



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 13ATEX3363** Issue: **0**

4 Equipment: **EMK Heating Circuit Type 27-3621-****/******

5 Applicant: **BARTEC GmbH**

6 Address: **Max-Eyth-Strasse 16
Bad Mergentheim
97980
Germany**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC 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 intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009

EN 60079-7:2007

EN 60079-30-1:2007

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

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 schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2G

Ex e IIC T1 to T6 Gb

Note - Due to restrictions applied by the applicant some products that are detailed in this certificate may not be commercially available.

R A Craig
Certification Support Officer

Project Number 32237

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The EMK Heating Circuits are factory assembled with resistance heating cables and cold leads attached via end terminations. The resistance cable has either a single, or dual resistance wire, which is insulated with compressed magnesium oxide and surrounded by a metallic sheath. The resistance wire of the single core heating cable is connected by hot-to-cold joints to single core cold lead-in cables at both ends. The resistance wires of the dual core cable are connected to conductors of a two core cold lead-in cable at one end and connected together at the other end. As a result, conductors in the heating cable form a loop with the total length equal to double that of the heating cable. Within the body of the hot-to-cold joint, each resistance wire of the heating cable is connected to one of the two-core cold lead-in cables to extend the electric circuit.

The heaters are rated at up to 500 Vac, with power output dependent upon the circuit length and the applied voltage. The temperature class for each installation is established by the stabilised design method and may be T1 to T6.

The range of heaters consists of the following types:

Cupro-nickel sheath:			
27-3621-**01/****	27-3621-**02/****	27-3621-**03/****	27-3621-**04/****
27-3621-**05/****	27-3621-**06/****	27-3621-**07/****	27-3621-**08/****
27-3621-**09/****	27-3621-**10/****	27-3621-**11/****	27-3621-**12/****
27-3621-**13/****	27-3621-**14/****		
Stainless steel sheath:			
27-3621-**15/****	27-3621-**16/****	27-3621-**17/****	27-3621-**18/****
27-3621-**19/****	27-3621-**20/****	27-3621-**21/****	27-3621-**22/****
27-3621-**23/****	27-3621-**24/****		
Inconel 600 sheath:			
27-3621-**26/****	27-3621-**27/****	27-3621-**28/****	27-3621-**29/****
27-3621-**30/****	27-3621-**31/****	27-3621-**32/****	27-3621-**33/****
27-3621-**34/****	27-3621-**35/****		

The cold lead cables are also mineral insulated and have a sheath manufactured from stainless steel, cupro-nickel or high nickel alloy. These are spliced to the resistance cable using a joint assembly that is brazed or welded onto the sheaths of the cables. This joint assembly is filled with fused magnesia to insulate the conductor joint. A suitably certified cable gland is fitted to enable the unit to be connected to a certified junction box.

The cold lead-in cable, sizes 2.5 mm² or 6 mm² may also be terminated with a flexible wire seal; this seal comprises a brass or stainless steel pot that is either crimped onto to the MIC sheath or attached using silver solder. A flexible, PVC insulated wire fitted with an insulated ferrule is attached to the MIC conductor by either silver solder brazing or using a copper crimp that is covered with shrink tubing. The pot is filled with epoxy resin to form the seal. The flexible wire seal is used with a suitable gland that may be fitted with a flexible wire, earth tag assembly.



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Variation 1 - This variation introduced the following change:

- i. Additional range of mineral insulated, trace heating cable units was approved.

Variation 2 - This variation introduced the following changes:

- i. The introduction of an extended, long reach seal pot to the mineral insulated trace heating cable units. The extended seal pot has a nominal diameter of 12.7 mm and length of 63 mm. The seal pot is designed to allow the associated gland assembly to be fitted directly on to the pot itself rather than the heating cable sheath, only glands specified by the manufacturer shall be fitted on to the seal pot.
- ii. The product references for the range of mineral insulated trace heating cable units were amended in the description above.
- iii. The drawings were rationalised to more accurately describe the construction of the products, as a result, Condition of Certification 17.6 was amended.
- iv. The gland and cold seal assembly, specified in the manufacturer's assembly drawings, was recognised as an integral component.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	13 May 2014	R32237A/00	The release of the prime certificate including Variation 1 and 2.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

None

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 A dielectric strength test shall be carried out on each unit manufactured in accordance with the requirements of EN 60079-30-1-2007 clause 5.2.1.
- 17.4 The manufacturer shall verify the output rating for each unit manufactured in accordance with EN 60079-30-1-2007 clause 5.2.2.

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- 17.5 The manufacturer shall ensure that all component certified items are installed in accordance with their certificate conditions. A suitably certified cable entry device that will maintain IP54 shall also be provided.
- 17.6 The flexible wire seal shall only be fitted by the manufacturer in accordance with the relevant drawing using the specific constituent parts and cable types that are detailed on that drawing, in addition, the epoxy resin shall comply with the requirements of the relevant drawing.

Certificate Annexe

Certificate Number: Sira 13ATEX3363
Equipment: EMK Heating Circuit Type 27-3621-****/****
Applicant: BARTEC GmbH



Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
21-3621-650001	1 of 1	-	16 Apr 14	Label EMK Heating Loop Type 27-3621-****/****

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