



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

Ex COMPONENT CERTIFICATE

Certificate No.: IECEx IBE 14.0058U

Issue No: 2

Certificate history:

Status: **Current**

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[Issue No. 2 \(2019-02-01\)](#)

[Issue No. 1 \(2015-02-06\)](#)

[Issue No. 0 \(2014-11-12\)](#)

Date of Issue: **2019-02-01**

Applicant: **EPHY-MESS GmbH**
Berta-Cramer-Ring 1
65205 Wiesbaden
Germany

Ex Component: **Temperature sensor PR-SPA-EX-*****

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **increased safety "e", intrinsic safety "i", protection by enclosure "t"**

Marking:

Ex eb IIC Gb

Ex ia IIC Gb

Ex ia IIIC Db

Ex tb IIIC Db

*Approved for issue on behalf of the IECEx
Certification Body:*

Dipl.-Ing. [FH] Alexander Henker

Position:

Head of Certification Body

*Signature:
(for printed version)*

Date:

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:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany





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Manufacturer: **EPHY-MESS GmbH**
Berta-Cramer-Ring 1
65205 Wiesbaden
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 Component 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 Ex Component 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 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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 Ex Component listed has successfully met the examination and test requirements as recorded in

Test Report:

[DE/IBE/ExTR14.0063/00](#)

[DE/IBE/ExTR14.0063/01](#)

Quality Assessment Report:

[DE/IBE/QAR15.0001/02](#)



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Schedule

Ex Component(s) covered by this certificate is described below:

The temperature sensor is based on a passive resistance sensor or a thermocouple.

These temperature sensors are designed for the installation into winding heads or as slot resistance thermometer in electrical motors (generators).

Technical Data :

Operating temperature range: -60 °C / -55 °C to +175 °C / +180 °C

Degree of protection: at least IP64

Electrical Data:

parameters		Ex e, Ex t	Ex i
maximum voltage	Chip, class A	$U_n = 17 \text{ V DC}$	$U_i = 17 \text{ V DC}$
	Chip, class B	$U_n = 25 \text{ V DC}$	$U_i = 25 \text{ V DC}$
maximum current	Chip, class A	$I_n = 55 \text{ mA}$	$I_i = 55 \text{ mA}$
	Chip, class B	$I_n = 80 \text{ mA}$	$I_i = 80 \text{ mA}$
maximum power	Chip, class A	$P_n = 1 \text{ W}$	$P_i = 1 \text{ W}$
	Chip, class B	$P_n = 2 \text{ W}$	$P_i = 2 \text{ W}$

For different types see Annex.

SCHEDULE OF LIMITATIONS:

- The temperature sensor shall be installed protected against mechanical load. Sharp bending as well as mechanical stress concentrated to small spots of the sensor shall be avoided.
- The cable ends shall be connected to suitable terminals as fixed installation or in the non-hazardous area.
- The maximum electrical values have to be met.



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

The intrinsically safe versions may be equipped with a plug connector and a bimetal switch.

The temperature sensors comply with the requirements of IEC 60079-7, Ed. 5

The electrical parameters have been changed.

Annex:

[Annex_to_IECEX_IBE-14.0058U_01.pdf](#)



IECEX Certificate of Conformity - Annex



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Different types are provided:

- PR-SPA-Ex-WKF-ESH winding-head thermometer, single-insulated with shrinking hose
temperature sensor is fixed in a ceramic sleeve by addition of filler resin
- PR-SPA-Ex-WKF-KH winding-head thermometer, installed into a stainless steel protection pipe
- PR-SPA-Ex-WKF-MH winding-head thermometer, installed into a stainless steel protection pipe
- PR-SPA-Ex NWT-ST Slot resistance thermometer with mica insulation
- PR-SPA-Ex NWT-SH flexible slot resistance thermometer with shrinking hose
- PR-SPA-Ex NWT-AK measuring resistance without ceramic protection
- PR-SPA-Ex NWT-ZS Slot resistance thermometer sealed in a HGW carrier body based on epoxy