



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX BVS 16.0073X** Page 1 of 5 [Certificate history:](#)
Status: **Current** Issue No: 1 Issue 0 (2017-02-06)
Date of Issue: 2021-01-28
Applicant: **Dittmer Temperaturfühler GmbH & Co. KG**
Carl-Zeiss-Strasse 19
47475 Kamp-Lintfort
Germany
Equipment: **Temperature sensor types **4.48.**.* and **4.91.**.***
Optional accessory:
Type of Protection: **Type of Protection "n", Increased Safety "e"**
Marking: **Ex nA IIC T4 Gc**
Ex ec IIC T4 Gc

Approved for issue on behalf of the IECEx
Certification Body:

Dr Franz Eickhoff

Position:

Lead Auditor and officially recognised expert

Signature:
(for printed version)

Franz Eickhoff
2021-01-28

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 www.iecex.com or use of this QR Code.



Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
On the safe side.



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0073X**

Page 2 of 5

Date of issue: 2021-01-28

Issue No: 1

Manufacturer: **Dittmer Temperaturfühler GmbH & Co. KG**
Carl-Zeiss-Strasse 19
47475 Kamp-Lintfort
Germany

Additional
manufacturing
locations:

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 equipment 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 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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/BVS/ExTR17.0002/01

Quality Assessment Report:

DE/BVS/QAR10.0013/07



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0073X**

Page 3 of 5

Date of issue: 2021-01-28

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and Type

Temperature sensor type **4.48.***

**1) 4.48. **2) **3)

**1) Type of protection

ec Type of protection Increased Safety "e"

nA Type of protection "n"

**2) Tube length in mm x 10 (max. 1000 mm)

**3) Wire length in mm x 100 (max. 20000 mm)

Temperature sensor type **4.91.***

**1) 4.91. **2) **3)

**1) Type of protection

ec Type of protection Increased Safety "e"

nA Type of protection "n"

**1) Flexible length in mm x 100 (max. 5000 mm)

**2) Wire length in mm x 100 (max. 20000 mm)

Description

The temperature sensors **4.48.*** and **4.91.*** are used for stationary purposes in hazardous areas of equipment and machinery. The sensors are available with one or two Pt100 sensors or either one or two thermocouples. The measuring circuit can be carried out with 2 up to 8 wires depending on the variants. All variations are equipped with a fixed connection cable and all connections are insulated against the housing. All wire ends are dismantled and the conductors are crimped with end sleeves.

For type **4.48.*** the sensor is fixed in a rigid sealed stainless steel tube and will be equipped with a separately certified cable gland. The temperature sensor is fixed in the sensor tip.

For type **4.91.*** a flexible wire is used instead of a rigid tube. The sensor tip is cemented to the wire end. The probe is extended by an internal wire and connected to the connection cable by a brazed joint.

The junctions to the connection cable are also created with a brazed joint and insulation and are all potted in epoxy resin.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The temperature sensor must be installed in a way that it is protected against mechanical damage.
- The installation cable must be installed with a suitable strain relief and by fixed installation.
- The electrical connection must be carried out in separately certified terminal box for this purpose (e.g. in type of protection "d", "ec" or "nA").
- The temperature sensor must be protected with appropriate measures against transients.
- If the mounting is carried out in insulating material, a separate potential equalization must be ensured.
- Sensors of type ec-4.**.* must be installed in pollution degree 2 or better according to IEC 60664-1.



IECEX Certificate of Conformity

Certificate No.: **IECEX BVS 16.0073X**

Page 4 of 5

Date of issue: 2021-01-28

Issue No: 1

Equipment (continued):

Parameters

Type ****4.48.**** and type ****4.91.****

Design with one or two Pt100 Resistors

Rated Voltage U 40 V AC/DC

Rated Current I 40 mA

Design with one or two thermocouples

Rated Voltage U 40 V AC/DC

U (200 °C) 15 mV

Rated Current I 40 mA

Thermal data

Measuring temperature range at sensor tip: -40 °C up to +130 °C

Ambient temperature range:

Sensor type ****4.48.**** $-40\text{ °C} \leq T_{\text{amb}} \leq +100\text{ °C}$

Sensor type ****4.91.**** $-40\text{ °C} \leq T_{\text{amb}} \leq +80\text{ °C}$



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0073X**

Page 5 of 5

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- An additional type of protection "ec" is added.
- Update of the standard IEC 60079-0:2011 to IEC 60079-0:2017
- Change of company name from "Dittmer GbR" to "Dittmer Temperaturfühler GmbH & Co. KG"