

(3)



Translation

EC-Type Examination Certificate (1)

- Directive 94/9/EC -(2)

Equipment and protective systems intended for use in potentially explosive atmospheres

DMT 02 ATEX E 183

Equipment: (4)Ruggedized ExII-telephone Type ExResistTel

Manufacturer: FHF Funke + Huster Fernsig GmbH (5)

Address: D 42503 Velbert (6)

- (7)The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.
- The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 (8) 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.

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

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

not covered by this certificate

⟨£x⟩ II 2G EEx em [ib] IIC T5 II 2D IP66 T 100 °C $-25 \, ^{\circ}\text{C} < \text{Ta} < +60 \, ^{\circ}\text{C}$

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

EC-Type Examination Certificate

DMT 02 ATEX E 183

(15) 15.1 Subject and type

(14)

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)	\mathbf{DC}	66	V
Maximum input nominal curren	t		100	mΑ
Maximum input short-circuit cu	rrent I _K		35	Α
(There is a fuse with the breaking	capacity of 35 A in the inpu	t-circuit of this app	paratus.)	

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	mН



15.3.2.2 Headset (ear piece) (Terminals pair KGH No.: 7 – 8)			
Maximum output voltage	Uo	17	V
Maximum output current	Io	110	mΑ
Maximum output power	Рo	190	mW
Maximum external capacitance	Co	375	nF
Maximum external inductance	Lo	1,2	mН
15.3.2.3 Headset (recognition) respectively sec (Terminals pair KGS No.: 9 – 10)	ond ear piece		
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	mΗ
15.3.2.4 External loudspeaker (Terminals pair LSP No.: 11 – 12)			
Maximum output voltage	Uo	6,6	v
Maximum output current	Io	250	mΑ
Maximum output power	Po	370	mW
Maximum external capacitance	Co	22	μF
Maximum external inductance	Lo	0,3	mН
Transmit ontollal inductance	20	0,5	TIME

- 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 \leq Ta \leq +60 °C for the temperature class T5
- 15.3.3.2 -25 °C \leq Ta \leq +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

Head of special services unit





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: Jockerssigned: EickhoffDMT-Certification bodyHead of 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.

45307 Essen, 12.11.2002 BVS-Ld/Mi A 20020507

Deutsche Montan Technologie GmbH

DMT-Certification body

Head of special services unit





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

EN 50019:2000

EN 50020:2002

EN 50028:1987

EN 50281-1-1:1998

General requirements

Increased safety

Entrinsic safety

Encapsulation

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 curren	nt	110 mA
	Maximum input short-circuit cu	rrent I _K	35 A
	(There is a fuse with the breaking	ng capacity of 35 A in the input-circuit	of this apparatus.)
1.2	External second ringer: only for (terminals W1 / W no.: 15 – 16)	connection to passive consumers	
	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 2.1	Intrinsically safe circuits Headset (Microphone)			
2.1	(terminals pair KGM no.: 5 – 6)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	90	mΑ
	Maximum output power	Po	80	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	1,2	mΗ
2.2	Headset (ear piece)			
	(terminals pair KGH no.: 7 – 8)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	110	mΑ
	Maximum output power	Po	190	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	1,2	mΗ
2.3	Headset (recognition)			
	(terminals pair KGS no.: 9 – 10)			
	Maximum output voltage	Uo	17	V
	Maximum output current	Io	8	mΑ
	Maximum output power	Po	33	mW
	Maximum external capacitance	Co	375	nF
	Maximum external inductance	Lo	100	mΗ
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	mΗ
2.5	All intrinsically safe output circuits	have a linear characteristic		
3	Operating temperature range			
	$-20 \text{ °C} \le \text{Ta} \le +60 \text{ °C}$ for the temperature $= -20 \text{ °C} \le -20 \text{ °C}$			
3.2	$-20 \text{ °C} \le \text{Ta} \le +40 \text{ °C}$ for the temperature of the temperat	erature class T6		

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

<u>Special conditions for safe use</u> Not applicable

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 06. January 2005

Signed: Dr. Jockers	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, 06.01.2005 BVS-Kan/Mi A 20040801

EXAM BBG Prüf- und Zertifizier GmbH

Page 3 of 3 to DMT 02. ATEX E 183/N3

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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)





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 \leq Ta \leq +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

Signed: Dr. Arnold

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





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

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





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).

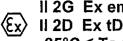
The electrical connection for the telephone is made by means of terminals in the protection type "e".

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:



Il 2G Ex emb[ib] IIC T6 -25°C ≤ Ta ≤ + 40°C

Il 2G Ex emb[ib] IIC T5 -25°C ≤ Ta ≤ + 60°C



Parameters

					
1	Non-intrinsically safe circuits				
1.1	Telephone-network lines (terminals La / Lb no.: 13 – 14) Maximum input voltage Permitted frequency range	Um	(dialling voltage)	AC 90 16 54	V Hz
	respectively Maximum input voltage Permitted frequency range	Um	(dialling voltage)	AC 150 15 68	V Hz
	respectively Maximum input voltage Maximum input nominal current respectively	Um	(supply voltage)	DC 66 100	V mA
Maxir	Maximum input voltage num input nominal current	Um	(supply voltage)	DC 56.5 110	V mA
	Maximum input short-circuit cur (There is a fuse with the breaking		city of 35 A in the input-circuit of this apparatus.)	35	Α
1.2	External second ringer: only for (terminals W1 / W no.: 15 – 16)	connec	tion to passive consumers		
	Maximum input voltage Permitted frequency range respectively	Um.	(dialling voltage)	AC 90 16 54	V Hz
	Maximum input voltage Permitted frequency range respectively	Um	(dialling voltage)	AC 150 15 68	V Hz
	Maximum input voltage respectively	Um	(supply voltage)	DC 66	V
2	Maximum input voltage Intrinsically safe circuits All intrinsically safe output circu	Um its hav	(supply voltage) e a linear characteristic	DC 56.5	V
2.1	Headset (Microphone)	110 110 1	• • • • • • • • • • • • • • • • • • •		
	(terminals pair KGM no.: $5-6$)	• •		1.7	
	Maximum output voltage Maximum output current	Uo Io		17 90	V mA
	Maximum output power	Po		80	mW
	Maximum external capacitance Maximum external inductance	Co Lo		375 1.2	nF 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 Maximum external capacitance	Po Co		190 375	mW 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 Maximum external capacitance	Po Co		33 375	mW nF
	manimum exicinal capacitatice	CU		515	111



	Maximum external inductance	Lo	100	mН
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	$\mu \mathrm{F}$
	Maximum external inductance	Lo	0.3	mH
3	Operating temperature range			

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

3.2 -25 °C \leq Ta \leq +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

Certification body

Certification body

Special services unit





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.

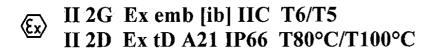
Additionally, the ruggedized ExII-telephone type ExResistTel complies with the current status of the standard.

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:





Still not relevant	
Test and assessment report	
BVS PP 02.2081 EG as of 10.12.2009	
DEKRA EX Bochum, dated 10	
Signed: Simanski	Signed: Dr. Eickhoff
Certification body	Special services unit
We confirm the correctness of the tra In the case of arbitration only the Germ 44809 Bochum, 20.01.2010 BVS-Kr/Ld/Ar E 0043/10	
DEKRA EXAM GmbH	

Special conditions for safe use

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

Address: (6)

45478 Mülheim an der Ruhr, Germany

- The design and construction of this equipment and any acceptable variation thereto are (7) the appendix to this supplement.
- The certification body of DEKRA EXAM GmbH, notified body no /0/38/m/accorpance with Article s (8) the Directive 94/9/EC of the European Parliament and the Council of 73 March 1994 cartifies the equipment has been found to comply with the Essential Health and Safety Requirements relative design and construction of equipment and protective systems intended for use in pote explosive atmospheres, given in Annex II to the Directive The examination and test result recorded in the test and assessment report BVS PP 02/2081 FG
- The Essential Health and Safety Reguirements are assured by compliance with (9)

EN 60079-0:2006/ General requirements

EN 60079-7:2007/ increased safety EN 60079-11:2007 / Intrinsic safety EN 60079-18:2004 / Éncapsulation

EN 61241-0:2006/ /General requirements /Protection by/enclosures EN 61241-1:2004/

- (10) If the sign "X" is placed after the certificate humber it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate
- This supplement to the EC/Type/Examination Certificate/relates/only/to/the design/examination/and (11)tests of the specified equipment in accordance to Directive 94/9/EQ. 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

(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

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

The ambient temperature range lies between -25 °C and +40 °C or +60 °C, respective temperature class and the surface temperature may vary depending on the ampien 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, optionally can be assembled to 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, 20.01.201/1 BVS-Ld/Ar E 0023/11