



Prüf- und Zertifizierungsstelle

ZELM Ex



(1) **EC-TYPE-EXAMINATION CERTIFICATE**

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 06 ATEX 0319 X

(4) Equipment: **Handheld Radio type BHR 21 IS**

(5) Manufacturer: **PMRS GmbH Servicegesellschaft für Professionellen Mobilfunk**

(6) Address: **Tränkeweg 5, D-15517 Fürstenwalde**

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 ZELM Ex 1220619494.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1+A2

EN 50020:2002

EN 50281-1-1:1998

(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 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.

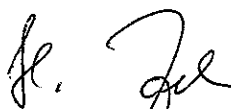
(12) The marking of the equipment shall include the following:



II 2 G EEx ib IIC T4 and II 3 D T130 °C IP54

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Braunschweig, January 26, 2007


Dipl.-Ing. Harald Zelm



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EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. This English version is based on the German text. In the case of dispute, the German text shall prevail.



Prüf- und Zertifizierungsstelle

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SCHEDULE

(13)

(14)

EC-TYPE-EXAMINATION CERTIFICATE ZELM 06 ATEX 0319 X

(15)

Description of equipment

The Handheld Radio type BHR 21 IS serves for the transfer of signals within explosion hazardous areas.

Maximum permitted ambient temperature range: -20 °C to +55 °C

Electrical data

Internal electric circuits:

Supply: type of protection Intrinsic Safety EEx ib IIC
from a corresponding lithium-ion-battery

Transmission power up to 1 W

External electric circuits:

Microphone loudspeaker-circuit and earphone circuit (Audio Connector):

type of protection Intrinsic Safety EEx ib IIC
Only for connection to certified control elements.
maximum values:

$$U_o = 4.2 \text{ V with } I_o = 2.3 \text{ A} \\ \text{resp.}$$

$$U_o = 9.8 \text{ V with } I_o = 110 \text{ mA } P_o = 115 \text{ mW}$$

characteristic curve partially linear (9.8 V to 4.2 V) and partially rectangular, the break point is 4.2 V

maximum permitted external capacitance $C_o = 1.0 \text{ } \mu\text{F}$
maximum permitted external inductance $L_o = 10 \text{ } \mu\text{H}$

I/O connector circuit:

type of protection Intrinsic Safety EEx ib IIC
Only for connection to certified control elements.
maximum values:

$$U_o = 4.2 \text{ V with } I_o = 160 \text{ mA} \\ \text{resp.}$$

$$U_o = 9.8 \text{ V with } I_o = 110 \text{ mA } P_o = 115 \text{ mW}$$

characteristic curve partially linear (9.8 V to 4.2 V) and partially rectangular, the break point is 4.2 V

maximum permitted external capacitance $C_o = 1.0 \text{ } \mu\text{F}$
maximum permitted external inductance $L_o = 0.8 \text{ mH}$

Charging jack:

Only for the connection to the corresponding charging set.

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Schedule to EC-TYPE-EXAMINATION CERTIFICATE ZELM 06 ATEX 0319 X

(17) Special conditions for safe use

1. The operating instructions have to be considered. The loading of the battery may only be done outside of the explosion hazardous area and only with the corresponding charging set.
2. In case of harm of the device or battery pack and lacquer damages $> 2\text{cm}^2$ at battery pack or front of the device, the device has to be removed from operation and the explosion hazardous area immediately.
3. The Handheld Radio may only be operated with firmly screwed on, undamaged antenna.
4. The audio connector has to be covered in the dust explosion hazardous area with either the corresponding cover or with a separate certificated accessory. The accessory is not allowed to be changed in the dust explosion hazardous area.
5. External equipment may only be connected at the audio connector, if the conductors of the incoming line have at least a cross-section 0.0314 mm^2 .
6. The Handheld Radio may only be used in the permitted ambient temperature range of -20°C to $+55^\circ\text{C}$.
7. The Handheld Radio may be used without an additional case. It may be also used with the corresponding leather case with the number 55000859.

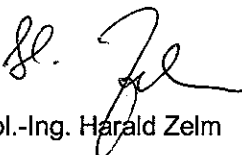
(18) Essential Health and Safety Requirements

met by standards

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