



- [1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)
- [2] Equipment and Protective Systems intended for use
in Potentially Explosive Atmospheres, Directive 94/9/EC
- [3] EC-Type Examination Certificate Number: **IBExU07ATEX1012**
- [4] **Equipment:** USB-radio transceiver FR-4..., FR-6... and FR-7...
USB-memory FR-5...
- [5] **Manufacturer:** E.L.B. Ex-Geräte Bachmann GmbH & Co. KG
- [6] **Address:** An der Hartbrücke 8
64625 Bensheim
Germany
- [7] The equipment mentioned under [4] and any acceptable variation there to are specified in the
schedule to this EC-Type Examination Certificate.
- [8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with
article 9 of the Council Directive 94/9/EC of 23rd March 1994, certifies that the under [4] mentioned
equipment has been found to comply with the Essential Health and Safety Requirements relating to
the design and construction of the equipment intended for use in potentially explosive atmospheres
given in Annex II to the Directive.
The examination and test results are recorded in test report IB-06-3-135 of 29th January 2007.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance
with EN 60079-0:2004, EN 60079-11:2006, EN 60079-18:2004, EN 61241-0:2006 and EN 61241-
1:2004.
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to
special conditions for safe use specified under [17] in the schedule to this EC-Type Examination
Certificate.
- [11] This EC-Type Examination Certificate relates only to the design and construction of the specified
equipment. If applicable, further requirements of this Directive apply to the manufacture and supply
of this equipment.
- [12] The marking of the equipment mentioned under [4] shall include the following:

Intrinsically safetypes FR-...I

cable version additionally

II 2G Ex ia IIC T4

II 2D Ex tD A21 IP 6X T 95 °C

-20 °C ≤ T_a ≤ +60 °C

Encapsulated Types FR-...E

cable version additionally

II 2G Ex mb IIC T4

II 2D Ex tD A21 IP 6X T 110 °C

-20 °C ≤ T_a ≤ +60 °C

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Authorised for certifications
- Explosion protection -

By order

(Dr. Lössch)

Schedule



- Seal -
(ID no. 0637)

Freiberg, 31st January 2007

Certificates without signature and
seal are not valid.
Certificates may only be duplicated
completely and unchanged.
In case of dispute, the German text
shall prevail.

[13]

Schedule

[14]

to EC-TYPE EXAMINATION CERTIFICATE IBExU06ATEX1163

[15]

Description of the equipment

The USB-radio transceivers/memories are equipments protected by intrinsic safety respectively moulding equipment for use in hazardous areas. Electrical connection is possible with plugs or fixed cables connection. All equipment have moulded plastic enclosures of various dimensions and can contain a radio module.

Types:

FR-40y = USB transceiver for radio keyboard FT-40

FR-60y = USB Bluetooth transceiver for a bar code scanner

FR-70E = USB multiple purpose Bluetooth transceiver

FR-4xy, FR-6xy, FR-7xy = various USB radio transceivers; **x = 1 ... 9**

FR-5xy = various USB memories; **x = 0 ... 9**

The following options (y) are possible respectively:

y **I** = intrinsically safety; **E** = encapsulated

Ambient temperature range: -20 °C to +60 °C

Degree of protection of the enclosure: ≥ IP 67

Electrical data

FR-...I:

Power supply and Data circuit in type of protection **Ex ia IIC**

U_i	5.9 V
I_i	1.1 A
P_i	6.1 W
L_i	1 µH
C_i	43 µF

FR-...E:

Power supply circuit

rated voltage

5 V DC ± 10 %

current input

100 mA

Max. r.m.s. a.c. or d.c. voltage U_m

253 V

[16]

Test report

The test results are detailed recorded in the test report IB-06-3-135. The test documents are part of the test report and listed there.

Summary of the test results:

The **USB- radio transceivers/memories** fulfil the requirements of explosion protection for the Equipment Group **II** and Category **2G** respectively **2D** in type of protection **Intrinsic safety** respectively **encapsulation** and protection by enclosure for gases of the Explosion Group **IIC** and Temperature Class **T4** respectively with a maximum surface temperature of maximum **95 °C** respectively **110 °C**.

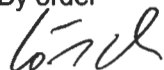
Safety instructions

In hazardous areas the USB devices must not be plugged or disconnected.

[17] **Special conditions**
none

[18] **Essential health and safety requirements**
Confirmed by compliance of standards (see [9]).

By order


(Dr. Lösch)

Freiberg, 31st January 2007



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