IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BKI 07.0023 issue No.:0	History:
Status:	**Current**	
Date of Issue:	**2007-06-05** Page 1 of 3	

Applicant: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Electrical Apparatus: **Control unit of types**
Optional accessory: **GHG 44. ....R....**

Type of Protection: **General requirements, Flameproof enclosures, Increased safety, Intrinsic safety, Encapsulation, Dust explosion protection – Protection by enclosures**

Marking: **Ex de ia/ib m [ia/ib] IIC T4...T6**
-55 °C ≤ Tamb ≤ +55 °C
Ex tD A21 IP66 T 80 °C

Approved for issue on behalf of the IECEx Certification Body: János HANKÓ

Position: Director

Signature:
(for printed version)

Date: 2007.06.05.

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary

Robbanásbiztos Berendezések ® BKI • Vizsgáló Állomása • Ex

IECEx Certificate of Conformity

Certificate No.: **IECEx BKI 07.0023**

Date of Issue: **2007-06-05** Issue No.: **0**

Manufacturer: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacture'rs quality system, relating to the Ex prodt covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identi documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
IEC 60079-18 : 1992 Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than thos expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

HU/BKI/ExTR07.0022/00

Quality Assessment Report:
HU/BKI/QAR06.0001/00

IECEx Certificate of Conformity

Certificate No.: **IECEx BKI 07.0023**

Date of Issue: **2007-06-05** Issue No.: **0**

Page 3 of 3

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Control units of type GHG 44. ....V.... consist of a bottom part and a cover with separately approved internal sealing devic
They are made of moulded plastic or VA4 sheet steel or light alloy .

See details in addendum to IECEx BKI 07.0023.

CONDITIONS OF CERTIFICATION: NO

Annexe: Addendum to IECEx BKI 07.0023.pdf

1. Description

Control units of type GHG 44. ....V.... consist of a bottom part and a cover with separately approved internal sealing device. They are made of moulded plastic or VA4 sheet steel or light alloy .
Rail-type webs or top-hat rails have been grooved (plastic enclosure) or riveted (metal enclosure) into the bottom part of the enclosure. They are intended for take up the built-in elements.
Assembling of the control units is permitted.
Attached Ex cable entries has to be covered by separate certificate.
Both variants are suitable for durable use.
The built-in elements, if required, can be covered by separate certificates e.g. pushbuttons, signal lamps, measuring instruments and/or terminals, or other separate approved components of increased safety „e" and flameproof enclosure „d" and encapsulation „m".
Enclosures with one, two or three units can exclusively be used for the installation of the terminal blocks with the type of protection increased safety „e", covered by separate certificate.
The identification with the symbols of the types of protection is adapted to the components that actually installed.

2. Type assortment

GHG 44. .... R....
Legend of the signs from left to right

1._, 2._, 3._	Code for Manufacturer
4._, 5._	Code for control unit version
6._	Code for enclosure size B × L × H 444 = 312,5 ×175 × 135 (VA sheet steel) 448 = 312,5 ×312,5 × 135 (VA sheet steel) 448 = 312,5 ×312,5 × 210 (VA sheet steel) 447 = 627 ×312,5 × 135 (VA sheet steel) 449 = 627 ×312,5 × 210 (VA sheet steel) 449 = 941 ×312,5 × 135 (VA sheet steel) 444 = 134 × 271 × 135 (moulded plastic) 447 = 271 × 817 × 135 (moulded plastic) 448 = 271 × 271 × 135 (moulded plastic) 448 = 271 × 271 × 210 (moulded plastic) 449 = 271 × 544 × 135 (moulded plastic) 449 = 271 × 544 × 210 (moulded plastic) 443 = 260 × 160 × 91 (light alloy) 443 = 230 × 280 × 111 (light alloy)
7._, 8._	Enclosure material Moulded plastic = 2 VA material = 3 Light alloy = 4
9._, 10._, 11._, 12._, 13._, 14._, 15._	No influence on Ex-protection

3. General parameters

Electrical data

Rated voltage max. 690 V
Rated current max. 40 A or 63 A
Rated cross-sectional max 6 mm^2
Power consumption for signal lamps max 1,8 W / per lamps
for MCB/RCB max. 11,2 W / per MCB/RCB for T6
15,5 W / per MCB/RCB for T5
38,3 W / per MCB/RCB for T4
The electrical data for the built-in components can be gathered from the respective certificates
Electrical safety I class of electrical safety standards (MSZ EN-IEC 60598)

4. Ambient temperature

Subject to the sealing used, the maximum ambient temperature is
-55 °C ≤ Tamb ≤ +55 °C

4.1 Ingress protection and working temperature range for control and display element

Control and display element (actuator)	IP protection	Working temperature range
Signal lamp GHG 410 1413.	IP66	-20 °C ≤ Tamb ≤ +40 °C
Signal lamp GHG 410 1402.	IP66	-20 °C ≤ Tamb ≤ +40 °C
Double pushbutton GHG 410 1407.	IP66	-20 °C ≤ Tamb ≤ +40 °C
Measuring instrument AM72 GHG 410 1917.	IP66	-20 °C ≤ Tamb ≤ +40 °C
Mushroom-head emergency button GHG 410 1405.	IP66	-20 °C ≤ Tamb ≤ +40 °C
Control switch Ex 29/28 GHG 420 / 430 10..	IP66	-20 °C ≤ Tamb ≤ +40 °C
Control switch Ex 22 GHG 420 / 430 10..	IP66	-20 °C ≤ Tamb ≤ +40 °C
Dummy element GHG 410 6666	IP66	-55 °C ≤ Tamb ≤ +90 °C
Measuring instrument AM 45 GHG 410 1915.	IP66	-20 °C ≤ Tamb ≤ +60 °C
Mushroom-head emergency button with lock GHG 410 1406.	IP6X	-20 °C ≤ Tamb ≤ +55 °C
Key operated pushbutton GHG 410 1404/35	IP6X	-20 °C ≤ Tamb ≤ +55 °C
Rotary switch Ex 41 GHG 410 14 08/..	IP6X	-20 °C ≤ Tamb ≤ +55 °C
Potentiometer GHG 410 1427	IP6X	-20 °C ≤ Tamb ≤ +55 °C

5. Ingress protection: IP66 to IEC 60529 (moulded plastic enclosure)

Notes for manufacturing and operation
The „Notes for manufacturing and operation" will also apply to the supplement.
The enclosure made from material SMC 190 has to carry the following warning: „Clean with moist cloth only."

Drawings

Description No. 4186 (20 sheets)		1999. 10. 10.
List of component variant and their combinations (1 sheet)		1999. 12. 10.
Drawing No GHG 41-2-4045		1999. 09. 27.
GHG 73-4-3739		1999. 09. 27.
GHG 44-3-4051		1999. 09. 27.
GHG 44-3-4050		1999. 09. 27.
GHG 44-3-4049		1999. 09. 27.
GHG 44-3-4048		1999. 09. 27.
Test report No. PTB Ex 99-19131 (5 sheets)		1999. 12. 16.
Description No. 4186 Supplement	(1 sheet)	2002. 03. 15.
Test protocols and information documents:		
Test protocol of DMT No. BVS PP 02.2017EG		2002. 02. 28.
No. BVS PP 02.2018EG		2002. 02. 28.
Test report No. PTB Ex 02-12099 (2 sheets)		2002. 05. 13.
Description	6 sheet	2006. 09. 06
Drawing No. GHG 670-4-4504	1 sheet	2006. 07. 27
Drawing No. GHG 610 1190 R0001	1 sheet	2006. 07. 27
Drawing No. GHG 610 1191 R0001	1 sheet	2006. 07. 27
Drawing No. GHG 410-3-4476	1 sheet	2006. 07. 27
Parts No. GHG 410-3-4476	1 sheet	2006. 07. 27
Drawing No. GHG 410-3-4475	1 sheet	2006. 07. 27
Parts No. GHG 410-3-4475	1 sheet	2006. 07. 27
Drawing No. GHG 410-3-4479	1 sheet	2006. 07. 27
Parts No. GHG 410-3-4479	1 sheet	2006. 07. 27
Drawing No. GHG 410-3-4542	1 sheet	2006. 07. 27
Parts No. GHG 410-3-4542	1 sheet	2006. 07. 27
Test Report PTB Ex 06-16295	4 sheet	2006. 11. 16

Test Records of Cooper Crouse-Hinds No. 01-MI4-B1-07042006
Test Records of Cooper Crouse-Hinds No. 02-MI4-B1-28092005
Test Records of PTB dd. 29-08-1997
Test Records of Cooper Crouse-Hinds No. 02-MI4-B1-23092004
Test Records of Cooper Crouse-Hinds No. 01-MI4-B1-03022005
Test Records of Cooper Crouse-Hinds No. 01-MI4-B1-18112004
Data sheet for elastomers
Data sheet SMC 190
Data sheet for plastic materials used

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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Certificate No.:	IECEx BKI 07.0023	issue No.:1	Certificate history: Issue No. 1 (2011-9-19) Issue No. 0 (2007-6-5)
Status:	**Current**		
Date of Issue:	**2011-09-19**	Page 1 of 4	

Applicant: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Electrical Apparatus: **Control unit of types**
Optional accessory: GHG 44. ....R....

Type of Protection: **General requirements, Flameproof enclosures, Increased safety, Intrinsic safety, Encapsulation, Dust explosion protection – Protection by enclosures**

Marking: **Ex de ia/ib m [ia/ib] IIC T4...T6**
-55 °C ≤ Tamb ≤ +55 °C
Ex tD A21 IP66 T 80 °C

Approved for issue on behalf of the IECEx Certification Body: János FEJES

Position: Director

Signature:
(for printed version)

Date: 2011-09-19

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary

Robbanásbiztos Berendezések BKI Vizsgáló Állomása Ex

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2011-09-19** Issue No.: **1**

Manufacturer: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex produ covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Docume as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identifi documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
IEC 60079-18 : 1992 Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than thos expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
HU/BKI/ExTR07.0022/00

Quality Assessment Report:

DE/BVS/QAR11.0009/00 HU/BKI/QAR06.0001/00

IECEx Certificate

# of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2011-09-19** Issue No.: **1**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Control units of type GHG 44. ....V.... consist of a bottom part and a cover with separately approved internal sealing devic They are made of moulded plastic or VA4 sheet steel or light alloy .

See details in addendum to IECEx BKI 07.0023.

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate

of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2011-09-19** Issue No.: **1**

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

new QAR

Annexe: Addendum to IECEx BKI 07.0023.pdf

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BKI 07.0023 issue No.:2	Certificate history: Issue No. 2 (2014-6-16) Issue No. 1 (2011-9-19) Issue No. 0 (2007-6-5)
Status:	**Current**	
Date of Issue:	**2014-06-16** Page 1 of 4	

Applicant: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Electrical Apparatus: **Control unit of types**
Optional accessory: GHG 44. ….R….

Type of Protection: **General requirements, Flameproof enclosures, Increased safety, Intrinsic safety, Encapsulation, Dust explosion protection – Protection by enclosures**

Marking: Ex de ia/ib m [ia/ib] IIC T4…T6
-55 °C ≤ Tamb ≤ +55 °C
Ex tD A21 IP66 T 80 °C
for working temperatures see 4.1 of Addendum to IECEx BKI 07.0023

Approved for issue on behalf of the IECEx Certification Body: János MÜLLNER

Position: managing director

Signature:
(for printed version)

Date:

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Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-06-16** Issue No.: **2**

Manufacturer: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Additional Manufacturing location (s):

Cooper Crouse-Hinds PTE Ltd.
No 2 Serangoon North Avenue
06-01 Fu Yu Building
Singapore 554911
Singapore

Cooper Electric (Changzhou) Co. Ltd.
No. 189 Liuyanghe Road
Xinbei District
Changzhou, Jiangsu
China 213031
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
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IEC 60079-18 : 1992 Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
HU/BKI/ExTR07.0022/00

Quality Assessment Report:

GB/BAS/QAR07.0041/05
HU/BKI/QAR06.0001/00
GB/BAS/QAR11.0007/02
DE/BVS/QAR11.0009/00

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-06-16** Issue No.: **2**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Control units of type GHG 44. ….V…. consist of a bottom part and a cover with separately approved internal sealing device. They are made of moulded plastic or VA4 sheet steel or light alloy .

See details in addendum to IECEx BKI 07.0023.

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-06-16** Issue No.: **2**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New manufacturing locations:

1.
Cooper Crouse-Hinds PTE Ltd.
No. 2 Serangoon North Avenue, # 06-01 Fu Yu Building, Singapore 554911
SINGAPORE

2.
Cooper Electric (Changzhou) Co. Ltd
No. 189 Liuyanghe Road, Xinbei District, Changzhou, Jiangsu, China 213031
CHINA

Annex: Addendum to IECEx BKI 07.0023.pdf

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BKI 07.0023 issue No.:3

Status: **Current**

Date of Issue: **2014-10-27** Page 1 of 4

Certificate history:
Issue No. 3 (2014-10-27)
Issue No. 2 (2014-6-16)
Issue No. 1 (2011-9-19)
Issue No. 0 (2007-6-5)

Applicant:
Cooper Crouse-Hinds GmbH
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Electrical Apparatus: **Control unit of types**
Optional accessory: GHG 44. ….R….

Type of Protection: **General requirements, Flameproof enclosures, Increased safety, Intrinsic safety, Encapsulation, Dust explosion protection – Protection by enclosures**

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Ex tD A21 IP66 T 80 °C
for working temperatures see 4.1 of Addendum to IECEx BKI 07.0023

Approved for issue on behalf of the IECEx Certification Body: János MÜLLNER

Position: managing director

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Certificate issued by:

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MIKOVINY S.u. 2-4
Hungary

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-10-27** Issue No.: **3**

Manufacturer:

Cooper Crouse-Hinds GmbH
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
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IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-10-27** Issue No.: **3**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Control units of type GHG 44. ….R…. consist of a bottom part and a cover with separately approved internal sealing device. They are made of moulded plastic or VA4 sheet steel or light alloy .

See details in addendum to IECEx BKI 07.0023.

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: IECEx BKI 07.0023

Date of Issue: **2014-10-27** Issue No.: **3**

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Technical corrections.
See details and correction in the Addendum to 3rd amendment to IECEX BKI 07.0023.

Annex: Addendum to IECEx BKI 07.0023.pdf, Addendum to 3rd amendment to IECEx BKI 07.0023..pdf

ADDENDUM TO IECEx CERTIFICATE OF CONFORMITY

3rd amendmento to IECEx BKI 07.0023

1. Description

Control units of type GHG 44. ….R…. consist of a bottom part and a cover with separately approved internal sealing device. They are made of moulded plastic or VA4 sheet steel or light alloy .
Rail-type webs or top-hat rails have been grooved (plastic enclosure) or riveted (metal enclosure) into the bottom part of the enclosure. They are intended for take up the built-in elements.
Assembling of the control units is permitted.
Attached Ex cable entries has to be covered by separate certificate.
Both variants are suitable for durable use.
The built-in elements, if required, can be covered by separate certificates e.g. pushbuttons, signal lamps, measuring instruments and/or terminals, or other separate approved components of increased safety „e" and flameproof enclosure „d" and encapsulation „m".
Enclosures with one, two or three units can exclusively be used for the installation of the terminal blocks with the type of protection increased safety „e", covered by separate certificate.
The identification with the symbols of the types of protection is adapted to the components that actually installed.

2. Type assortment

GHG 44. …. R….
Legend of the signs from left to right

1._, 2._, 3._	Code for Manufacturer
4._, 5._	Code for control unit version
6._	Code for enclosure size B × L × H 444 = 312,5 ×175 × 135 (VA sheet steel) 448 = 312,5 ×312,5 × 135 (VA sheet steel) 448 = 312,5 ×312,5 × 210 (VA sheet steel) 447 = 627 ×312,5 × 135 (VA sheet steel) 449 = 627 ×312,5 × 210 (VA sheet steel) 449 = 941 ×312,5 × 135 (VA sheet steel) 444 = 134 × 271 × 135 (moulded plastic) 447 = 271 × 817 × 135 (moulded plastic) 448 = 271 × 271 × 135 (moulded plastic) 448 = 271 × 271 × 210 (moulded plastic) 449 = 271 × 544 × 135 (moulded plastic) 449 = 271 × 544 × 210 (moulded plastic) 443 = 260 × 160 × 91 (light alloy) 443 = 230 × 280 × 111 (light alloy)
7._, 8._	Enclosure material Moulded plastic = 2 VA material = 3 Light alloy = 4
9._, 10._, 11._, 12._, 13._, 14._, 15._	No influence on Ex-protection

3. General parameters

Electrical data

Rated voltage max. 690 V
Rated current max. 40 A or 63 A
Rated cross-sectional max 6 mm^2
Power consumption for signal lamps max 1,8 W / per lamps
for MCB/RCB max. 11,2 W / per MCB/RCB for T6
15,5 W / per MCB/RCB for T5
38,3 W / per MCB/RCB for T4
The electrical data for the built-in components can be gathered from the respective certificates
Electrical safety I class of electrical safety standards (MSZ EN-IEC 60598)

4. Ambient temperature

Subject to the sealing used, the maximum ambient temperature is
-55 °C ≤ Tamb ≤ +55 °C

4.1 Ingress protection and working temperature range for control and display element

4.1.1 Dust

The actuator elements used in the enclosure may also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

Control and display element (actuator)	IP protection	Working temperature range
Signal lamp GHG 410 1413. ….	IP66	-20 °C to +40 °C
Push button GHG 410 1402. ….	IP66	-20 °C to +40 °C
Double pushbutton GHG 410 1407. ….	IP66	-20 °C to +40 °C
Measuring instrument AM72 GHG 410 1917. ….	IP66	-20 °C to +40 °C
Mushroom-head emergency button GHG 410 1405. ….	IP66	-20 °C to +40 °C
Control switch Ex 29/28 GHG 420 / 430 10.. . ….	IP66	-20 °C to +40 °C
Control switch Ex 23 GHG 420 / 430 10.. . ….	IP66	-20 °C to +40 °C
Dummy element GHG 410 6666 . ….	IP66	-55 °C to +90 °C
Measuring instrument AM 45 GHG 410 1915. ….	IP66	-20 °C to +60 °C
Mushroom-head emergency button with lock GHG 410 1406. ….	IP6X	-20 °C to +55 °C
Key operated pushbutton GHG 410 1404/35 . ….	IP6X	-20 °C to +55 °C
Rotary switch Ex 41 GHG 410 14 08/.. . ….	IP6X	-20 °C to +55 °C
Potentiometer GHG 410 1427 . ….	IP6X	-20 °C to +55 °C

4.1.2 Gas

For gas applications the values of clause 4 are applicable with the following restrictions:

- provision of an M45 measuring instrument actuator
  In that case the minimum ambient temperature range is reduced to -40°C.

- installation of a control switch type Ex 23 GHG23. ….R…., including the actuator type 8602/.
  In that case the minimum ambient temperature range is reduced to -20°C.

5. Ingress protection: IP66 to IEC 60529 (moulded plastic enclosure)

Notes for manufacturing and operation

The „Notes for manufacturing and operation" will also apply to the supplement.
The enclosure made from material SMC 190 has to carry the following warning: „Clean with moist cloth only."

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BKI 07.0023

Issue No: 4

Status: **Current**

Page 1 of 4

Date of Issue: **2018-01-25**

Certificate history:
Issue No. 4 (2018-01-25)
Issue No. 3 (2014-10-27)
Issue No. 2 (2014-06-16)
Issue No. 1 (2011-09-19)
Issue No. 0 (2007-06-05)

Applicant: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Equipment: **Control unit of types**
Optional accessory: *GHG 44. ….R….*

Type of Protection: **General requirements, Flameproof enclosures, Increased safety, Intrinsic safety, Encapsulation, Dust explosion protection – Protection by enclosures**

Marking:

Ex de ia/ib m [ia/ib] IIC T4…T6
-55 °C ≤ Tamb ≤ +55 °C
Ex tD A21 IP66 T 80 °C
for working temperatures see 4.1 of Addendum to IECEx BKI 07.0023

Approved for issue on behalf of the IECEx Certification Body: Edit Molnár

Position: managing director

Signature:
(for printed version)

Date: 2018-01-25

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary

Robbanásbiztos Berendezések BKI Vizsgáló Állomása Ex

IECEx Certificate of Conformity

Certificate No: IECEx BKI 07.0023 Issue No: 4

Date of Issue: **2018-01-25** Page 2 of 4

Manufacturer: **Cooper Crouse-Hinds GmbH**
previously CEAG Sicherheitstechnik GmbH
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Additional Manufacturing location(s):

Eaton Electric (Singapore) PTE Ltd.
100G Pasir Panjang Road,
#07-08/#02-09
Interlocal Centre,
Singapore, 118523
Singapore

Cooper Electric (Changzhou) Co. Ltd.
No. 189 Liuyanghe Road,
Xinbei District
Changzou, Jiangsu
China, 213031
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition:4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition:4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
IEC 60079-18 : 1992 Edition:1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
IEC 60079-7 : 2001 Edition:3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

HU/BKI/ExTR07.0022/00

Quality Assessment Report:

DE/BVS/QAR11.0009/08 GB/BAS/QAR07.0041/07 GB/BAS/QAR11.0007/05

IECEx Certificate of Conformity

Certificate No: IECEx BKI 07.0023 Issue No: 4

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Control units of type GHG 44. ....R.... consist of a bottom part and a cover with separately approved internal sealing device. They are made of moulded plastic or VA4 sheet steel or light alloy .

See details in addendum to IECEx BKI 07.0023.

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Certificate No: IECEx BKI 07.0023 Issue No: 4

Date of Issue: **2018-01-25**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

1st issue: new QAR: DE/BVS/QAR11.0009/00

2nd issue:
Additional manufacturing locations:

1.
Cooper Crouse-Hinds PTE Ltd.
No. 2 Serangoon North Avenue, # 06-01 Fu Yu Building, Singapore 554911
SINGAPORE

2.
Cooper Electric (Changzhou) Co. Ltd
No. 189 Liuyanghe Road, Xinbei District, Changzhou, Jiangsu, China 213031
CHINA

Issue 3:
Technical corrections.
See details and correction in the Addendum to 3rd amendment to IECEX BKI 07.0023.

Issue 4:
Change the name and address of the manufacturing location, Singapore
from
Cooper Crouse-Hinds PTE Ltd., No 2 Serangoon North Avenue 5, # 06-01, Singapore, 554911 (QAR: GB/BAS/QAR11.0007/04)
to
Eaton Electric (Singapore) PTE Ltd., 100G Pasir Panjang Road,, #07-08/#02-09 Interlocal Centre,, Singapore,118523 (QAR: GB/BAS/QAR11.0007/05)

Annex:

Addendum to IECEx BKI 07.0023.pdf

Addendum to 3rd amendment to IECEx BKI 07.0023..pdf