed to: Runetoften 19, 8210 Aarhus V, Denmark

Updated Type Key

<b>Type key</b>	<b>LBFS</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>(x)</b>
<b>Ex classification:</b>							
"Gas Version": Ex ia IIC T5		1					
„Dust Version": Ex ta IIC T100 °C Da		2					
Ex ia IIC T5 and Ex ta IIC T100 Da ( Gas and Dust))		4					
<b>Electrical Connection:</b>							
Plug, M12			1				
Cabel 5 meter			2				
Plug, M12, stainless steel, without LED			3				
<b>Process Connection:</b>							
Various connections such as:							
G1/2"				1			
G3/4"				2			
G1"				3			
<b>Process Connection material;</b>							
Stainless Steel AISI 304					1		
Stainless Steel AISI 316L					2		
<b>Output Configuration:</b>							
PNP output						1	
NPN output						2	
<b>Configuration:</b>							
According to customer specification							C

1st. Supplement to Certificate No. TÜV 11 ATEX 076877 X

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The electrical data and all other data apply unchanged for this supplement.

The equipment incl. of this supplement meets the requirements of these standards:

**EN 60079-0:2009**  
**EN 60079-31:2009**

**EN 60079-11:2007**

**EN 60079-26:2007**

(16) The test documents are listed in the test report No. 12203107651.

(17) Special conditions for safe use

The certificate numbers incorporates an "X" marking due to the following reasons:

- 1) Reduced force used on the cable pull test. The sensor cable must be fixed externally to the sensor at a distance max. 50 mm from the level sensor.
- 2) The dielectric strength test of 500 V<sub>r.m.s</sub> is not satisfied for the level switch. The maximum insulation voltage between housing and intrinsically safe housing is 40 V. The user must take special care during installation.
- 3) The sensor can be delivered with factory mounted M12 plug connector. The sensor can alternatively be delivered without the M12 plug connector. In case delivery is without plug connector a connector meeting ingress protection IP 67 must be chosen.

(18) Essential Health and Safety Requirements

no additional ones

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