



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 DEK 12.0004U Issue No: 1 Certificate history:
Issue No. 1 (2015-08-11)
Status: **Current** Page 1 of 5 Issue No. 0 (2012-08-31)
Date of Issue: **2015-08-11**
Applicant: **BARTEC GmbH**
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany
Electrical Apparatus: **Self Limiting Heating Cable series MSB type 07-5804-******
Optional accessory: **N/A**
Type of Protection: **Ex e, Ex tb**
Marking:
Ex e IIC 150 °C (T3), T4 Gb
Ex tb IIC T 150 °C, T 130 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

R.H.D. Pommé

Position:

Certification Manager

Signature:
(for printed version)

Date:

2015-08-11

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](http://www.iecex.com).

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





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Manufacturer: **BARTEC GmbH**
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Additional Manufacturing
location(s):

BARTEC Explosion Proof Appliances (Shanghai) Co., Ltd.

New Building 7
No 188 Xinjung Ring Rd.
Caohejing Pujiang Hi-tech park
Minhang District, Shanghai
PR 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-30-1 : 2007-01 Edition:1	Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*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:

[NL/DEK/ExTR12.0005/01](#)

Quality Assessment Report:

[DE/TUN/QAR06.0017/07](#) [NL/DEK/QAR12.0060/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The Self Limiting Heating Cable Series MSB is a parallel trace heater and used to raise or maintain the temperature of a workpiece where it is externally applied. The MSB heating cable series consists of an electrical resistance heater element with positive temperature coefficient. This means that the MSB heating cable series reduces its power output with increasing temperature.

For nomenclature, thermal data, product ratings and electrical data see Annex to Certificate of Conformity IECEx DEK 12.0004U, issue 1.

CONDITIONS OF CERTIFICATION: NO



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

1. Update ATEX to EN 60079-0 : 2012 + A11 : 2013 (was already assessed to IEC 60079-0 : 2011);
2. Update IECEx to IEC 60079-31 : 2013 and ATEX to EN 60079-31 : 2014



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Additional information:

Schedule of Limitations

Connections and terminations for installation with the MSB heating cable series shall be certified according to the requirements of the applicable standards for their types of protection for potential explosive gas and/or combustible dust atmosphere, as well as the requirements of IEC 60079-30-1 as integral parts of this trace heating system.

For the connection of the heating cable to power certified glands, enclosures and terminals shall be used that are suitable for the application and are correctly installed. The cable glands shall be mounted in an enclosure in such a way that the ingress protection ratings are ensured as follows. IP54 for use in explosive atmospheres caused by the presence of flammable gas and/or vapours. IP6X for use in explosive atmospheres caused by the presence of combustible dust. Ingress protection ratings according to IEC 60529.

When used in TT and TN systems a residual current device according to IEC 60079-30-1, clause 4.3 point d) shall be installed. When used in IT systems an insulation monitoring device according to IEC 60079-30-1, clause 4.3 point e) shall be used.

When the maximum surface temperature of the MSB heating cable is limited by controlled design, thermal protective devices according to IEC 60079-30-1, clause 4.4.3 shall be used.

Annex:

[218240700_Annex to_ExTR12.0005.01_DEK 12.0004U-iss1_12ATEX0044 U-Iss2.pdf](#)

Annex to IECEx Test Report NL/DEK/ExTR12.0005/01
Annex to Certificate of Conformity IECEx DEK 12.0004U, issue 1
Annex to EC Type Examination Certificate DEKRA 12ATEX0044 U, issue no. 2

Description

The Self Limiting Heating Cable Series MSB is a parallel trace heater and used to raise or maintain the temperature of a workpiece where it is externally applied. The MSB heating cable series consists of an electrical resistance heater element with positive temperature coefficient. This means that the MSB heating cable series reduces its power output with increasing temperature.

Maximum operating temperature, power “on”: +110 °C
 Maximum withstand temperature, power “off”: +130 °C
 Minimum start-up temperature: -50 °C
 Minimum installation temperature: -40 °C
 Minimum bending radius: 25 mm

Nomenclature and electrical data

07 - 5 8 0 4 - 2 40 X
 I II III IV V VI VII VIII

Designation	Explanation	Value	Explanation
I, II, III, IV	General	07-580	Parallel circuit heating cable for use in potential explosive atmospheres
V	Cable Series Designation	4	Self Limiting MSB
VI	Rated voltage	2	208 Vac to 254 Vac
VII	Power output rating at 10 °C	10 15 25 30 40	10 W/m 15 W/m 25 W/m 30 W/m 40 W/m
VIII	Overjacket option	X Y	Fluoroplastic Copolymer overjacket Thermoplastic Copolymer overjacket

Temperature class and specified maximum surface temperature “T”

Systems approach, design verification method

The maximum surface temperature “T” is based upon exposure of a heating cable to a workpiece having a temperature not exceeding the maximum exposure temperature.

Rated voltage	Power output rating	Maximum exposure temperature	T-class	Maximum surface temperature “T”
254 Vac	All	110 °C	150 °C (T3)	150 °C
	10 W/m	100 °C	T4	130 °C
	15 W/m	90 °C	T4	130 °C
	25 W/m	80 °C	T4	130 °C
	30 W/m	70 °C	T4	130 °C
	40 W/m	60 °C	T4	130 °C

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Conditions for systems approach, design verification method

For insulated externally heated surfaces lower T-class and maximum surface temperature “T” systems may be obtained by ensuring that the heating cable shall not be exposed to temperatures exceeding those listed under maximum exposure temperature.

The T-class and maximum surface temperature “T” are obtained through systems approach is based on the energy balance of heat loss and heat production of the system at a certain temperature. The maximum exposure temperature of the system including the resulting T-class, maximum surface temperature “T” and heating cable type shall be provided as a record of system documentation for each stabilized designed system. The parameters in the system documentation shall be checked during commissioning of the system.

The system documentation shall be kept by the owner of the system and be available at all times for as long as the system is in use.