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 EPS 19.0073**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2020-01-23)
Date of Issue:	2021-03-15		
Applicant:	**Berthold Technologies GmbH & Co. KG** Calmbacher Str. 22 75323 Bad Wildbad **Germany**		
Equipment:	**Evaluation unit, type LB 47x-xx-xx**		
Optional accessory:			
Type of Protection:	**ib**		
Marking:	[Ex ib Gb] IIB [Ex ib Db] IIIC [Ex ib Gb] IIC		

Approved for issue on behalf of the IECEx Certification Body:

Position: **Certification Manager**

Signature: (for printed version)

Date: 2021-03-15

ZERTIFIZIERUNGSSTELLE BUREAU VERITAS Bureau Veritas CPS Germany GmbH 1128

1. This certificate and schedule may only be reproduced in full.
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:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany

BUREAU VERITAS

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Certificate No.: **IECEx EPS 19.0073**

Date of issue: 2021-03-15

Issue No: 1

Manufacturer: **Berthold Technologies GmbH & Co. KG**
Calmbacher Str. 22
75323 Bad Wildbad
Germany

Additional 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 Edition:7.0 — Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-11:2011 Edition:6.0 — Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

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/EPS/ExTR19.0071/01

Quality Assessment Report:

DE/PTB/QAR06.0011/06

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The LB 47x-xx-xx (associated apparatus) is used for the evaluation and display of signals as well as for power supply and data transmission to the detector (LB 44xx or LB 4700) by means of FSK modulation. The LB 47x-xx-xx is installed in the safe area and provides an intrinsically safe interface to the detector, which may be installed in zone 1 (gas) or zone 21 (dust).

The evaluation unit type LB 47x-xx-xx needs a partition wall between the intrinsically safe circuit and the non-is circuits to ensure the required 50mm distances between them.

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Additional inclusion of a new variant for IIC (see below).

Annex:

IECEx EPS 19.0073 - Annex_01.pdf

Description of equipment:

The LB 47x-xx-xx (associated apparatus) is used for the evaluation and display of signals as well as for power supply and data transmission to the detector (LB 44xx or LB 4700) by means of FSK modulation. The LB 47x-xx-xx is installed in the safe area and provides an intrinsically safe interface to the detector, which may be installed in zone 1 (gas) or zone 21 (dust).

Type key:

LB 47x	-	.	.	-	.	.	Description
x = 0,2..9		0					non Ex
		1					Ex-ib IIB / IIIC
		2					Ex-ib IIC / IIIC
			1				24 V_{DC}
			2				100...240 V_{AC} (50/60 Hz)
					M		Master
						x	one or more digits, not relevant for approval

Electrical data:

Power supply (ST1-30A,30C, PE: ST1-32A,32C)

Um = 100 – 240 VAC

Un = 32 VDC (Option 1)
Un = 100 – 240 VAC (Option 2)

FSK interface

(Pins ST1-2a, ST1-2c)

in type of protection Intrinsic Safety Ex ib IIIC, IIB, IIC only for the connection of certified intrinsically safe circuits.
Max. values: (output)

at IIC:

Uo = 16.23 V
Io = 60 mA
Po = 1.0 W
Lo = 0.37 mH
Co = 0.16 µF

Ci = 22 nF
Li = 13 µH

at IIB/ IIIC:	Uo = 16.23 V Io = 60 mA Po = 1.0 W Lo = 22.0 mH Co = 0.6 µF Ci = 22 nF Li = 13 µH

Ambient temperature:

19´´ Rack:	-20 °C ≤ Ta ≤ +50 °C
Wall mounted housing:	-20 °C ≤ Ta ≤ +45 °C