Translation

(1) # EC-Type Examination Certificate

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

(3) ## DMT 02 ATEX E 183

(4) **Equipment:** **Ruggedized ExII-telephone Type ExResistTel**

(5) **Manufacturer:** **FHF Funke + Huster Fernsig GmbH**

(6) **Address:** **D 42503 Velbert**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 02.2081 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997 + A1 – A2	General requirements
EN 50019:2000	Increased safety
EN 50020:1994	Intrinsic safety
EN 50028:1987	Encapsulation
EN 50281-1-1:1998	Dust protection

(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 in accordance to 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 shall include the following:

II 2G EEx em [ib] IIC T5
II 2D IP66 T 100 °C
-25 °C ≤ Ta ≤ +60 °C

II 2G EEx em [ib] IIC T6
II 2D IP66 T 80 °C
-25 °C ≤ Ta ≤ +40 °C

Deutsche Montan Technologie GmbH
Essen, dated 30. September 2002

Signed: Jockers
DMT-Certification body

Signed: Eickhoff
Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

(13) Appendix to

(14) # EC-Type Examination Certificate

DMT 02 ATEX E 183

(15) 15.1 Subject and type

Ruggedized ExII-telephone type ExResistTel

15.2 Description

The Ruggedized EExII-telephone type ExResistTel are designed for use in potentially explosive areas.
The vertical-suspended position of normal use of the telephone is permitted.
The handset and optionally a keyboard and a LC-Display are designed in the protection type "i" (intrinsically safe).
The electrical connection for the telephone is made by means of terminals in the protection type "e" (increased safety).

15.3 Parameters

15.3.1 Non intrinsically circuits

15.3.1.1 Telephone-network lines
(Terminals La / Lb No.: 13 – 14)

Maximum input voltage	Um (dialling voltage)	AC	90	V
Permitted frequency range			16 ... 54	Hz
respectively				
Maximum input voltage	Um (supply voltage)	DC	66	V
Maximum input nominal current			100	mA
Maximum input short-circuit current I_K			35	A

(There is a fuse with the breaking capacity of 35 A in the input-circuit of this apparatus.)

15.3.1.2 External second ringer: only for connection to passive consumers
(Terminals W1/W No.: 15 – 16)

Maximum dialling voltage	AC	90	V
Frequency range		16 ... 54	Hz
respectively			
Maximum supply voltage	DC	66	V

15.3.2 Intrinsically safe circuits

15.3.2.1 Headset (Microphone)
(Terminals pair KGM No.: 5 – 6)

Maximum output voltage	Uo	17	V
Maximum output current	Io	90	mA
Maximum output power	Po	80	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	1	mH

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15.3.2.2 Headset (ear piece)
(Terminals pair KGH No.: 7 – 8)

Maximum output voltage	Uo	17	V
Maximum output current	Io	110	mA
Maximum output power	Po	190	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	1,2	mH

15.3.2.3 Headset (recognition) respectively second ear piece
(Terminals pair KGS No.: 9 – 10)

Maximum output voltage	Uo	17	V
Maximum output current	Io	8	mA
Maximum output power	Po	33	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	100	mH

15.3.2.4 External loudspeaker
(Terminals pair LSP No.: 11 – 12)

Maximum output voltage	Uo	6,6	V
Maximum output current	Io	250	mA
Maximum output power	Po	370	mW
Maximum external capacitance	Co	22	µF
Maximum external inductance	Lo	0,3	mH

15.3.2.5 All intrinsically safe output-Circuits have a linear characteristic.

15.3.3 Ambient temperature range

15.3.3.1 -25 °C ≤ Ta ≤ +60 °C for the temperature class T5

15.3.3.2 -25 °C ≤ Ta ≤ +40 °C for the temperature class T6

(16) Test and assessment report
BVS PP 02.2081 EG as of 30.09.2002

(17) Special conditions for safe use
none

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 30.09.2002
BVS-Kan/Ld/Mi A 20000510

Deutsche Montan Technologie GmbH

DMT-Certification body

Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Translation

1. Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment: **Ruggedized ExII-telephone Type ExResistTel**

Manufacturer: **FHF Funke + Huster Fernsig GmbH**

Address: **D - 42503 Velbert**

Description
The telephone can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report and include a breathing device.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997 + A1 – A2	General requirements
EN 50019:2000	Increased safety
EN 50020:1994	Intrinsic safety
EN 50028:1987	Encapsulation
EN 50281-1-1:1998	Dust protection

Test and assessment report
BVS PP 02.2081 EG as of 12.11.2002

Deutsche Montan Technologie GmbH
Essen, dated 12. November 2002

signed: Jockers
DMT-Certification body

signed: Eickhoff
Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 12.11.2002
BVS-Ld/Mi A 20020507

Deutsche Montan Technologie GmbH

DMT-Certification body

Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

2nd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment: **Ruggedized ExII-Telephone type ExResistTel**

Manufacturer: **FHF Funke + Huster Fernsig GmbH**

Address: **D - 45478 Mülheim an der Ruhr**

Subject and type
Ruggedized ExII-Telephone type ExResistTel

Description
The electrical modified Ruggedized ExII-telephone type ExResistTel is designed for use in potentially explosive areas.
The vertical-suspended position of normal use of the telephone is permitted.
The handset and optionally a keyboard and a LC-Display are designed in the protection type "i" (intrinsically safe).
The electrical connection for the telephone is made by means of terminals in the protection type "e".

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with

EN 50014:1997+A1-A2	General requirements
EN 50019:2000	Increased safety
EN 50020:2002	Intrinsic safety
EN 50028:1987	Encapsulation
EN 50281-1-1:1998	Dust explosion protection

Parameters

1	Non-intrinsically safe circuits			
1.1	Telephone-network lines			
	(terminals La / Lb no.: 13 – 14)			
	Maximum input voltage	Um (dialling voltage)	AC 150	V
	Permitted frequency range		15 ... 68	Hz
	respectively			
	Maximum input voltage	Um (supply voltage)	DC 56,5	V
	Maximum input nominal current		110	mA
	Maximum input short-circuit current I_K		35	A
	(There is a fuse with the breaking capacity of 35 A in the input-circuit of this apparatus.)			
1.2	External second ringer: only for connection to passive consumers			
	(terminals W1 / W no.: 15 – 16)			
	Maximum input voltage	Um (dialling voltage)	AC 150	V
	Frequency range		15 ... 68	Hz
	or			
	Maximum input voltage	Um (supply voltage)	DC 56,5	V

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(until 31.05.2003 Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

2	Intrinsically safe circuits			
2.1	Headset (Microphone)			
	(terminals pair KGM no.: 5 – 6)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	90	mA
	Maximum output power	Po	80	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	1,2	mH
2.2	Headset (ear piece)			
	(terminals pair KGH no.: 7 – 8)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	110	mA
	Maximum output power	Po	190	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	1,2	mH
2.3	Headset (recognition)			
	(terminals pair KGS no.: 9 – 10)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	8	mA
	Maximum output power	Po	33	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	100	mH
2.4	External loudspeaker			
	(terminals pair LSP no.: 11 – 12)			
	Maximum output voltage	Uo	6,6	V
	Maximum output current	Io	250	mA
	Maximum output power	Po	370	mW
	Maximum external capacitance	Co	22	µF
	Maximum external inductance	Lo	0,3	mH
2.5	All intrinsically safe output circuits have a linear characteristic			

3 Operating temperature range
-20 °C ≤ Ta ≤ +60 °C for the temperature class T5
3.2 -20 °C ≤ Ta ≤ +40 °C for the temperature class T6

Test and assessment report
BVS PP 02.2081 EG as of Stand 06.01.2005

Special conditions for safe use
Not applicable

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 06. January 2005

Signed: Dr. Jockers
Certification body

Signed: Dr. Eickhoff
Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 06.01.2005
BVS-Kan/Mi A 20040801

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003. Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Translation

3rd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment: **Ruggedized ExII-telephone Type ExResistTel**

Manufacturer: **FHF Funke + Huster Fernsig GmbH**

Address: **45478 Mülheim an der Ruhr, Germany**

Description
A different sealing compound may be used for ExII-telephone type ExResistTel.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997 + A1 – A2	General requirements
EN 50019:2000	Increased safety
EN 50020:2002	Intrinsic safety
EN 50028:1987	Encapsulation
EN 50281-1-1:1998 +A1	Dust explosion protection

The marking of the equipment shall include the following:

II 2G EEx em [ib] IIC T5	**II 2G EEx em [ib] IIC T6**
II 2D IP66 T100 °C	**II 2D IP66 T80 °C**
-25 °C ≤ Ta ≤ +60 °C	**-25 °C ≤ Ta ≤ +40 °C**

Special conditions for safe use
Unchanged

Test and assessment report
BVS PP 02.2081 EG as of 02.02.2006

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 02nd February 2006

Signed: Dr. Eickhoff — Certification body

Signed: Dr. Arnold — Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 20.01.2010
BVS-Kr/Ld/Ar E 0043/10

DEKRA EXAM GmbH

Certification body

Special services unit

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Translation

4th Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment: **Ruggedized ExII-telephone type ExResistTel**

Manufacturer: **FHF Funke + Huster Fernsig GmbH**

Address: **45478 Mülheim an der Ruhr, Germany**

Description
The ruggedized ExII-telephone type ExResistTel may now also be equipped with the modified cable entries and blanks as listed in the documents provided with the pertinent Test and Assessment Report.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997 + A1 – A2	General requirements
EN 50019:2000	Increased safety
EN 50020:2002	Intrinsic safety
EN 50028:1987	Encapsulation
EN 50281-1-1:1998 +A1	Dust explosion protection

The marking of the equipment shall include the following:

II 2G EEx em [ib] IIC T5
II 2D IP66 T100 °C
-25 °C ≤ Ta ≤ +60 °C

II 2G EEx em [ib] IIC T6
II 2D IP66 T80 °C
-25 °C ≤ Ta ≤ +40 °C

Special conditions for safe use
Unchanged

Test and assessment report
BVS PP 02.2081 EG as of 09.03.2006

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 09th March 2006

Signed: Dr. Jockers — Certification body

Signed: Dr. Eickhoff — Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 20.01.2010
BVS-Kr/Ld/Ar E 0043/10

DEKRA EXAM GmbH

Certification body

Special services unit

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Translation

5th Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment: **Ruggedized ExII-telephone type ExResistTel**

Manufacturer: **FHF Funke + Huster Fernsig GmbH**

Address: **45478 Mülheim an der Ruhr, Germany**

Description

The Ruggedized ExII-telephone type ExResistTel can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

The Ruggedized ExII-telephone type ExResistTel is designed for use in potentially explosive areas.
The vertical-suspended position of normal use of the telephone is permitted.
The handset and optionally a keyboard and a LC-Display are designed in the protection type "i" (intrinsically safe).
The electrical connection for the telephone is made by means of terminals in the protection type "e".

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2004	General requirements
EN 60079-7:2003	Increased safety
EN 60079-11:2007	Intrinsic safety
EN 60079-18:2004	Encapsulation
IEC 61241-0:2004	General requirements
EN 61241-1:2004	Protection by enclosure

The marking of the equipment shall include the following:

II 2G Ex emb[ib] IIC T6	II 2G Ex emb[ib] IIC T5
II 2D Ex tD A21 IP66 T80°C	II 2D Ex tD A21 IP66 T100°C
-25°C ≤ Ta ≤ + 40°C	-25°C ≤ Ta ≤ + 60°C

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Parameters

1 Non-intrinsically safe circuits

1.1 Telephone-network lines
(terminals La / Lb no.: 13 – 14)

Maximum input voltage	Um	(dialling voltage)	AC 90	V
Permitted frequency range			16 ... 54	Hz
respectively				
Maximum input voltage	Um	(dialling voltage)	AC 150	V
Permitted frequency range			15 ... 68	Hz
respectively				
Maximum input voltage	Um	(supply voltage)	DC 66	V
Maximum input nominal current			100	mA
respectively				
Maximum input voltage	Um	(supply voltage)	DC 56.5	V
Maximum input nominal current			110	mA

Maximum input short-circuit current I_K 35 A
(There is a fuse with the breaking capacity of 35 A in the input-circuit of this apparatus.)

1.2 External second ringer: only for connection to passive consumers
(terminals W1 / W no.: 15 – 16)

Maximum input voltage	Um	(dialling voltage)	AC 90	V
Permitted frequency range			16 ... 54	Hz
respectively				
Maximum input voltage	Um	(dialling voltage)	AC 150	V
Permitted frequency range			15 ... 68	Hz
respectively				
Maximum input voltage	Um	(supply voltage)	DC 66	V
respectively				
Maximum input voltage	Um	(supply voltage)	DC 56.5	V

2 Intrinsically safe circuits
All intrinsically safe output circuits have a linear characteristic

2.1 Headset (Microphone)
(terminals pair KGM no.: 5 – 6)

Maximum output voltage	Uo	17	V
Maximum output current	Io	90	mA
Maximum output power	Po	80	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	1.2	mH

2.2 Headset (ear piece)
(terminals pair KGH no.: 7 – 8)

Maximum output voltage	Uo	17	V
Maximum output current	Io	110	mA
Maximum output power	Po	190	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	1.2	mH

2.3 Headset (recognition)
(terminals pair KGS no.: 9 – 10)

Maximum output voltage	Uo	17	V
Maximum output current	Io	8	mA
Maximum output power	Po	33	mW
Maximum external capacitance	Co	375	nF

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

	Maximum external inductance	Lo	100	mH
2.4	External loudspeaker (terminals pair LSP no.: 11 – 12)			
	Maximum output voltage	Uo	6.6	V
	Maximum output current	Io	250	mA
	Maximum output power	Po	370	mW
	Maximum external capacitance	Co	22	µF
	Maximum external inductance	Lo	0.3	mH

3 Operating temperature range

3.1 -25 °C ≤ Ta ≤ +60 °C for the temperature class T5

3.2 -25 °C ≤ Ta ≤ +40 °C for the temperature class T6

Special conditions for safe use

Not applicable

Test and assessment report

BVS PP 02.2081 EG as of 29.06.2007

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 29. June 2007

Signed: Migenda
Certification body

Signed: Dr. Eickhoff
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 29.06.2007
BVS-Kan/Mi A 20070006

EXAM BBG Prüf- und Zertifizier GmbH

Migenda
Certification body

Eickhoff
Special services unit

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Translation

6th Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 183

Equipment:	**Ruggedized ExII-telephone Type ExResistTel**
Manufacturer:	**FHF Funke + Huster Fernsig GmbH**
Address:	**45478 Mülheim an der Ruhr, Germany**

Description

The ruggedized EExII-telephone type ExResistTel is intended for use in potentially explosive atmospheres. It is permitted to use or install the telephone in a vertical or hanging position.

A hand-held device as well as the optionally provided keyboard and LCD-display are manufactured to meet the requirements of the type of protection Intrinsic Safety 'i'.

The electrical connection of the telephone is provided by terminals that meet the requirements of the type of protection Increased Safety 'e'.

The ambient temperature range lies between -25°C and +40°C or +60°C, respectively. The temperature class and the surface temperature may vary depending on the ambient temperature range in place.

The ruggedized EExII-telephone type ExResistTel is equipped with a breathing apparatus.

This supplement describes the modifications of the material used for the display window as well as the modification of the number and size of the drill holes for the cable entries.

Additionally, the ruggedized ExII-telephone type ExResistTel complies with the current status of the standard.

The ruggedized EExII-telephone type ExResistTel may now also be modified according to the documents provided in the pertinent Test and Assessment Report.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-7:2007	Increased safety
EN 60079-11:2007	Intrinsic safety
EN 60079-18:2004	Encapsulation
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by enclosures

The marking of the equipment shall include the following:

II 2G Ex emb [ib] IIC T6/T5
II 2D Ex tD A21 IP66 T80°C/T100°C

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Special conditions for safe use

Still not relevant

Test and assessment report

BVS PP 02.2081 EG as of 10.12.2009

DEKRA EXAM GmbH
Bochum, dated 10th December 2009

Signed: Simanski	Signed: Dr. Eickhoff
Certification body	Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 20.01.2010
BVS-Kr/Ld/Ar E 0043/10

DEKRA EXAM GmbH

Certification body	Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

Translation

(1) # 7. Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **DMT 02 ATEX E 183**

(4) Equipment: **Ruggedized ExII-telephone Type ExResistTel**

(5) Manufacturer: **FHF Funke + Huster Fernsig GmbH**

(6) Address: **45478 Mülheim an der Ruhr, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 02.2081 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2006	**General requirements**
EN 60079-7:2007	**Increased safety**
EN 60079-11:2007	**Intrinsic safety**
EN 60079-18:2004	**Encapsulation**
EN 61241-0:2006	**General requirements**
EN 61241-1:2004	**Protection by enclosures**

(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 appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 shall include the following:

II 2G Ex emb [ib] IIC T6/T5
II 2D Ex tD A21 IP66 T80°C/T100°C

DEKRA EXAM GmbH
Bochum, dated 17. December 2010

Signed: Simanski	Signed: Dr. Eickhoff
Certification body	Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(13) Appendix to

(14) **7. Supplement to the EC-Type Examination Certificate**
DMT 02 ATEX E 183

(15) Description

The ruggedized EExII-telephone type ExResistTel is intended for use in potentially explosive atmospheres. It is permitted to use or install the telephone in a vertical or hanging position.

A hand-held device as well as the optionally provided keyboard and LCD-display are manufactured to meet the requirements of the type of protection Intrinsic Safety 'i'.

The electrical connection of the telephone is provided by terminals that meet the requirements of the type of protection Increased Safety 'e'.

The ambient temperature range lies between -25 °C and +40 °C or +60 °C, respectively. The temperature class and the surface temperature may vary depending on the ambient temperature range in place.

The ruggedized EExII-telephone type ExResistTel may now also be modified according to the documents provided in the pertinent Test and Assessment Report; optional it can be assembled with a changed breathing and draining device.

(16) Test and assessment report

BVS PP 02.2081 EG as of 17.12.2010

(17) Special conditions for safe use

Still not relevant

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 20.01.2011
BVS-Ld/Ar E 0023/11

Certification body

Special services unit

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Translation

(1) 8. Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **DMT 02 ATEX E 183**

(4) Equipment : **Ruggedized ExII telephone type ExResistTel**

(5) Manufacturer: **FHF Funke + Huster Fernsig GmbH**

(6) Address: **Gewerbeallee 15-19, 45478 Mülheim an der Ruhr, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 02.2081 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 General requirements
EN 60079-7:2007 Increased safety "e"
EN 60079-11:2012 Intrinsic safety „i"
EN 60079-18:2009 Encapsulation „m"
EN 60079-31:2009 Protection by enclosure "t"

(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 appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 shall include the following:

II 2G Ex e mb [ib] IIC T6/T5 Gb
II 2D Ex tb [ib] IIIC T80°C/T100°C Db

DEKRA EXAM GmbH
Bochum, dated 05th March 2013

Signed: Hans-Christian Simanski
Certification body

Signed: Dr. Franz Eickhoff
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(13) Appendix to

(14) **8. Supplement to the EC-Type Examination Certificate DMT 02 ATEX E 183**

(15) 15.1 Subject and type

Ruggedized ExII telephone type ExResistTel

15.2 Description

The Ruggedized ExII telephone type ExResistTel is suitable for use in areas endangered by an explosive atmosphere. The vertical mounting is permitted.

The handset, the keyboard and the display are designed in type of protection intrinsic safety "i".

The electrical connection of the Ruggedized ExII telephone type ExResistTel is realised by terminals in type of protection increased safety "e".

The ambient temperature range is -25 °C up to +40 °C respectively +60 °C. Depending on the upper ambient temperature the temperature class and the surface temperature will change.

A breathing and draining device is part of the Ruggedized ExII telephone type ExResistTel.

The reason for this supplement is the updating to the current standards.

15.3 Parameters

15.3.1 Non intrinsically safe circuits

15.34.1.1 Phone line (Terminal La / Lb No.: 13 – 14)

Maximum voltage (calling)	U_m (calling)	AC	90	V
Permitted frequency range		16 up to 54		Hz
or				
Maximum voltage (calling)	U_m (calling)	AC	150	V
Permitted frequency range		15 up to 68		Hz
or				
Maximum rated voltage	U_m (supply voltage)	DC	66	V
Maximum rated current			100	mA
or				
Maximum rated voltage	U_m (supply voltage)	DC	56.5	V
Maximum rated current			110	mA
Maximum short circuit current I_K			35	A

15.3.1.2 Additional external alarm: only for connection to passiv load (Terminal W1 / W No.: 15 – 16)

Maximum voltage (calling)	U_m (calling)	AC	90	V
Permitted frequency range		16 up to 54		Hz
or				
Maximum voltage (calling)	U_m (calling)	AC	150	V
Permitted frequency range		15 up to 68		Hz
or				
Maximum rated voltage	U_m (supply voltage)	DC	66	V
or				
Maximum rated voltage	U_m (supply voltage)	DC	56.5	V

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15.3.2	Intrinsically safe circuits			
15.3.2.1	Headset (Microphone) (Terminal KGM No.: 5 – 6)			
	Maximum output voltage	U_o	17	V
	Maximum output current	I_o	90	mA
	Maximum output power	P_o	80	mW
	Maximum external capacitance	C_o	375	nF
	Maximum external inductance	L_o	1.2	mH
15.3.2.2	Headset (Speaker) (Terminal KGH No.: 7 – 8)			
	Maximum output voltage	U_o	17	V
	Maximum output current	I_o	110	mA
	Maximum output power	P_o	190	mW
	Maximum external capacitance	C_o	375	nF
	Maximum external inductance	L_o	1.2	mH
15.3.2.3	Headset (Signaling) (Terminal KGS No.: 9 – 10)			
	Maximum output voltage	U_o	17	V
	Maximum output current	I_o	8	mA
	Maximum output power	P_o	33	mW
	Maximum external capacitance	C_o	375	nF
	Maximum external inductance	L_o	100	mH
15.3.2.4	External speaker (Terminal LSP No.: 11 – 12)			
	Maximum output voltage	U_o	6.6	V
	Maximum output current	I_o	250	mA
	Maximum output power	P_o	370	mW
	Maximum external capacitance	C_o	22	µF
	Maximum external inductance	L_o	0.3	mH

15.3.3	Ambient temperature range	
15.3.3.1	Temperature class T6	-25 °C up to +40 °C
15.3.3.2	Temperature class T5	-25 °C up to +60 °C

(16) Test and assessment report

BVS PP 02.2081 EG as of 05.03.2013

(17) Special conditions for safe use

none

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 05th March 2013
BVS-Hk/Mu A 20120549

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

Translation

(1) 9th Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **DMT 02 ATEX E 183**

(4) Equipment: **Ruggedized ExII telephone type ExResistTel**

(5) Manufacturer: **FHF Funke + Huster Fernsig GmbH**

(6) Address: **Gewerbeallee 15-19, 45478 Mülheim an der Ruhr, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 Test and Assessment Report BVS PP 02.2081 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 + A11:2013	**General requirements**
EN 60079-7:2007	**Increased safety "e"**
EN 60079-11:2012	**Intrinsic safety "i"**
EN 60079-18:2009	**Encapsulation 'm'**
EN 60079-31:2014	**Protection by enclosures 't'**

(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 appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 shall include the following:

II 2G Ex e mb [ib] IIC T6/T5 Gb
II 2D Ex tb [ib] IIIC T80°C/T100°C Db

DEKRA EXAM GmbH
Bochum, dated 2015-07-16

Signed: Simanski
Certification body

Signed: Dr. Eickhoff
Special services unit

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

(13) Appendix to

(14) **9th Supplement to the EC-Type Examination Certificate DMT 02 ATEX E 183**

(15) 15.1 Subject and type

Ruggedized ExII telephone type ExResistTel

15.2 Description

The Ruggedized ExII telephone type ExResistTel can be modified according to the descriptive documents below.
Previous interface for interconnection of external loudspeaker waived.
The device is mechanically and electrically unchanged.

15.3 Parameters

15.3.1 Non intrinsically safe circuits

15.3.1.1 Phone line
(Terminal La / Lb No.: 13 – 14)

Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 16 up to 54 Hz	90	V
or				
Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 15 up to 68 Hz	150	V
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	66 100	V mA
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	56.5 110	V mA
Maximum short circuit current IK			35	A

15.3.1.1 Additional external alarm: only for connection to passiv load (Terminal W1 / W No.: 15 – 16)

Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 16 up to 54 Hz	90	V
or				
Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 15 up to 68 Hz	150	V
or				
Maximum rated voltage	U_m (supply voltage)	DC	66	V
or				
Maximum rated voltage	U_m (supply voltage)	DC	56.5	V

15.3.2 Intrinsically safe circuits

15.3.2.1 Headset (Microphone) (Terminal KGM No.: 5 – 6)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	90	mA
Maximum output power	P_o	80	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

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15.3.2.2 Headset (Speaker) (Terminal KGH No.: 7 – 8)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	110	mA
Maximum output power	P_o	190	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

15.3.2.3 Headset (Signaling) (Terminal KGS No.: 9 – 10)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	8	mA
Maximum output power	P_o	33	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	100	mH

15.3.3 Ambient temperature range

15.3.3.1 Temperature class T6 -25 °C up to +40 °C

15.3.3.2 Temperature class T5 -25 °C up to +60 °C

(16) Test and Assessment Report

BVS PP 02.2081 EG as of 2015-07-16

(17) Special conditions for safe use

Not applicable

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 2015-07-16
BVS-Bou/Schu/Ma A 20150558

Certification body

Special services unit

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, Fax +49.234.3696-110, zs-exam@dekra.com

Translation

1 # EU-Type Examination Certificate Supplement 10

Change to Directive 2014/34/EU

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **DMT 02 ATEX E 183**

4 Product: **Ruggedized ExII telephone type ExResistTel**

5 Manufacturer: **FHF Funke + Huster Fernsig GmbH**

6 Address: **Gewerbeallee 15-19, 45478 Mülheim an der Ruhr, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. DMT 02 ATEX E 183 to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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. BVS PP 02.2081 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

IEC 60079-0:2017	**General requirements**
EN IEC 60079-7:2015+A1:2018	**Increased Safety "e"**
EN 60079-11:2012	**Intrinsic Safety "i"**
EN 60079-18:2015+A1:2017	**Encapsulation "m"**
EN 60079-31:2014	**Protection by Enclosure "t"**

Except in respect of those requirements listed under item 18 of the appendix.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 2G Ex eb mb [ib] IIC T6/T5 Gb
II 2D Ex tb [ib] IIIC T80°C/T100°C Db

DEKRA EXAM GmbH
Bochum, 2018-09-24

Signed: Jörg Koch
Certifier

Signed: Ralf Leiendecker
Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

DMT 02 ATEX E 183
Supplement 10

15 **Product description**

15.1 **Subject and type**

Ruggedized ExII telephone type ExResistTel

15.2 **Description**

With this supplement the certificate is changed to Directive 2014/34/EU.
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

Reason for the supplement

- Change to Directive 2014/34/EU
- Updating to the current version of standards

Description of Product

The Ruggedized ExII telephone type ExResistTel is suitable for use in areas endangered by an explosive atmosphere. The vertical mounting is permitted.

The handset, the keyboard and the display are designed in type of protection intrinsic safety "i".

The electrical connection of the Ruggedized ExII telephone type ExResistTel is realised by terminals in type of protection increased safety "e".

The ambient temperature range is -25 °C up to +40 °C respectively +60 °C. Depending on the upper ambient temperature the temperature class and the surface temperature will change.

A breathing and draining device is part of the Ruggedized ExII telephone type ExResistTel.

An interface for interconnection of external loudspeaker is no longer provided.
Cable glands made of metal can also be used as an option.
Optionally, the cabinet can be provided with an antistatic varnish, whereby the surface resistance $R \leq 10^9$ Ohm is guaranteed.

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Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Cable glands and plugs (Bimed Company) Type HIBM-X2S, -X02S Type HITP-X1S, -X02S Type BPT-X4	IMQ 13 ATEX 010X	Certificate: EN 60079-0:2012+A11:2013 *) EN 60079-7:2015 EN 60079-31:2014
Terminal block (Phoenix Contact Company) Type MK3DSH 3/ 3-5,08-Ex	KEMA 01ATEX2130 U	Certificate: EN 60079-0:2006 EN 60079-7:2003 Declaration of Conformity: EN 60079-0:2012+A11:2013 *) EN 60079-7:2015
Connecting terminal (Bartec Company) Type 07-9702-0220/1	PTB 99 ATEX 3117 U	Certificate: EN 60079-0:2012 *) EN 60079-7:2015

*) Technical differences evaluated and found satisfactory

15.3 **Parameters**

15.3.1 Non intrinsically safe circuits

15.3.1.1 Phone line
(Terminal La / Lb No.: 13 – 14)

Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 16 up to	90 54	V Hz
or				
Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 15 up to	150 68	V Hz
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	66 100	V mA
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	56.5 110	V mA
Maximum short circuit current I_K			35	A

15.3.1.2 Additional external alarm: only for connection to passive load
(Terminal W1 / W No.: 15 – 16)

Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 16 up to	90 54	V Hz
or				
Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 15 up to	150 68	V Hz
or				
Maximum rated voltage	U_m (supply voltage)	DC	66	V
or				
Maximum rated voltage	U_m (supply voltage)	DC	56.5	V

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telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

15.3.2 Intrinsically safe circuits

15.3.2.1 Headset (Microphone)
(Terminal KGM No.: 5 – 6)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	90	mA
Maximum output power	P_o	80	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

15.3.2.2 Headset (Speaker)
(Terminal KGH No.: 7 – 8)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	110	mA
Maximum output power	P_o	190	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

15.3.2.3 Headset (Signaling)
(Terminal KGS No.: 9 – 10)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	8	mA
Maximum output power	P_o	33	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	100	mH

15.3.3 Ambient temperature range

15.3.3.1 Temperature class T6 -25 °C up to +40 °C
15.3.3.2 Temperature class T5 -25 °C up to +60 °C

16 **Report Number**

BVS PP 02.2081 EU, as of 2018-09-24

17 **Special Conditions for Use**

None

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

For this product is the standard IEC 60079-0:2017 Ed. 7.0 in terms of safety equivalent to the harmonized standard EN 60079-0:2012 + A11:2013.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-09-24
BVS-Hn/Ru/Nu A 20180343

Certifier Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

Translation

1 # EU-Type Examination Certificate

2 **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

3 EU-Type Examination Certificate Number: **DMT 02 ATEX E 183** Issue: **01**

4 Equipment: **Ruggedized ExII telephone type ExResistTel**

5 Manufacturer: **FHF Funke + Huster Fernsig GmbH**

6 Address: **Gewerbeallee 15-19, 45478 Mülheim an der Ruhr, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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. BVS PP 02.2081 EU.
This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate DMT 02 ATEX E 183 including supplements 1 to 10.

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

EN IEC 60079-0:2018	**General requirements**
EN IEC 60079-7:2015 + A1:2018	**Increased Safety "e"**
EN 60079-11:2012	**Intrinsic Safety "i"**
EN 60079-18:2015+A1:2017	**Encapsulation "m"**
EN 60079-31:2014	**Protection by Enclosure "t"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

11 This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following

II 2G Ex eb mb [ib] IIC T6/T5 Gb
II 2D Ex tb [ib] IIIC T80°C/T100°C Db

DEKRA Testing and Certification GmbH
Bochum, 2023-06-21

Signed: Oliver Brumm

Managing Director

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

DMT 02 ATEX E 183 issue 01

15 **Product description**

15.1 **Subject and type**

Ruggedized ExII telephone type ExResistTel

15.2 **Description**

The Ruggedized ExII telephone type ExResistTel is suitable for use in areas endangered by an explosive atmosphere. The vertical mounting is permitted.

The handset, the keyboard and the display are designed in type of protection Intrinsic Safety "i".

The electrical connection of the Ruggedized ExII telephone type ExResistTel is realised by terminals in type of protection Increased Safety "e".

The ambient temperature range is -25 °C up to +40 °C respectively +60 °C. Depending on the upper ambient temperature the temperature class and the surface temperature will change.

A breathing and draining device is part of the Ruggedized ExII telephone type ExResistTel.

An interface for interconnection of external loudspeaker is no longer provided.
Cable glands made of metal can also be used as an option.
Optionally, the cabinet can be provided with an antistatic varnish, whereby the surface resistance R ≤ 10^9 Ohm is guaranteed.

Reason for this issue

Minor modification to the electrical circuit.

15.3 **Parameters**

15.3.1 Non-intrinsically safe circuits

15.3.1.1 Phone line
(Terminal La / Lb No.: 13 – 14)

Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 16 up to	90 54	V Hz
or				
Maximum voltage (calling) Permitted frequency range	U_m (calling)	AC 15 up to	150 68	V Hz
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	66 100	V mA
or				
Maximum rated voltage Maximum rated current	U_m (supply voltage)	DC	56.5 110	V mA
Maximum short circuit current I_K			35	A

(In the input of this unit there is a fuse with a breaking capacity of 35 A)

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Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

15.3.1.2 Additional external alarm: only for connection to passive load (Terminal W1 / W No.: 15 – 16)

Maximum voltage (calling)	U_m (calling)	AC	90	V
Permitted frequency range		16 up to	54	Hz
or				
Maximum voltage (calling)	U_m (calling)	AC	150	V
Permitted frequency range		15 up to	68	Hz
or				
Maximum rated voltage	U_m (supply voltage)	DC	66	V
or				
Maximum rated voltage	U_m (supply voltage)	DC	56.5	V

15.3.2 Intrinsically safe circuits

All intrinsically safe output circuits have a linear output characteristic.

15.3.2.1 Headset (Microphone) (Terminal KGM No.: 5 – 6)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	90	mA
Maximum output power	P_o	80	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

15.3.2.2 Headset (Speaker) (Terminal KGH No.: 7 – 8)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	110	mA
Maximum output power	P_o	190	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	1.2	mH

15.3.2.3 Headset (Signaling) (Terminal KGS No.: 9 – 10)

Maximum output voltage	U_o	17	V
Maximum output current	I_o	8	mA
Maximum output power	P_o	33	mW
Maximum external capacitance	C_o	375	nF
Maximum external inductance	L_o	100	mH

15.3.3 Ambient temperature range

15.3.3.1 Temperature class T6	-25 °C up to +40 °C
15.3.3.2 Temperature class T5	-25 °C up to +60 °C

16 **Report Number**

BVS PP 02.2081 EU, as of 2023-06-21

17 **Specific Conditions of Use**

None

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
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Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

18 **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

19 **Remarks and additional information**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2023-06-21
BVS-HRH/Mu A 20230010 / 342990400

Managing Director

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