BA_W5-003_EN

•General

The electric heating radiator EHR T4, T3 is equipment and protective system intended for use in potentially explosive atmospheres.
The heating radiator can be used in areas in which an explosive atmosphere occurs in operation occasionally (Zone 1). The mixture can either be consisting of air together with flammable substances in the form of gas/vapor or with a cloud of combustible dust (G/D).

EU-Type Examination Certificate : EPS 18 ATEX 1036
IECEx Certificate of Conformity : IECEx EPS 18.0024
EAC Ex Certificate : RU C-DE.EX01.B.00032/19

Marking: II 2 G Ex db IIC T4 / T3 Gb
II 2 D Ex tb IIIC T135°C / T200°C Db

•Function

The electric heating radiators, E HR are intended for heating protection boxes, cabinets or shelters.
The heaters are designed for operation with an external temperature controller or switch.
Attach the temperature controller or switch in an area with a regulated temperature. Advisable are areas where free air flow is possible. With respect to cabinet dimensions we recommend a position at the bottom close to the cabinet centre as temperature might slightly vary throughout the cabinet height.

Inside the EHR flameproof enclosure is a manual reset, bimetal actuated temperature limiting thermostats to protect exceeding the maximum allowable surface temperature defined by the specified temperature class.
The temperature limiter is voltage maintained. The resetting of the electrical interlock and latching function is done by disconnecting the heater from power supply.

The Electric Heating Radiators are available in a short 200mm or a long 400mm enclosure with a heating power from 200W to 1000W for horizontal or vertical mounting.
For detailed information look up our catalogue.
Failure switch (250VAC, 16A), temperature sensors (PT100), armoured cable or other options on request.

•Technical Data

Rated voltage:	120 / 250 VAC
Rated power	Rated Current: 120 / 250 VAC
200 W	1,7 / 0,9 A
300 W	2,5 / 1,2 A
500 W	4,2 / 2,0 A
750 W	6,3 / 3,0 A
1000 W	8,4 / 4,0 A
Connection cable:	SIHF 3 x or 5 x 2,5 mm^2, 3 m long
Ambient temp.:	T4: -60°C to +80°C, T3: -60°C to +140°C
Operating temp.:	T4: -60°C to +120°C, T3: -60°C to +180°C
Protection degree:	IP 68

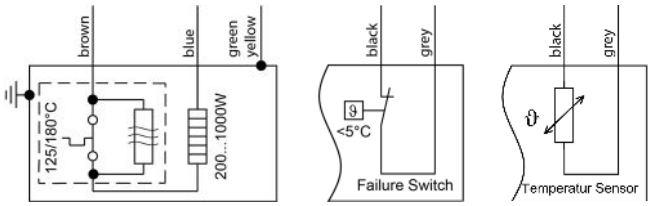
For installation and operation it is essential to follow this Manual and the relevant national regulations in addition to generaly accepted good engineering practice and the IEC 60079/14 "Electrical installation design, selection and eraction".
The specified rated data on the type plate of the heater must always be taken in account.

•Mounting

The electrical heating radiator can be mounted directly at the mounting plate or cabinet bottom with the enclosed mounting brackets.
For a perfect antifreeze effect a vertical mounting position of the cooling fins must be provided because of correct convection.
During disassembly, turn off the power supply, remove the electrical connections and remove the mounting screws.

•Commissioning

The electric heating radiator EHR is delivered operable from the manufacture. The connecting cable of the EHR is foreseen to be joined in a junction box according to wiring diagram. The junction box must comply with the requirements of an approved type of protection according to IEC 60079-0, if the connection is in a hazardous area.
The EHR is intended for stationary installation, so the connection cable must be protected against mechanical damage.
The equipotential bonding and earthing shall be ensured by connecting the EHR to the entire system.



•Electrical Protection

Line and short circuit protection
The switch-off and electrical isolation of all circuit power supply conductors including the neutral should be done by Miniature Circuit Breaker (MCB) in a switchgear. The rated current should be limited to 32A .
Residual current circuit breakers and insulation monitoring
To limit the heating effect due to earth-fault and earth-leakage currents the additional protection is required:
In a TT or TN system a residual current device (RCD) with a rated residual operation current not exceeding 100mA shall be used. Preference should be given to RCDs with a rated residual operating current of 30mA.
Residual current circuit breakers with overcurrent protection
In a TT or TN system also a compact protection device (RCBO) which combine the overcurrent function of a MCB with the earth fault functions of a RCD can be used.
Overcurrent protection
The rated current and the tripping characteristic of an overcurrent protection must be matched to the rated current of the switching or control device possibly used.
Potential equalization
At the metallic housing of the EHR is a protective conductor connection for connecting to the external potential equalization. The potential bonding conductor shall be connected properly. When connecting two conductors, they must have the same size.

•Operation, Maintenance

Devices in hazardous area must be installed, supervised, maintained and kept in good conditions by the owner of the plant. For information, refer to IEC 60079-17. Only skilled workers are allowed to do maintenance and the elimination of disturbance work. Do not perform any independent repair of defective heating plates, but send it back to SCHRAMM. Unauthorized repairs and disassembly will automatically eliminate warranties and liabilities.

(1) # EU - Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 18 ATEX 1 036 **Revision 0**

(4) Equipment: Electrical Heating Radiator Type EHR

(5) Manufacturer: Schramm GmbH

(6) Address: Flinschstrasse 18a
60338 Frankfurt am Main
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, 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 of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 18TH0179.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 **EN 60079-1:2014**

EN 60079-1:2014

(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 annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

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

II 2G Ex db IIC T4/T3 Gb
II 2D Ex tb IIIC T135°C/T200°C Db

Certification department of explosion protection

Nuremberg, 2018-05-07

H. Schaffer

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(13) # Annex

(14) **EU - Type Examination Certificate EPS 18 ATEX 1 036** **Revision 0**

(15) Description of equipment:

The electrical Heating Radiator EHR is intended for heating protection boxes, cabinets or shelters.

The heaters are designed for operation with an external temperature controller or switch.

Inside the EHR flameproof enclosure is a manual resettable, bimetal actuated temperature limiting thermostat to protect exceeding the maximum allowable surface temperature defined by the specified temperature class. The temperature limiter is voltage maintained.

The Electric Heating Radiator EHR can be combined with internal temperature switch or temperature sensor

Ambient temperature range: -60°C to +140°C (+80°C for T4)

Operating temperature range: -60°C to +180°C (+120°C for T4)

Electrical data:

Nominal voltage	120VAC / 250VAC	120VAC / 250VAC	120VAC / 250VAC	120VAC / 250VAC	120VAC / 250VAC
Power	200W	300W	500W	750W	1000W
Current consumption	1,7A / 0,9A	2,5A / 1,2A	4,2A / 2,0A	6,3A/3,0A	8,4A/4,0A

(16) Reference number: 18TH0179

(17) Special conditions for safe use:

None

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Nuremberg, 2018-05-07

H. Schaffer

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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 EPS 18.0024

Issue No: 0

Certificate history:
Issue No. 0 (2018-05-07)

Status: **Current**

Date of Issue: **2018-05-07**

Applicant: **Schramm GmbH**
Flinschstrasse 18a, 60388 Frankfurt am Main
Germany

Equipment: **Electrical Heating Radiator Type EHR**
Optional accessory:

Type of Protection: **db, tb**

Marking:
Ex db IIC T4/T3 Gb

Ex tb IIIC T135°C/T200°C Db

Approved for issue on behalf of the IECEx Certification Body: Holger Schaffer

Position: Certificate Manager

Signature:
(for printed version)

Date: 2018-05-07

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:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany

IECEx Certificate of Conformity

Certificate No:	IECEx EPS 18.0024	Issue No: 0
Date of Issue:	2018-05-07	Page 2 of 3
Manufacturer:	**Schramm GmbH** Flinschstrasse 18a, 60388 Frankfurt am Main **Germany**	

Additional 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 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 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 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
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:

DE/EPS/ExTR18.0020/00

Quality Assessment Report:

DE/EPS/QAR14.0015/03

IECEx Certificate of Conformity

Certificate No: IECEx EPS 18.0024 Issue No: 0

Date of Issue: 2018-05-07 Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Electric Heating Radiator EHR is intended for heating protection boxes, cabinets or shelters.

The heaters are designed for operation with an external temperature controller or switch.

Inside the EHR flameproof enclosure is a manual resettable, bimetal actuated temperature limiting thermostat to protect exceeding the maximum allowable surface temperature defined by the specified temperature class. The temperature limiter is voltage maintained.

The Electric Heating Radiator EHR can be combined with internal temperature switch or temperature sensor

Ambient temperature range: -60°C to +140°C (+80°C for T4)

Operating temperature range: -60°C to +180°C (+120°C for T4)

Electrical data:

Voltage: 120-250VAC

max Power: 200W/300W/500W/750W/1000W

SPECIFIC CONDITIONS OF USE: NO

EU-Konformitätserklärung
EU-Declaration of Conformity

Wir/We	**Schramm GmbH** **Flinschstr. 18 a** **60388 Frankfurt am Main** **Germany**
erklären in alleiniger Verantwortung, dass das Produkt	**Elektrische Heizung** **Typ EHR**
bearing sole responsibillity, hereby declare that the product	Electrical heating radiator Type EHR

auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt. Auch wenn die in der EU-Baumusterprüfbescheinigung angewandten Normen nicht den neuesten Ausgaben der heute gültigen Normen entsprechen, erfüllt das Produkt die Grundlegenden Sicherheits- und Gesundheitsanforderungen der Richtlinie.

which is the subject of this declaration, is in conformity with the following standards or normative documents. As well the named standards of the EU-Type-Examination Certificate are not the newest issue of the standard which is valid today, the equipment fulfils the Essential Health and Safety Requirements of the Directive

Bestimmung der Richtlinie Provisions of the directive	**Titel und/oder Nummer sowie Ausgabe der Norm(en)** Titel and/or No. and class of issue of the standard(s)
2014/34/EU: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen 2014/34/EU: Equipment and protective systems intended for use potentially explosive atmospheres	**EN IEC 60079-0:2018** **EN 60079-1:2014** **EN 60079-31:2014**
EU Baumusterprüfbescheinigung: EU-Type-Examination Certificate:	**EPS 18 ATEX 1036** Bureau Veritas, 2004
Kennzeichnung: Marking:	**II 2 G Ex db IIC T4/T3 Gb** **II 2 D Ex tb IIIC T135°C/T200°C Db**
Qualitätssicherung Produktion: Production Quality Assessment:	**Bureau Veritas, benannte Stelle 2004** Bureau Veritas, notified body 2004
2014/30/EU: **Elektromagnetische Verträglichkeit** 2014/30/EU: Electromagnetic compatibillity	**EN 61000-6-4:2007 + A1:2011**
Frankfurt, 16. Juli 2021 **Ort und Datum** Place and Date	Dipl. Ing. Robin Schramm **Qualitätsleitung** Quality Management