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 23.0005X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2023-04-21

Applicant: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Strasse 30
63911 Klingenberg
Germany

Equipment: **Miniature resistance thermometer type TRU-a*-***

Optional accessory:

Type of Protection: **Intrinsic safety "i"; Combined Levels of Protection**

Marking: Ex ia IIC T6…T1 Ga
Ex ia IIC T6…T1 Ga/Gb
Ex ia IIC T6…T1 Gb

Ex ia IIIC T* Da
Ex ia IIIC T* Da/Db
Ex ia IIIC T* Db

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

Position: **Deputy Head of Certification Body**

Signature: (for printed version)

Date: (for printed version) 2023-04-21

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

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 23.0005X**

Date of issue: 2023-04-21 Issue No: 0

Manufacturer: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Stasse 30
63911 Klingenberg
Germany

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11:2023 Edition:7.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2021-02 Edition:4.0	Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection

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/ExTR23.0008/00

Quality Assessment Report:

DE/BVS/QAR07.0010/18

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

- A heat input (e.g. heat return from the process or radiant heat from the environment) which exceeds the permissible ambient temperature of the housing is not permissible and must be prevented either by suitable thermal insulation or by an appropriately long neck tube or by suitable on-site measures.
  The heat input must be determined by calculation or by measurement by the user.
- In dust-explosive areas with conductive dust IIIC, the intrinsically safe circuit is not safely separated from earth/potentially earthed metal parts.
  Along the intrinsically safe circuit, potential equalization must exist.
- The wall thickness of the probe is greater than 0.2 mm, but less than 1 mm. The device may not be exposed to environmental conditions which may negatively affect the partition wall. A thermowell with a suitable minimum wall thickness can be used alternatively.

Annex:

BVS_23_0005X_WIKA_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 23.0005X**
Annex

Parameters

1 Electrical parameters

1.1 Supply and signal circuit
Connection via M12-plug

Nominal voltage	U_n		4.4	V
Nominal current	I_n		1	mA
Nominal power	P_n		5	mW
Maximum input voltage	U_i	DC	7	V
Maximum input current	I_i			
for use in Group II			400	mA
for use in Group III			250	mA
Maximum input power	P_i		330	mW
Effective internal capacitance	C_i		150	nF
Effective internal inductance	L_i		2.7	µH
Maximum output current (short-time; from capacitor discharge with time constant $5*\tau < 10$ ms)	I_o		400	mA
Maximum output voltage	U_o		= U_i	

2.2. Thermal parameters

2.2.1 Maximum surface temperature / temperature class of the device depending on ambient temperature range at the case T_a

Application	Temperature class / Maximum surface temperature	Ambient temperature range
Group II	T6	-40 °C…50 °C
	T5	-40 °C…75 °C
	T4…T1	-40 °C…105 °C
Group III	T135°C	-40 °C…100 °C

2.2.2 Maximum surface temperature / temperature class at the sensor tip depending on process temperature range

Application Application	Temperature class / Maximum surface temperature	Process temperature range
Group II	T6	-196 °C…72.5 °C
	T5	-196 °C…87.5 °C
	T4	-196 °C…122.5 °C
	T3	-196 °C…187.5 °C
	T2	-196 °C…282.5 °C
	T1	-196 °C…432.5 °C
Group III	T_{200} xxx°C	-196 °C… xxx°C – 9 K

Certificate No.: **IECEx BVS 23.0005X**

Annex

A process temperature higher than the permissible ambient temperature at the case is only permissible if a reverse heat flow from the process to the case is excluded.