



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 BVS 16.0073X Issue No: 0 Certificate history:
Issue No. 0 (2017-02-06)

Status: **Current** Page 1 of 5

Date of Issue: **2017-02-06**

Applicant: **Dittmer GbR**
Carl-Zeiss-Strasse 19
47475 Kamp-Lintfort
Germany

Equipment: **Temperature sensor type nA-4.48.**.*/nA-4.91.**.*/**
Optional accessory:

Type of Protection: **Equipment protection by type of protection "n"**

Marking: Ex nA IIC T4 Gc

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

Dr. F. Eickhoff

Position:

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

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany





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Manufacturer: **Dittmer GbR**
Carl-Zeiss-Strasse 19
47475 Kamp-Lintfort
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 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 Explosive atmospheres - Part 0: General requirements
Edition:6.0

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

*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/BVS/ExTR17.0002/00](#)

Quality Assessment Report:

[DE/BVS/QAR10.0013/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Subject and Type

Temperature sensor type nA-4.48.**.**

nA-4.48.**1) **2)

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

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

Temperature sensor type nA-4.91.**.**

nA-4.91.**1) **2)

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

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

CONDITIONS OF CERTIFICATION: 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 cable installation.
- The electrical connection must be carried out in separately certified terminal box for this purpose (f.e. in type of protection "d", "e" 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.



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EQUIPMENT (continued):

Description

The temperature sensors nA-4.48.**.** and nA-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 nA-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 nA-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.



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Additional information:

Parameters

Type nA-4.48.**.** and type nA-4.91.**.**

Design with one or two Pt100 Resistors

Voltage	U_i	40 V AC/DC
Current	I_i	40 mA
Power	P_i	300 mW *)
Measuring current max. 	I_n	3 mA
Inner capacity	C_i	75 pF/m
Inner inductivity	L_i	0.6 μ H/m

*) Total value for two Pt100 resistors

Design with one or two thermocouples

Voltage	U_i	40 V AC/DC
	U_o (200 °C)	15 mV
Current	I_i	40 mA
Power	P_i	900 mW *)
Inner capacity	C_i	75 pF/m
Inner inductivity	L_i	0.6 μ H/m

*) Total value for two thermocouples

Thermal data

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

Ambient temperature range:

Sensor type 4.48.**.**	$-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +100\text{ }^{\circ}\text{C}$
Sensor type 4.91.**.**	$-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +80\text{ }^{\circ}\text{C}$