



Translation

EC-Type Examination Certificate

- Directive 94/9/EC -

**Equipment and protective systems intended for use
in potentially explosive atmospheres**

BVS 08 ATEX E 072 X

- (4) **Equipment:** Peltier Cooler type 5985-103
- (5) **Manufacturer:** BARTEC GmbH
- (6) **Address:** 94239 Gotteszell
- (7) The design and construction of this equipment 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 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 08.2144 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079- 0:2006 General requirements
EN 60079-18:2004 Encapsulation
- (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 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 not covered by this certificate
- (12) The marking of the equipment shall include the following:

II 2G Ex mb II T3

DEKRA EXAM GmbH
Bochum dated 29. August 2008

Signed: Dr. Jockers

Certification body

Signed: Dr. Eickhoff

Special services unit

(13)

Appendix to

(14)

EC-Type Examination Certificate

BVS 08 ATEX E 072 X

(15) 15.1 Subject and type

Peltier Cooler Type 5985-103

15.2 Description

The Peltier cooler type 5985-103 consists of a Peltier element that has been provided with a cooling element at its hot side. At the cold side, a rod has been fastened that allows to cool each object, which is thermally linked with the rod.

15.3 Parameters

15.3.1 Electrical parameters power supply

Rated voltage	15.5	VDC
Rated current	3.9	A

Limit values according to EN60079-18:2004 7.9.2

Maximum external current limited to or, alternatively, external fuse (nominal value)	6.8	A
	4	A

15.3.2 Electrical parameters sensor

Maximum voltage	30	VDC
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(16) Test and assessment report

BVS PP 08.2144 EG as of 29.08.2008

(17) Special conditions for safe use

17.1 Restrictions / conditions to be listed in the EC-Type Examination Certificate

In order to guarantee a safe use of the Peltier cooler type 5985-103, the external power supply has to be limited to a maximum current of 6.8 A. If the external power source cannot be limited to the value set above, a fuse of a nominal value of 4 A has to be integrated into the supply, that has an interrupting rating higher than the maximum current of the supply.

The lead of the Peltier cooler type 5985-103 has to be installed fixedly for a safe use.

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, 29.08.2008
BVS-Kr / Ld / Her A 20080140

DEKRA EXAM GmbH



Certification body



Special services unit

Translation

(1) 1st 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: **BVS 08 ATEX E 072 X**

(4) Equipment: **Peltier Cooler type 5985-103**

(5) Manufacturer: **BARTEC BENKE GmbH**

(6) Address: **Schulstraße 30, 94239 Gotteszell, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(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 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 08.2144 EG.


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

EN 60079-0:2012 General requirements
EN 60079-18:2009 Encapsulation "m"

(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 supplement to the 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 not covered by this certificate.

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

 **II 2G Ex mb IIC T3 Gb**
alternatively
II 2G Ex mb IIC T3

DEKRA EXAM GmbH
Bochum, dated 2014-05-06

Signed: Simanski

Certification body

Signed: Dr. Wittler

Special services unit

- (13) Appendix to
- (14) **1st Supplement to the EC-Type Examination Certificate BVS 08 ATEX E 072 X**
- (15) 15.1 Subject and type

Peltier Cooler type 5985-103

15.2 Description

The peltier cooler type 5985-103 is suitable for use in areas endangered by gas atmospheres. It is designed in type of protection Encapsulation 'm' for an EPL Gb.

The peltier cooler consists of a peltier element, permanently connected to a cable. This peltier element is placed between a massive finned aluminium heat sink linked to the hot side and a metal rod linked to the cold side.

For thermal monitoring a Pt100 sensor is fixed in a hole in the metal rod. For thermal protection in case of reverse operation a thermal fuse is also placed inside the metal rod.

Reasons for this supplement are the change to the current standards and the optional use of alternative types of thermal fuses.

15.3 Parameters

Electrical parameters

Electrical parameters (power supply)

Rated voltage	15.5	VDC
Rated current	3.9	A

Limiting values (power supply)

Maximum current of the power supply or alternatively	6.8	A
Rated current of an external fuse	4.0	A

Electrical parameters (temperature sensor)

Rated voltage	30.0	VDC
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Thermal parameters

Ambient temperature range $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$

- (16) Test and Assessment Report

BVS PP 08.2144 EG as of 2014-05-06

- (17) Special conditions for safe use

For safe use of the peltier cooler type 5985-103 the external power supply must be surely limited to a maximum current of 6.8 A. In case the external power supply is not limited a fuse with a rated current of 4 A and a capability to surely interrupt the maximum current of the power supply must be used in the supply line.

The connection cable must be fixed installed.



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, 2014-05-06
BVS-Kir/Mu A 20140209



Certification body



Special services unit

