

# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



## (1) **EC-TYPE-EXAMINATION CERTIFICATE** (Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

**PTB 98 ATEX 1117 U**

(4) Component: Built-in switch or pushbutton component type GHG 2.. ...R....

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: D-69412 Eberbach

(7) This component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC 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 confidential report PTB Ex 00-18151.

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

**EN 50014:1997**

**EN 50018:1994**

**EN 50019:1994**

**EN 50020:1994**

(10) The sign "U" placed behind the certificate number indicates that this certificate should not be confounded with certificates issued for equipment or protective systems. This Component Certificate only serves as a basis for the issuing of certificates for equipment or protective systems.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified component in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this component.

(12) The marking of the component shall include the following:

 **II 2 G EEx dei IIC IM 2 EEx dei I**

Zertifizierungsstelle Explosionsschutz

Braunschweig, March 31, 2000

By order

  
Dr.-Ing. U. Klausmeyer  
Regierungsdirektor



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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE PTB 98 ATEX 1117 U

(15) Description of component

The built-in switch or pushbutton component of type GHG 2 ... R ... serves to switch control, load and motor circuits. The built-in switch component is composed of switch chambers and assembled in pairs to form wafers.

The integrated terminals are used for connection.

#### Electrical data

Rated insulation voltage .....	up to	690 V					
Rated voltage U <sub>e</sub> .....	up to	24 V	230 V	400 V	500 V	690 V	
Rated current I <sub>e</sub> .....	max.	6 A	0,4 A	8 A	20 A	6 A	16 A 20 A
related to utilization category .....		DC-11	DC-11AC-11	AC-3	AC-3	AC-11	AC-3 AC-1

*In accordance with the relevant provisions, values other than the rated values stated above are permissible, provided the making and breaking capacities are complied with. These values have been specified by the manufacturer, dependent on the mode of operation, utilization category, etc*

Rated cross-section .....	max.	6 mm <sup>2</sup> single-core 2,5 mm <sup>2</sup> finely stranded
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Ambient temperature .....	up to	-55 °C to 45 °C
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The built-in switch or pushbutton component is designed for a temperature stability of 80 °C and can be used in ranges of temperature class T6.

The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards applicable, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc.

The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. Further technical details have been specified in the test documents.

If and when required, the built-in switch or pushbutton component is equipped with wafers for operation of circuits of the type of protection intrinsic safety "i".

The composition of the symbol specifying the type of protection depends on the types of protection of the components built in.

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# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

## SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 98 ATEX 1117 U

(16) Test report PTB Ex 00-18151

(17) Special conditions for safe use

none;

Instructions for manufacture and operation

The built-in switch or pushbutton component is to be installed in an enclosure which complies with the requirements of a recognized type of protection according to EN 50 014, section 1.2.

If the built-in switch or pushbutton component is installed in an enclosure of the type of protection increased safety "e" according to EN 50 019, the creepage distances and clearances according to section 4.3, section 4.4 and Table 1 must be complied with.

In the case of a combination with circuits of the type of protection intrinsic safety "i", the component must be installed in such a way that the creepage distances and clearances between intrinsically safe and non-intrinsically safe circuits, which are required by EN 50020, are complied with.

If the distances required according to EN 50 020 for connection facilities are not ensured by the installation, cables of increased safety "e" quality or fail-safe cables are to be used.

If more than one intrinsically safe circuit is used, the rules for interconnection must be observed.

The built-in switch component may be used in both group I and II, as the requirements of the standard are identical in this case.

This EC-type-examination Certificate and all future supplements to it are also considered to be supplements to Component Certificate PTB No. Ex-86.B.1089 U.

(18) Essential health and safety requirements

The tests carried out and their positive results show that the built-in switch or pushbutton component meets the requirements of Directive 94/9/EC and of the standards stated on the cover sheet.

Zertifizierungsstelle Explosionsschutz

Braunschweig, March 31, 2000

By order:

  
Dr.-Ing. U. Klausmeyer  
Regierungsdirektor



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Cooper-Crouse Hinds GmbH  
z. Hd. Frau Frankhauser

Neuer Weg Nord 49  
69412 Eberbach

Ihr Zeichen:  
Ihre Nachricht vom: 28.01.2008  
Unser Zeichen: 3.5-2231-13/08-Ko  
Unsere Nachricht vom:

Bearbeitet von: Ruth Koch  
Telefondurchwahl: +49 (0) 531-592-3501  
Telefaxdurchwahl: +49 (0) 531-592-3505  
E-Mail: Ruth.koch@ptb.de

Datum: 30.05.2008


**Normengenerationsänderung nach EN 60079-0 ff**  
**Change of the standard generation to EN 60079-0 ff**  
**Einbauschalter bzw. -taster Typ GHG 2.. ...R....**  
**Built-in switch switch or pushbutton component type GHG 2.. ...R....**

**PTB 98 ATEX 1117 U**

Sehr geehrte Frau Frankhauser,  
Dear Mrs. Frankhauser,

die Selbsterklärung zu den o.g. Komponenten auf Übereinstimmung mit den vorgenannten Normen hat die PTB zur Kenntnis genommen und den zugehörigen Prüfungsunterlagen beigefügt. Es bestehen keine sicherheitstechnischen Bedenken, die o.g. Komponenten mit folgenden Kennzeichnungen zu versehen:


 II 2G Ex de [ia] IIC


 I M2 Ex de [ia] I

Nach Rücksprache mit dem Leiter der Zertifizierungsstelle wird die Kennzeichnung hinsichtlich der eigensicheren Stromkreise um die eckigen Klammern erweitert, da es sich nicht um ein komplett eigensicheres Gerät sondern um ein zugehöriges Betriebsmittel gemäß EN 60079-11 handelt.

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Your statement relating the above-named components concerning the conformity with the aforementioned standards was acknowledged by PTB and added to the related test documentation. There are no safety-related objections from PTB to mark the above mentioned components as follows:

 II 2G Ex de [ia] IIC

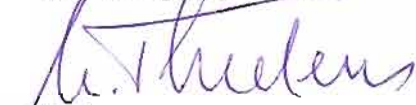
 I M2 Ex de [ia] I

After consultation with the head of the certification body the marking is extended by brackets concerning the intrinsically safe circuits, since the equipment is not a completely intrinsically safe apparatus but an associated apparatus according to EN 60079-11.

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen / Best regards

Im Auftrag / By order



Dr.-Ing. Martin Thedens  
Oberregierungsrat