

Translation

EC-Type Examination Certificate

- (1) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (2) No. of EC-Type Examination Certificate: **BVS 15 ATEX E 084 U**
- (3) Component: **Heater type EH* *****_***
- (4) Manufacturer: **ELMESS-Thermosystemtechnik GmbH & Co. KG**
- (5) Address: **Nordallee 1, 29525 Uelzen, Germany**
- (6) The design and construction of this component and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (7) 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 component 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 15.2211 EG.
- (8) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079-0:2012 + A11:2013 General requirements**
IEC 60079-1:2014 Flameproof enclosure "d"
EN 60079-7:2007 Increased safety "e"
EN 60079-11:2012 Intrinsic safety "i"
EN 60079-31:2014 Protection by enclosures "t"
- (9) The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.
- (10) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.
- (11) The marking of the component shall include the following:

	II 2G Ex e IIB Gb	alternatively	II 2G Ex eb IIB
	II 2G Ex e IIC Gb		II 2G Ex eb IIC
	II 2G Ex d e IIB Gb		II 2G Ex db eb IIB
	II 2G Ex d e IIC Gb		II 2G Ex db eb IIC
	II 2G Ex e ib IIB Gb		II 2G Ex eb ib IIB
	II 2G Ex e ib IIC Gb		II 2G Ex eb ib IIC
	II 2G Ex d e ib IIB Gb		II 2G Ex db eb ib IIB
	II 2G Ex d e ib IIC Gb		II 2G Ex db eb ib IIC
	II 2D Ex tb IIIC Db		II 2D Ex tb IIIC
	II 2D Ex tb ib IIIC Db		II 2D Ex tb ib IIIC

DEKRA EXAM GmbH
Bochum, dated 2015-10-16

Signed: Simanski

Certification body

Signed: Dr. Wittler

Special services unit

- (13) Appendix to
- (14) **EC-Type Examination Certificate
BVS 15 ATEX E 084 U**

(15) 15.1 Subject and type

Heater type EH* *****_*

EH*1) **2) ***3) *4) *5) -*6)

- 1) Usable for heating medium
F: fluids
G: gases / air
K: heating element encapsulated with solid body
- 2) Design related to intended purpose
- 3) Type of separately certified flameproof terminal box
M0., A0., B0., C0.
- 4) Type of enclosure material (optional)
- 5) D: Direct cable entry into the separately certified flameproof terminal box (optional)
- 6) Index number for rated power

15.2 Description

The heater type EH* *****_* is used for a direct or an indirect heating of gases, liquids and solid bodies in areas endangered by explosive atmospheres for zone 1 and 2 respectively zone 21 and 22.

The electrical heater is suitable for a mounting into boxes, machines, tubes or canal systems.

The heater may only be used with safety systems. For example temperature-, flow-, level-, current- or insulation-control.

The heater consists of the a terminal box that could be designed in the type of protection flameproof enclosure "d" or increased safety "e" for use in areas endangered by gas or in type of protection Protection by enclosure "t" for use in areas endangered by dust.

Optionally the terminal boxes can already be certified as separate equipment. In this case the electrical and thermal ratings have to be taken into account.

Optionally a connection enclosure in type of protection increased safety or protection by enclosure can be installed directly below the terminal box. The connection between the two enclosures occurs with separately certified cable bushings that are suitable for this purpose. Alternatively the connection enclosure can be installed with a distance to the terminal box. In this case the connection between the two enclosures occurs with separately certified cable glands that are suitable for this purpose.

The heater type EH* *****_* is a component.

Separately certified equipment / components

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Multi-pole terminal type G 5/..-EX	PTB 06 ATEX 1034 U	EN 60079-0: 2004 EN 60079-7: 2003 EN 50281-1-1:1998
Feed-through terminal block type MXK 4	PTB 99 ATEX 3132 U	EN 60079-0: 2004 EN 60079-7: 2003 EN 50281-1-1:1998
Feed-through terminal block type IDU 2,5N; IDU 2,5 N3/AN; IDU 2,5 N/4AN, IDU 2,5 N/2x2AN; IDU 2,5 N/ZF, IDU 2,5 N/ZB	DEMKO 03 ATEX 134054 U	EN 50014: 1997 EN 50019:2000 EN 50218-1-1:1998
Earthing conductor terminal block type IPE 2,5 N; IPE 2,5 N 3/AN, IPE 2,5 N/4AN, IPE 2,5 N/ZF, IPE 2,5 N/ZB	DEMKO 03 ATEX 134054 U	EN 50014: 1997 EN 50019:2000 EN 50218-1-1:1998
Feed-through terminal block type SAK 2.5; SAK 4; SAK 6N; SAK 10; SAK 16; SAK 35	KEMA97ATEX1798 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type EK 2,5N, EK 4; EK 10; EK 35	KEMA97ATEX1798 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block with cover type WFF 35/32, WFF 70/32, WFF 120/32, WFF 185/32, WFF 300/32	KEMA 98ATEX1684 U	EN 60079-0: 2006 EN 60079-7: 2003 EN 50218-1-1:1998
Feed-through terminal block type WDK 2,5N; WDK 2,5N V; WDK 4N; WDK 4N V	KEMA 00ATEX2061 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type WDK 2,5N PE; WDK 4N PE	KEMA 00ATEX2061 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type SAK 4; SAKH 6; SAKH 10; SAKH 35	KEMA 05ATEX2061 U	EN 60079-0: 2004 EN 60079-7: 2003 EN 50281-1-1:1998
Feed-through terminal block type ZDU4/3AN/E, ZDU 6/3AN/E, ZDU 10/3AN/E, ZDU 35/E	KEMA 00ATEX2107 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type ZPE 4/3AN/E, ZPE 4/4AN/E, ZPE 6/3AN/E, ZPE 10/3AN/E, ZPE 16/3AN/E, ZPE 35/E	KEMA 00ATEX2107 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type ZDU 1.5/E; ZDU 1.5 3AN/E; ZDU 1.5 4AN/E	KEMA 01ATEX2106 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type ZPE 1.5/E; ZPE 1.5 3AN/E; ZPE 1.5 4AN/E	KEMA 01ATEX2106 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type IDU 1,5N; IDU 1,5N/3AN; IDU 1,5N/4AN, IDU 1,5N/ZF, IDU 1,5N/ZB, IDK 1,5N, IDK 1,5N/V	KEMA 02ATEX2241 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type IPE 1,5 N; IPE 1,5N3/AN, IPE 1,5N/4AN, IPE 1,5N/ZF, IPE 1,5N/ZB, IDK 1,5N/PE	KEMA 02ATEX2241 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type ZDU 2,5; ZDU 2,5/3AN; ZDU 2,5/4AN; ZDU 2,5/2x2AN; ZDU 4; ZDU 6	KEMA 97ATEX2521 U	EN 60079-0: 2004 EN 60079-7: 2003
Earthing conductor terminal block type ZPE 2,5; ZPE 2,5/3AN; ZPE 2,5/4AN; ZPE 4; ZPE 6	KEMA 97ATEX2521 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type ZDUB 2,5-2/2AN	KEMA 97ATEX2755 U	EN 60079-0: 2004 EN 60079-7: 2003
Feed-through terminal block type ZDUA 2.5-2	KEMA 97ATEX4678 U	EN 60079-0: 2004 EN 60079-7: 2003

Screwless Earthing conductor terminal block type 782-607/999-950	PTB 00 ATEX 3130 U	EN 60079-0: 2004 EN 60079-7:2003
Screwless Feed-through terminal block type 783-992	PTB 00 ATEX 3131 U	EN 60079-0: 2004 EN 60079-7:2003
Screwless Earthing conductor terminal block type 783-607/999-950	PTB 00 ATEX 3131 U	EN 60079-0: 2004 EN 60079-7:2003
Screwless Feed-through terminal block type 784-992	PTB 00 ATEX 3132 U	EN 60079-0: 2004 EN 60079-7:2003
Screwless Earthing conductor terminal block type 784-607/999-950	PTB 00 ATEX 3132 U	EN 60079-0: 2004 EN 60079-7:2003
4-wire terminal type 862-15xx/999-950 862-16xx/999-950	PTB 03 ATEX 1189 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2006-12..., 2006-13..	PTB 05 ATEX 1030 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2006-2007, 2006-1307	PTB 05 ATEX 1030 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2016-12..., 2016-13..	PTB 05 ATEX 1031 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2016-2007, 2016-1307	PTB 05 ATEX 1031 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2001-12..., 2001-13..., 2001-14..	PTB 05 ATEX 1094 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2001-1207, 2001-1307, 2001-1407	PTB 05 ATEX 1094 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2004-12..., 2004-13..., 2004-14..	PTB 05 ATEX 1095 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2004-1207, 2004-1307, 2004-1407	PTB 05 ATEX 1095 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Screwless Terminal type 262-...	PTB 98 ATEX 3125 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Screwless Terminal type 282-...	PTB 98 ATEX 3131 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Screwless Terminal type 284-...	PTB 98 ATEX 3133 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Screwless Terminal type 280-...	PTB 99 ATEX 3109 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2002-1....	PTB 03 ATEX 1162 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2002-1..7	PTB 03 ATEX 1162 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Feed-through terminal block type TOPJOB S 2010-12..., 2010-13..	PTB 05 ATEX 1070 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998
Earthing conductor terminal block type TOPJOB S 2010-1207, 2010-1307	PTB 05 ATEX 1070 U	EN 60079-0: 2004 EN 60079-7:2003 EN 50281-1-1:1998

Screwless Terminal type 285-...	PTB 98 ATEX 3134 U	EN 60079-0: 2006 EN 60079-7: 2007 EN 61241-0:2006 EN 61241-1:2004
Feed-through terminal block type PIT 4... ; PITT 4...	PTB 09 ATEX 1112 U	EN 60079-0: 2009 EN 60079-7: 2007
Earthing conductor terminal block type PIT 4...-PE ; PITT 4...-PE	PTB 09 ATEX 1112 U	EN 60079-0: 2009 EN 60079-7: 2007
Thermoelectric voltage terminal type MTKD-.../...	QSI 11 ATEX 2020U	EN 60079-0: 2009 EN 60079-7: 2007
Terminal Block type VIOK 1,5-3D/PE-EX	VTT 09 ATEX 057U	EN 60079-0: 2009 EN 60079-7: 2007
Feed-through terminal block type TOPJOB S 2000-1***	PTB 11 ATEX 1041 U	EN 60079-0: 2009 EN 60079-7: 2007
Feed-through terminal block type MBKKB 2,5	KEMA 03 ATEX 2082 U	EN 50014: 1997 EN 50019:2000 EN 50218-1-1:1998
Earthing conductor terminal block type TOPJOB S 2000-1*07/999-950	PTB 11 ATEX 1041 U	EN 60079-0: 2009 EN 60079-7: 2007
Feed-through terminal block type MBK2,5/E	KEMA 03 ATEX 2380 U	EN 60079-0: 2006 EN 60079-7: 2007
Earthing conductor terminal block type MSLKG 2,5	KEMA 01 ATEX 2381 U	EN 60079-0: 2006 EN 60079-7: 2007
Feed-through terminal block type STS 2,5.....: STTBS 2,5 (-PV): STS 4.....	PTB 07 ATEX 1027 U	EN 60079-0: 2006 EN 60079-7: 2007
Earthing conductor terminal block type STS 2,5...-PE: STTBS 2,5-PE: STBS 4...-PE	PTB 07 ATEX 1027 U	EN 60079-0: 2006 EN 60079-7: 2007
Bus bar type GHG 75...	BVS 11 ATEX E 068 U	EN 60079-0: 2009 EN 60079-7: 2007
Terminal type 07-9702-0.2./.... resp. 07-9702-0*2*/****	PTB 99 ATEX 3117 U	EN 60079-0: 2009 EN 60079-7: 2007
Enclosure type 07-5180-.../....	PTB 08 ATEX 1063 U	EN 60079-0: 2009 EN 60079-7: 2007 EN 60079-31: 2009

Listing of all equipment / components with current standards

Subject and type	Certificate	Standards
Feed-through terminal type ST 2,5; ST 2,5-TWIN; ST 2,5 QUATTRO; STTB 2,5(-PV)	KEMA 00ATEX2052 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type ST 2,5; ST 2,5-TWIN-PE; ST 2,5 QUATTRO-PE; STTB 2,5-PE	KEMA 00ATEX2052 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type ST 4; ST 4-TWIN; ST 4 QUATTRO; STTB 4(-PV); ST 6; ST 6-TWIN	KEMA 00ATEX2129 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type ST 4; ST 4-TWIN-PE; ST 4 QUATTRO-PE; STTB 4-PE; ST 6-PE; ST 6-TWIN-PE	KEMA 00ATEX2129 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type ST 1,5; ST 1,5-TWIN; ST 1,5 QUATTRO; STTB 1,5(-PV)	KEMA 01ATEX2129 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type ST 1,5; ST 1,5-TWIN-PE; ST 1,5 QUATTRO-PE; STTB 1,5-PE	KEMA 01ATEX2129 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type MBK 3/E-Z; MBK 6/E	KEMA 01ATEX2134 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type MSLKG 6	KEMA 01ATEX2134 U	EN 60079-0: 2012 EN 60079-7: 2007

Feed-through terminal type ST 10; ST 16; ST 35	KEMA 01ATEX2260 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type ST 10-PE; ST 16-PE; ST 35-PE	KEMA 01ATEX2260 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type UT 2,5; UT 4; UT 4-MTD; UT 6; UT 10; UT 16; UT 35; UT 35 IB	KEMA 04ATEX2048 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type UT 2,5-PE; UT 4-PE; UT 4-MTD-PE; UT 4-MTD-PE/S UT 6 PE; UT 10-PE; UT 16-PE; UT 35-PE; UT 35-PE IB	KEMA 04ATEX2048 U	EN 60079-0: 2012 EN 60079-7: 2007
Terminal type AGK 4-UT 10; AGK 4-UT 16; AGK 4-UT 35	KEMA 04ATEX2048 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type UT 2,5- QUATTRO; UT 2,5-TWIN; UT 4-QUATTRO; UT 4-TWIN; UTTB 2,5; UTTB 2,5-PV; UTTB 4; UTTB 4-PV	KEMA 06ATEX0017 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type UT 2,5-QUATTRO-PE; UT 2,5-TWIN-PE; UT 4-QUATTRO-PE; UT 4-TWIN-PE; UTTB 2,5-PE; UTTB 4-PE	KEMA 06ATEX0017 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type MS(D)B 2,5...	PTB 08 ATEX 1075 U	EN 60079-0: 2012 EN 60079-7: 2007 EN 60079-31:2009
Bolt terminal type RBO 8; RBO 10; RBO 12; RBO 16	SEV 13 ATEX 0132 U	EN 60079-0: 2012 EN 60079-7: 2007
Terminal type PT 1,5/s..., PT 2,5-3..., PT 6..., PT 10...	SEV 13 ATEX 0159 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type MUT 2,5..., MUT 4...	SEV 13 ATEX 0178 U	EN 60079-0: 2012 EN 60079-7: 2007
Universal-Terminal type UT 4-TWIN HV, UT 4-QUATTRO HV	SEV 13 ATEX 0133 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type 870-...	PTB 03 ATEX 1188 U	EN 60079-0: 2012 EN 60079-7:2007
Earthing conductor terminal block type 870-.../999-950	PTB 03 ATEX 1188 U	EN 60079-0: 2012 EN 60079-7:2007
Screwless Terminal type 264-...	PTB 98 ATEX 3129 U	EN 60079-0: 2012 EN 60079-7: 2007
Feed-through terminal type UK 2,5 N	KEMA 06ATEX0119 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Earthing conductor terminal block type USLKG 2,5 N (-1), USLKG 6 N (-1)	KEMA 96ATEX4370 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Feed-through terminal type UK 1,5 N; UK 3 N; UK 5 N; UK 6 N	KEMA 98ATEX1651 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Feed-through terminal type UK 10 N; UK 16 N; UK 35; UK 35-IB; UKH 50-IB; UKH 95	KEMA 98ATEX1786 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Earthing conductor terminal block type USLKG 1,5 N (-1); USLKG 10 N; USLKG 16 N (-1); USLKG 50 (-IB); USLKG 95	KEMA 99ATEX4487 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Feed-through terminal type UKH 150; UKH 240	KEMA 99ATEX8332 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007

Earthing conductor terminal block type USLKG 3 (-1)	KEMA 97ATEX1622 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Feed-through terminal type UKH 70; UHSK/S 2000	SEV 12 ATEX 0168 U	EN 60079-0: 2012 EN 60079-7: 2007
Earthing conductor terminal block type USLKG 35 (-1)	KEMA 01ATEX2046 U	EN 60079-0: 2009 IEC 60079-0:2011 EN 60079-7: 2007
Line bushing type 07-96**_****/****	CML 13 ATEX 1009 U	EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-7: 2007 EN 60079-26: 2007
Thermostat type exTherm-AT 605055	EPS 11 ATEX 1 354	EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-7: 2007 EN 60079-26:2007 EN 60079-31: 2009
Empty enclosure type 8146/-***_**	PTB 01 ATEX 1015 u	EN 60079-0: 2012 EN 60079-7: 2007 EN 60079-31: 2009
Heater enclosure type DH..A0... and DH..80...	IBEXU 13 ATEX 1155 U	EN 60079-0: 2012+A11: 2013 EN 60079-1: 2014 EN 60079-7: 2007 EN 60079-11: 2012 EN 60079-31: 2014
Heater enclosure type DHF.C, DHG.C and DHK.C	TÜV 14 ATEX 143060 U	EN 60079-0: 2012+A11: 2013 EN 60079-1: 2007 EN 60079-7: 2007 EN 60079-11: 2012 EN 60079-31: 2014
Empty enclosure type KEL 93XX.YYY	PTB 03 ATEX 1013 U	EN 60079-0: 2012 EN 60079-15: 2010 EN 60079-31: 2014
Empty enclosure type KEL 94XX.YYY	PTB 02 ATEX 1082 U	EN 60079-0: 2012 EN 60079-15: 2010 EN 60079-31: 2014
Empty enclosure type TX "e" (_ _) ((_ _))	PTB 08 ATEX 1002 U	EN 60079-0: 2012 EN 60079-7: 2007 EN 60079-31: 2009
Self-limiting heating band type KT HKT	KEMA 04 ATEX 2146 U	EN 60079-0: 2012 EN 60079-30-1: 2007 EN 60079-31: 2009

15.3 Parameters

Main circuit:

Rated voltage (max.) 800 V
 Rated current (max.) 630 A per group (max. 10 groups)
 Size of conductor (max.) 400 mm²

Control circuit:

Rated voltage (max.) 440 VAC / 250 VDC
 Rated current (max.) 16 A / 0.25 A

Maximum temperature range for end caps of the heating elements -60 °C up to +85 °C

Maximum temperature range for the sealing of the connection box -60 °C up to +80 °C / 85 °C ¹

¹ Depending on the mechanical construction

(16) Test and Assessment Report

BVS PP 15.2211 EG as of 2015-10-16

(17) Installation instructions

The temperature class and surface temperature, a monitoring unit (level, flow rate) if applicable and further operating conditions (ambient temperature range, self-heating, conduction of heat, mounting orientation, etc.) have to be fixed with the testing of the complete heating construction.

The used safety devices for limiting the temperature, monitoring the flow rate and / or monitoring the level have to be suitable for this purpose and have to be certified.

The heater with flow rate monitoring may only be used when the flow rate is above the minimum flow rate that was basis for the temperature measurement.

The heater with level monitoring may only be used when the level is above the minimum level that was basis for the temperature measurement.

If the temperature of parts of the heater is above the temperature class of the heater, a suitable technical solution must ensure that no combustible gases or vapours can be ignited at these parts. This technical solution must be taken into account during the type test of the complete equipment, because it is not subject of this type test.

The positioning of the temperature sensors for the temperature limiter has to be carried out in such a way, that a failure of one phase is included.

The threaded entries in the terminal box has less than five threads, therefore the additional seal must be an integral part of the separate tested and certified cable gland.

The special conditions for safe use and the schedules of limitations of the type examination certificates, listed in description section "Separately certified equipment / components" have to be observed.

The assembly of equipment and components must be assessed in consideration of the related parameters (temperature, rated voltage,...) in the equipment certification.

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, 2015-10-16
BVS-Kir/Nu A 20130892



Certification body



Special services unit

Translation

EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

Components intended for use on/in an Equipment or Protective System intended for use in potentially explosive atmospheres
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 15 ATEX E 084 U**

Product: **Heater type EH* *****_***

Manufacturer: **ELMESS-Thermosystemtechnik GmbH & Co. KG**

Address: **Nordallee 1, 29525 Uelzen, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 15 ATEX E 084 U 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 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 15.2211 EU.

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

EN IEC 60079-0:2018	General requirements
EN 60079-1:2014	Flameproof enclosure "d"
EN IEC 60079-7:2015 + A1:2018	Increased Safety "e"
EN 60079-11:2012	Intrinsic Safety "i"
EN 60079-31:2014	Protection by Enclosure "t"

The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

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 * IIC Gb	or
 II 2G Ex eb * IIB Gb	or
 II 2D Ex tb * IIIC Db	

* Other types of ignition protection depending on the separately certified devices and components used. For areas with potentially dangerous gas atmosphere Flameproof Enclosure "db" and/or Intrinsic Safety "ib". For areas with potentially hazardous dust atmosphere Intrinsic Safety "ib".

DEKRA Testing and Certification GmbH
Bochum, 2019-11-12

Signed: Jörg-Timm Kilisch

Managing Director



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This certificate may only be reproduced in its entirety and without any change.

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13 **Appendix**
 14 **EU-Type Examination Certificate**

**BVS 15 ATEX E 084 U
 Supplement 1**

15 **Product description**

15.1 **Subject and type**

Heater type EH^a bbcccdde_f

Position	Description
a	Suitable for medium F Fluids G Gases / Air K Heating elements inserted in solid body
bb	Design according to intended use
c	Housing type of flameproof enclosure M0*, A0*, B0* and C0*
dd	Housing material V Stainless steel St Steel
e	Cable entry w/o standard D direct cable entry
f	Index number for rated power

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.)

The heater type EH* *****-* is used for a direct or an indirect heating of gases, liquids and solid bodies in areas with potentially explosive atmospheres for Zone 1 and 2 or Zone 21 and 22.

The electrical heater is suitable for a mounting into boxes, machines, tubes or canal systems.

The heater may only be used with safety systems. For example temperature-, flow-, level-, current- or insulation-control.

The heater consists of a terminal box that could be designed in the type of protection Flameproof Enclosure "db" or Increased Safety "eb" for use in areas with potentially hazardous gas atmosphere or in type of protection Protection by Enclosure "tb" for use in areas with potentially hazardous dust atmospheres.

Optionally the terminal boxes can already be certified as separate equipment. In this case the electrical and thermal ratings have to be taken into account.

Optionally a connection enclosure in type of protection Increased Safety "eb" or Protection by Enclosure "tb" can be installed directly below the terminal box. The connection between the two enclosures occurs with separately certified cable bushings that are suitable for this purpose. Alternatively the connection enclosure can be installed with a distance to the terminal box. In this case the connection between the two enclosures occurs with separately certified cable glands that are suitable for this purpose.

The heater type EH* *****-* is a component.

Note concerning the used components

All separately certified components used in accordance with the type documents correspond technically to the standards referred here. The list is to be taken from the description according to item 3.1.1 of the Test Report.

15.3 Parameters

15.3.1 Electrical parameters

15.3.1.1 Main circuit

Max. rated voltage		800	V
Max. rated current per group		630	A
Max. number of groups		10	
Max. cross section		400	mm ²

15.3.1.2 Monitoring circuit

Max. rated voltage	AC	440	V
Max. rated voltage	DC	250	V
Max. rated current	AC	16	A
Max. rated current	DC	0.25	A

15.3.2 Thermal parameters

Max. temperature of heating elements end caps	-60 °C up to 85 °C
Max. temperature of connection box gaskets	-60 °C up to +80 °C / 85 °C ¹

¹ Depending on the mechanical construction

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17 Installation Instructions

The temperature class and surface temperature, a monitoring unit (level, flow rate) if applicable and further operating conditions (ambient temperature range, self-heating, conduction of heat, mounting orientation, etc.) have to be fixed with the testing of the complete heating construction.

The used safety devices for limiting the temperature, monitoring the flow rate and / or monitoring the level have to be suitable for this purpose and have to be certified.

The heater with flow rate monitoring shall only be used when the flow rate is above the minimum flow rate that was basis for the temperature measurement.

The heater with level monitoring shall only be used when the level is above the minimum level that was basis for the temperature measurement.

If the temperature of parts of the heater is above the temperature class of the heater, a suitable technical solution must ensure that no combustible gases or vapours can be ignited at these parts. This technical solution must be taken into account during the type test of the complete equipment, because it is not subject of this type test.

The positioning of the temperature sensors for the temperature limiter has to be carried out in such a way, that a failure of one phase is included.

The threaded entries in the terminal box has less than five threads, therefore the additional seal must be an integral part of the separate tested and certified cable gland.

The special conditions for safe use of the separately certified equipment and the schedules of limitations of the separately certified components have to be observed.

The assembly of equipment and components must be assessed in consideration of the related parameters (temperature, rated voltage, ...) in the equipment certification.

18 Essential Health and Safety Requirements

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

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 Testing and Certification GmbH
Bochum, 2019-12-11
BVS-Kir/Mu A 20190099

A handwritten signature in blue ink, appearing to read "J. L. A.", written over a horizontal line.

Managing Director