

Translation

EC-Type Examination Certificate

- (1)
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 16 ATEX E 031**
- (4) Equipment: **Junction box / Terminal box type GHG 79 * * * * ***
- (5) Manufacturer: **Cooper Crouse-Hinds GmbH**
- (6) Address: **Neuer Weg-Nord 49, 69412 Eberbach, Germany**
- (7) The design and construction of this component and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (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 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 16.2049 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
EN 60079-0:2012 + A11:2013 General requirements
EN 60079-7:2007 Increased safety "e"
EN 60079-31:2014 Protection by enclosures "t"
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This 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.
- (12) The marking of the component shall include the following:



II 2G Ex e * IIC T5/T6 Gb
II 2D Ex tb * IIIC T80°C Db

* The marking can be amended by further types of protection depending on the used components/equipment inside the junction/terminal box. (e.g. Ex d)

DEKRA EXAM GmbH
Bochum, dated 2016-04-15

Signed: Simanski

Certification body

Signed: Dr. Eickhoff

Special services unit

- (13) Appendix to
- (14) **EC-Type Examination Certificate
BVS 16 ATEX E 031**
- (15) 15.1 Subject and type

Junction/Terminal box type GHG 79 * * * * *

Asterisk	Description
1	enclosure material 1 plastic
2 and 3	Size (w × h × d) [mm]
	01 100 × 81,5 × 56 (without feet)
	02 113.5 × 117.5 × 67.5 (without feet)
4 - 10	Without influence to explosion protection

15.2 Description

The junction box / terminal box Type GHG 79 * * * * * fulfills the requirements of type of protection Increased Safety „e“ and Protection by Enclosure „t“. It is designed for use in areas requiring EPL Gb or Db.

The junction box / terminal box consists of a plastic enclosure with cover and serves to install or connect cables. The enclosure is equipped with terminal blocks according to PTB00 ATEX 3102 U / IECEx PTB 11.0029U or other terminal blocks which are separately certified for this purpose.

The enclosure is either equipped with side-fed entries or with boreholes to mount cable entries which are separately certified for this purpose.

Inside the enclosure several different components / equipment can be installed according to the documentation of the manufacturer. The Ex-marking of the junction / terminal box will be amended by all types of protection of the built-in components / equipment

The junction / terminal box is also suitable for intrinsically safe circuits. In this case it is a simple apparatus according to standard EN 60079-11 and a marking must be added to the enclosure. The creepage and clearance distances between intrinsic safe circuits to ground, between two different intrinsic safe circuits and between intrinsic and non-intrinsic safe circuits are taken into account during the installation of the terminals.



Subject and type	Certificate	Standards
Terminal Type GHG 240 130* R ****	PTB 01 ATEX 1004 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type GHG 740 92** R ****	PTB 03 ATEX 1201 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type UK 5-TWIN und MSLKG 5	KEMA 00 ATEX 2100 U	EN 60079-0:2006 EN 60079-7:2007 EN 50281-1-1:1998+A1
Terminal Type ZDU / ZPE	KEMA 97 ATEX 2521 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type SAK	KEMA 97 ATEX 1798 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type 281-...	PTB 00 ATEX 3110 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type TOPJOB S 2002	PTB 03 ATEX 1162 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type 784	PTB 00 ATEX 3132 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2016	PTB 05 ATEX 1031 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2006	PTB 05 ATEX 1030 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 870	PTB 03 ATEX 1188 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type 284	PTB 98 ATEX 3133 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 283	PTB 98 ATEX 3132 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 282	PTB 98 ATEX 3131 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 262	PTB 98 ATEX 3125 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2004	PTB 05 ATEX 1095 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type 280	PTB 99 ATEX 3109 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 285	PTB 98 ATEX 3134 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type WDU 2.5	SIRA 02 ATEX 3153 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type IAK 16	QSI 12 ATEX 2028 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type MTKD	QSI 11 ATEX 2020 U	EN 60079-0:2009 EN 60079-7:2007

15.3 Parameters

Electrical Parameters

Junction/Terminal box type GHG 791 01 *** ****

Rated voltage ¹	AC / DC	690 V
Rated current ²	up to	32 A
Cross section ³	up to	6 mm ²

Junction/Terminal box type GHG 791 02 *** ****

Rated voltage ¹	AC / DC	690 V
Rated current ²	up to	28 A
Cross section ³	up to	6 mm ²

¹The rated voltage depends on the used type of terminal and the creepage and clearance distances.

²The rated current depends on the used type of terminal, the cross section and the number of conductors.

³According to the cross section / current table for each size of enclosure.

Thermal Parameters

Junction / Terminal box	T _{amb}	Maximum permitted power dissipation	
		T6	T5
GHG 791 01 *** ****	-55 °C bis +40 °C	4 W	5.5 W
	-55 °C bis +55 °C	2.5 W	4 W
GHG 791 02 *** ****	-55 °C bis +40 °C	6.7 W	9.1 W
	-55 °C bis +55 °C	4.2 W	6.7 W

Type GHG 791 01 *** ****

Current [A]	Cross section [mm ²]			
	1.5	2.5	4	6
3				
6	30			4)
10	10	20		
16	4	11	22	
20		5	12	
25			3	
35	5)			3)
1)	See explanation below the tables			
2)	See explanation below the tables			

Type GHG 791 02 *** ****

Current [A]	Cross section [mm ²]				
	1.5	2.5	4	6	10
3					
6	37			4)	
10	12	24			
16	5	14	27		
20		6	15	30	
25	5)		4	11	3)
1)	See explanation below the tables				
2)	See explanation below the tables				

- 1) max. number of terminals depending on the above mentioned apparatus type and the built-in 2 wire terminals.
- 2) max. number of terminals depending on the above mentioned apparatus type and the max. number of conductors.
- 3) max. number of conductors depending on the cross-section and allowed continuous current for the mentioned apparatus type. The number of conductors is the sum of all incoming conductors and internal wire connections. Bridge links and earth conductors do not count.
- 4) This area can be used for the installation of further terminals taking into account the definition of the clearance parameters.
- 5) Terminal installation in this area requires separate temperature rise tests for each different variant of installation.

(16) Test and Assessment Report

BVS PP 16.2049 EG as of 2016-04-15

(17) Installation instructions

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, 2016-04-15
BVS-Hk/Nu A 20121133



Certification body



Special services unit

Translation

EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

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

EU-Type Examination Certificate Number: **BVS 16 ATEX E 031 X**

Product: **Junction box / Terminal box type GHG 79 * ** *** **** *******

Manufacturer: **Cooper Crouse-Hinds GmbH**

Address: **Neuer Weg-Nord 49, 69412 Eberbach, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 16 ATEX E 031 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. PP 16.2049 EU.

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

EN 60079-0:2012 + A11:2013	General requirements
EN 60079-7:2007	Increased Safety "e"
EN 60079-31:2014	Protection by Enclosure "t"

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 e * IIC T5/T6 Gb**
II 2D Ex tb * IIIC T80°C Db

* The marking can be amended by further types of protection depending on the used components / equipment inside the junction / terminal box. (e.g. Ex d)

DEKRA EXAM GmbH
Bochum, 2016-11-11

Signed: Günther Schumann

Certifier

Signed: Dr. Franz Eickhoff

Approver

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 16 ATEX E 031 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Junction / Terminal box type GHG 79 * ** *** **** *****

Asterisk	Description
1	Enclosure material 1 plastic

2 and 3	Size (w × h × d) [mm] 01 100 × 81,5 × 56 (without feet) 02 113.5 × 117.5 × 67.5 (without feet)
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4 - 10	Without influence to explosion protection
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15.2 **Description**

The junction box / terminal box Type GHG 79 * ** *** **** ***** fulfills the requirements of type of protection Increased Safety „e“ and Protection by Enclosure „t“. It is designed for use in areas requiring EPL Gb or Db.

The junction box / terminal box consists of a plastic enclosure with cover and serves to install or connect cables. The enclosure is equipped with terminal blocks according to PTB00 ATEX 3102 U / IECEx PTB 11.0029U or other terminal blocks which are separately certified for this purpose.

The enclosure is either equipped with side-fed entries or with boreholes to mount cable entries which are separately certified for this purpose.

Inside the enclosure several different components / equipment can be installed according to the documentation of the manufacturer. The Ex-marking of the junction / terminal box will be amended by all types of protection of the built-in components / equipment.

The junction / terminal box is also suitable for intrinsically safe circuits. In this case it is a simple apparatus according to standard EN 60079-11 and a marking must be added to the enclosure. The creepage and clearance distances between intrinsic safe circuits to ground, between two different intrinsic safe circuits and between intrinsic and non-intrinsic safe circuits are taken into account during the installation of the terminals.

Listing of all components used referring to older standards:

Subject and type	Certificate	Standards
Terminal Type GHG 240 130* R ****	PTB 01 ATEX 1004 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type GHG 740 92** R ****	PTB 03 ATEX 1201 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type UK 5-TWIN und MSLKG 5	KEMA 00 ATEX 2100 U	EN 60079-0:2006 EN 60079-7:2007 EN 50281-1-1:1998+A1
Terminal Type ZDU / ZPE	KEMA 97 ATEX 2521 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type SAK	KEMA 97 ATEX 1798 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type 281-...	PTB 00 ATEX 3110 U	EN 60079-0:2006 EN 60079-7:2007
Terminal Type TOPJOB S 2002	PTB 03 ATEX 1162 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type 784	PTB 00 ATEX 3132 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2016	PTB 05 ATEX 1031 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2006	PTB 05 ATEX 1030 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 870	PTB 03 ATEX 1188 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type 284	PTB 98 ATEX 3133 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 283	PTB 98 ATEX 3132 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 282	PTB 98 ATEX 3131 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 262	PTB 98 ATEX 3125 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type TOPJOB S 2004	PTB 05 ATEX 1095 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type 280	PTB 99 ATEX 3109 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type 285	PTB 98 ATEX 3134 U	EN 60079-0:2004 EN 60079-7:2003 EN 50281-1-1:1998
Terminal Type WDU 2.5	SIRA 02 ATEX 3153 U	EN 60079-0:2004 EN 60079-7:2003
Terminal Type IAK 16	QSI 12 ATEX 2028 U	EN 60079-0:2009 EN 60079-7:2007
Terminal Type MTKD	QSI 11 ATEX 2020 U	EN 60079-0:2009 EN 60079-7:2007

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.)

Reasons for the supplement:

- change to Directive 2014/34/EU
- addition of a special condition for use.

15.3 **Parameters**

15.3.1 **Electrical Parameters**

Junction/Terminal box type GHG 791 01 *** ****

Rated voltage ¹	AC / DC	690 V
Rated current ²	up to	32 A
Cross section ³	up to	6 mm ²

Junction/Terminal box type GHG 791 02 *** ****

Rated voltage ¹	AC / DC	690 V
Rated current ²	up to	28 A
Cross section ³	up to	6 mm ²

- 1) The rated voltage depends on the used type of terminal and the creepage and clearance distances.
- 2) The rated current depends on the used type of terminal, the cross section and the number of conductors.
- 3) According to the cross section / current table for each size of enclosure.

15.3.2 **Thermal Parameters**

Junction / Terminal box	T _{amb}	Maximum permitted power dissipation	
		T6	T5
GHG 791 01 *** ****	-55 °C bis +40 °C	4 W	5.5 W
	-55 °C bis +55 °C	2.5 W	4 W
GHG 791 02 *** ****	-55 °C bis +40 °C	6.7 W	9.1 W
	-55 °C bis +55 °C	4.2 W	6.7 W

Type GHG 791 01 *** ****

Current [A]	Cross section [mm ²]			
	1.5	2.5	4	6
3				
6	30			4)
10	10	20		
16	4	11	22	
20		5	12	
25			3	
35	5)			3)
1)	See explanation below the tables			
2)	See explanation below the tables			

Type GHG 791 02 *** ****

Current [A]	Cross section [mm ²]				
	1.5	2.5	4	6	10
3					
6	37			4)	
10	12	24			
16	5	14	27		
20		6	15	30	
25	5)		4	11	3)
1)	See explanation below the tables				
2)	See explanation below the tables				

- 1) Max. number of terminals depending on the above mentioned apparatus type and the built-in 2 wire terminals.
- 2) Max. number of terminals depending on the above mentioned apparatus type and the max. number of conductors.
- 3) Max. number of conductors depending on the cross-section and allowed continuous current for the mentioned apparatus type. The number of conductors is the sum of all incoming conductors and internal wire connections. Bridge links and earth conductors do not count.
- 4) This area can be used for the installation of further terminals taking into account the definition of the clearance parameters.
- 5) Terminal installation in this area requires separate temperature rise tests for each different variant of installation.

16 **Report Number**

BVS PP 16.2049 EU, as of 2016-11-11

17 **Special Conditions for Use**

For ambient temperatures < -20 °C the Junction/Terminal box type GHG 791 01 *** **** was tested with an impact energy of 4 J and has to be installed in a way that it is protected against higher mechanical risk.

18 **Essential Health and Safety Requirements**

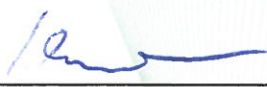
The Essential Health and Safety Requirements are covered by the standards listed under item 9.

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 EXAM GmbH
Bochum, dated 2016-11-11
BVS-HK/Mu A 20160823



Certifier



Approver