



# 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](http://www.iecex.com)

|                     |                                                                                           |             |                             |
|---------------------|-------------------------------------------------------------------------------------------|-------------|-----------------------------|
| Certificate No.:    | <b>IECEx TUN 20.0003X</b>                                                                 | Page 1 of 3 | <u>Certificate history:</u> |
| Status:             | <b>Current</b>                                                                            | Issue No: 0 |                             |
| Date of Issue:      | 2021-02-05                                                                                |             |                             |
| Applicant:          | <b>BARKSDALE GmbH</b><br>Dorn - Assheimer Strasse 27<br>D - 61203 Reichelsheim<br>Germany |             |                             |
| Equipment:          | <b>Float switch type BFS-10-N-a-b-c-d-e-f</b>                                             |             |                             |
| Optional accessory: |                                                                                           |             |                             |
| Type of Protection: | <b>Protection by Intrinsic safety 'i'</b>                                                 |             |                             |
| Marking:            | <b>Ex ia IIB T6 Ga or Ex ia IIIC T100°C Da</b>                                            |             |                             |

Approved for issue on behalf of the IECEx  
Certification Body:

**Thomas Heinen**

Position:

**Deputy Head of IECEx Certification Body**

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.
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Certificate issued by:

**TÜV NORD CERT GmbH**  
Hanover Office  
Am TÜV 1, 30519 Hannover  
Germany





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Certificate No.: **IECEx TUN 20.0003X**

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Date of issue: 2021-02-05

Issue No: 0

Manufacturer: **BARKSDALE GmbH**  
Dorn - Assheimer Strasse 27  
D - 61203 Reichelsheim  
**Germany**

Manufacturing  
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 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

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:

[DE/TUN/ExTR20.0004/00](#)

Quality Assessment Report:

[DE/TUN/QAR13.0009/04](#)



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Certificate No.: **IECEx TUN 20.0003X**

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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### Description:

The flow switch type BFS-10-N-a-b-c-d-e-f is used for measuring and monitoring of liquid and gaseous media (air) and is operating according to a modified float measuring principle. The float is suspended by a spring in a cylindrical slotted nozzle. The flowing medium moves the float in the direction of flow.

For electrical, thermal data and type code refer to the attachment.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

For the use in areas that require EPL Da the flow switch type BFS-10-N-a-b-c-d-e-f must be protected from strong charge generation mechanisms.

## **Annex:**

[Attachment to IECEx TUN 20.0003X issue 0.pdf](#)

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Attachment to IECEx TUN 20.0003X issue No.: 0

**Product:**

**Description:**

The flow switch type BFS-10-N-a-b-c-d-e-f is used for measuring and monitoring of liquid and gaseous media (air) and is operating according to a modified float measuring principle. The float is suspended by a spring in a cylindrical slotted nozzle. The flowing medium moves the float in the direction of flow.

**Type code:**

|     |    |   |   |   |   |   |   |   |                                                                               |
|-----|----|---|---|---|---|---|---|---|-------------------------------------------------------------------------------|
| BFS | 10 | N | a | b | c | d | e | f |                                                                               |
|     |    |   |   |   |   |   |   |   | Range                                                                         |
|     |    |   |   |   |   |   |   |   | Option:                                                                       |
|     |    |   |   |   |   |   |   |   | Exi: Hazardous area; Intrinsic safety                                         |
|     |    |   |   |   |   |   |   |   | Electrical connection:                                                        |
|     |    |   |   |   |   |   |   |   | ST: Cube plug DIN EN 175301-803-A                                             |
|     |    |   |   |   |   |   |   |   | Switch function (without flow):                                               |
|     |    |   |   |   |   |   |   |   | NO: Normally open (SPST)                                                      |
|     |    |   |   |   |   |   |   |   | WE: Change over (SPDT)                                                        |
|     |    |   |   |   |   |   |   |   | Material:                                                                     |
|     |    |   |   |   |   |   |   |   | MS: Brass                                                                     |
|     |    |   |   |   |   |   |   |   | SS: Stainless Steel                                                           |
|     |    |   |   |   |   |   |   |   | Process connection:                                                           |
|     |    |   |   |   |   |   |   |   | G1/4" female DIN ISO 228-1                                                    |
|     |    |   |   |   |   |   |   |   | G1/2" female DIN ISO 228-1                                                    |
|     |    |   |   |   |   |   |   |   | G1" female DIN ISO 228-1                                                      |
|     |    |   |   |   |   |   |   |   | Indication: Without optical indication                                        |
|     |    |   |   |   |   |   |   |   | Type: For water or aqueous liquids or air, without enlarged measurement range |
|     |    |   |   |   |   |   |   |   | Barksdale Flow Switch                                                         |

**Electrical data:**

Power supply  
(Plug)

In type of protection intrinsic safety Ex ia IIB/IIIC  
Only for the connection to certified intrinsically safe circuits.  
Maximum values:

$U_i = 28 \text{ V}$   
 $I_i = 110 \text{ mA}$   
 $P_i = 0.84 \text{ W}$

Effective internal capacitance  
Effective internal inductance

$C_i$  = Capacitance of the connected cable  
 $L_i$  = Inductance of the connected cable

For the connected cable the following applies:

$C_{c,wire/wire} + C_{c,wire/screen} \leq 200 \text{ pF/m}$   
 $L_c \leq 1 \text{ } \mu\text{H/m}$

**Thermal data:**

Permissible ambient temperature range

$-40 \text{ }^\circ\text{C} \leq T_a \leq +75 \text{ }^\circ\text{C}$

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**Attachment to IECEx TUN 20.0003X issue No.: 0**

**Specific Conditions of Use:**

For the use in areas that require EPL Da the flow switch type BFS-10-N-a-b-c-d-e-f must be protected from strong charge generation mechanisms.