



Translation

**EC-Type Examination Certificate**

(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

Signed: Eickhoff

DMT-Certification body

Head of special services unit

(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 respectively			16 ... 54	Hz
Maximum input voltage	Um (supply voltage)	DC	66	V
Maximum input nominal current			100	mA
Maximum input short-circuit current I <sub>k</sub>			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 respectively			16 ... 54	Hz
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	U <sub>o</sub>		17	V
Maximum output current	I <sub>o</sub>		90	mA
Maximum output power	P <sub>o</sub>		80	mW
Maximum external capacitance	C <sub>o</sub>		375	nF
Maximum external inductance	L <sub>o</sub>		1	mH

**15.3.2.2 Headset (ear piece)**

(Terminals pair KGH No.: 7 – 8)

Maximum output voltage	U <sub>o</sub>	17	V
Maximum output current	I <sub>o</sub>	110	mA
Maximum output power	P <sub>o</sub>	190	mW
Maximum external capacitance	C <sub>o</sub>	375	nF
Maximum external inductance	L <sub>o</sub>	1,2	mH

**15.3.2.3 Headset (recognition) respectively second ear piece**

(Terminals pair KGS No.: 9 – 10)

Maximum output voltage	U <sub>o</sub>	17	V
Maximum output current	I <sub>o</sub>	8	mA
Maximum output power	P <sub>o</sub>	33	mW
Maximum external capacitance	C <sub>o</sub>	375	nF
Maximum external inductance	L <sub>o</sub>	100	mH

**15.3.2.4 External loudspeaker**

(Terminals pair LSP No.: 11 – 12)

Maximum output voltage	U <sub>o</sub>	6,6	V
Maximum output current	I <sub>o</sub>	250	mA
Maximum output power	P <sub>o</sub>	370	mW
Maximum external capacitance	C <sub>o</sub>	22	μF
Maximum external inductance	L <sub>o</sub>	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  $-25\text{ °C} \leq T_a \leq +60\text{ °C}$  for the temperature class T5

 15.3.3.2  $-25\text{ °C} \leq T_a \leq +40\text{ °C}$  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**

  
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 DMT-Certification body


  
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 Head of special services unit



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



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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



## Translation

# 2<sup>nd</sup> 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 respectively		15 ... 68	Hz
	Maximum input voltage	Um (supply voltage)	DC 56,5	V
	Maximum input nominal current		110	mA
	Maximum input short-circuit current I <sub>K</sub>		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

2	Intrinsically safe circuits			
2.1	Headset (Microphone)			
	(terminals pair KGM no.: 5 – 6)			
	Maximum output voltage	U <sub>o</sub>	17	V
	Maximum output current	I <sub>o</sub>	90	mA
	Maximum output power	P <sub>o</sub>	80	mW
	Maximum external capacitance	C <sub>o</sub>	375	nF
	Maximum external inductance	L <sub>o</sub>	1,2	mH
2.2	Headset (ear piece)			
	(terminals pair KGH no.: 7 – 8)			
	Maximum output voltage	U <sub>o</sub>	17	V
	Maximum output current	I <sub>o</sub>	110	mA
	Maximum output power	P <sub>o</sub>	190	mW
	Maximum external capacitance	C <sub>o</sub>	375	nF
	Maximum external inductance	L <sub>o</sub>	1,2	mH
2.3	Headset (recognition)			
	(terminals pair KGS no.: 9 – 10)			
	Maximum output voltage	U <sub>o</sub>	17	V
	Maximum output current	I <sub>o</sub>	8	mA
	Maximum output power	P <sub>o</sub>	33	mW
	Maximum external capacitance	C <sub>o</sub>	375	nF
	Maximum external inductance	L <sub>o</sub>	100	mH
2.4	External loudspeaker			
	(terminals pair LSP no.: 11 – 12)			
	Maximum output voltage	U <sub>o</sub>	6,6	V
	Maximum output current	I <sub>o</sub>	250	mA
	Maximum output power	P <sub>o</sub>	370	mW
	Maximum external capacitance	C <sub>o</sub>	22	µF
	Maximum external inductance	L <sub>o</sub>	0,3	mH
2.5	All intrinsically safe output circuits have a linear characteristic			
3	Operating temperature range			
3.2	-20 °C ≤ Ta ≤ +60 °C for the temperature class T5			
	-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

Signed: Dr. Eickhoff

Certification body

Special services unit

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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**



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Certification body



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Special services unit



## 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 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 02.02.2006

### EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 02<sup>nd</sup> February 2006

Signed: Dr. Eickhoff

Signed: Dr. Arnold

\_\_\_\_\_  
Certification body


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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

  
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Certification body

  
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Special services unit



## 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:

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

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 09<sup>th</sup> March 2006

Signed: Dr. Jockers

Signed: Dr. Eickhoff

\_\_\_\_\_  
Certification body

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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

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Certification body

\_\_\_\_\_  
Special services unit



## 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:

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

## 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 respectively		16 ... 54 Hz
	Maximum input voltage	Um (dialling voltage)	AC 150 V
	Permitted frequency range respectively		15 ... 68 Hz
	Maximum input voltage	Um (supply voltage)	DC 66 V
	Maximum input nominal current respectively		100 mA
	Maximum input voltage	Um (supply voltage)	DC 56.5 V
	Maximum input nominal current		110 mA
	Maximum input short-circuit current $I_K$ (There is a fuse with the breaking capacity of 35 A in the input-circuit of this apparatus.)		35 A
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 respectively		16 ... 54 Hz
	Maximum input voltage	Um (dialling voltage)	AC 150 V
	Permitted frequency range respectively		15 ... 68 Hz
	Maximum input voltage respectively	Um (supply voltage)	DC 66 V
	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

	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

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, 29.06.2007  
BVS-Kan/Mi A 20070006

**EXAM BBG Prüf- und Zertifizier GmbH**



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Certification body



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Special services unit



## 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**

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 10<sup>th</sup> December 2009

Signed: Simanski

Signed: Dr. Eickhoff

\_\_\_\_\_  
Certification body

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Special services unit

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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**



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Certification body



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Special services unit

## 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

Certification body

Signed: Dr. Eickhoff

Special services unit

- (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

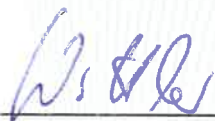
- (17) Special conditions for safe use

Still not relevant

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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

## 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 05<sup>th</sup> March 2013

Signed: Hans-Christian Simanski

Signed: Dr. Franz Eickhoff

Certification body

Special services unit

- (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
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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
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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 $\mu$ F
	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, 05<sup>th</sup> March 2013  
BVS-Hk/Mu A 20120549



Certification body




Special services unit

## Translation

# (1) 9<sup>th</sup> 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:
- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| <b>EN 60079-0:2012 + A11:2013</b> | <b>General requirements</b>         |
| <b>EN 60079-7:2007</b>            | <b>Increased safety "e"</b>         |
| <b>EN 60079-11:2012</b>           | <b>Intrinsic safety "i"</b>         |
| <b>EN 60079-18:2009</b>           | <b>Encapsulation 'm'</b>            |
| <b>EN 60079-31:2014</b>           | <b>Protection by enclosures 't'</b> |
- (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

- (13) Appendix to
- (14) **9<sup>th</sup> 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)	$U_m$ (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 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)	$U_m$ (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

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) 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

Translation

# EU-Type Examination Certificate Supplement 10

Change to Directive 2014/34/EU

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

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

Product: **Ruggedized ExII telephone type ExResistTel**

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

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

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.

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.

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

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

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

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.

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.

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

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.

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)	$U_m$ (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 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

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