



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 LCIE 13.0023X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 Issue 1 (2015-02-25)
Issue 0 (2013-07-08)
Date of Issue: 2020-04-27
Applicant: **Rüeger SA**
Chemin de Mongevon 9
Crissier 1023
Switzerland
Equipment: **Temperature probe - Type: S ****
Optional accessory:
Type of Protection: **"Ex ia" or "Ex ib"**
Marking: Ex ia IIC T6...T4 Ga
Ex ia IIB T6...T4 Ga
Ex ib IIC T6...T4 Gb
Ex ib IIB T6...T4 Gb
IECEx LCIE 13.0023 X
See attachment for full marking.

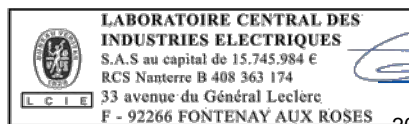
Approved for issue on behalf of the IECEx
Certification Body:

Certification Officer

Position:

Julien GAUTHIER

Signature:
(for printed version)



Julien Gauthier
2020-04-27

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.
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Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France





IECEx Certificate of Conformity

Certificate No.: **IECEx LCIE 13.0023X**

Page 2 of 4

Date of issue: 2020-04-27

Issue No: 2

Manufacturer: **Rüeger SA**
Chemin de Mongevon 9
Crissier 1023
Switzerland

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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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 Reports:

[FR/LCIE/ExTR13.0022/00](#)

[FR/LCIE/ExTR13.0022/01](#)

[FR/LCIE/ExTR20.0023/00](#)

Quality Assessment Report:

[FR/LCI/QAR11.0018/08](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx LCIE 13.0023X**

Page 3 of 4

Date of issue: 2020-04-27

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The equipment consists of:

- a sensor cable jacketed, with or without a connection head enclosure (minimum degree of protection IP20),
- terminals with or without temperature transmitter certified Ex ia or ib IIC or IIB integrated inside connection head,
- an extension cable with terminal block or connector shell.

The insert can be mounted in a thermowell that will be fixed to the head of connector.

See attachment for more details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The intrinsically safe apparatus shall only be connected to associated intrinsically safe apparatus certified for the intended use. This association shall comply with the requirements of the IEC 60079-25 standard.
- The maximum permitted probe length is 200m except for the equipment fitted with the transmitter 248 from Rosemount for which the maximum permitted probe length is 85m.
- For equipment constructed with aluminium alloy enclosure, it must be installed in such a manner as to eliminate the risk of sparks caused by friction or impact.
- Type S96 must be mounted with certified transmitter.
- Follow special conditions for safe use relevant of the transmitters' certificate and associated instruction manual.
- The connection of electrical cable must be performed in an enclosure according to IEC 60079-0 standard (with a minimum protection degree of IP20).
- Ambient temperature range: refer to the attachment for the details.
- Temperature classification concerns only head connection. It is the responsibility of the manufacturer or end user to ensure that the external source of heating or cooling (if available) doesn't impact the temperature classification of the equipment.
- For the probes having a diameter between 0.5mm and 1.6mm, the power supply shall be isolated from earth.



IECEX Certificate of Conformity

Certificate No.: **IECEX LCIE 13.0023X**

Page 4 of 4

Date of issue: 2020-04-27

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 00:

- Initial issue according to IEC 60079-0 Ed.6.0 and IEC 60079-11 Ed.6.0 standards.

Issue 01:

- Addition of the models S40, S41, S96.
- Addition of several 4-20mA certified transmitters.
- Modification of the operating ambient temperature for connection head (-55°C to +60°C).

Issue 02:

- Normative update according to IEC 60079-0 Ed.7.0 standard.
- Updating of the electrical parameters, the temperature classifications and the specific conditions of use.

Annex:

[Annex to Certificate IECEx LCIE 13.0023 X issue 02.pdf](#)

FULL EQUIPMENT DESCRIPTION

The equipment consists of:

- a sensor cable jacketed, with or without a connection head enclosure (minimum degree of protection IP20),
- terminals with or without temperature transmitter certified Ex ia/ib IIC/IIB integrated inside the connection head,
- an extension cable with terminal block or connector shell.

The insert can be mounted in a thermowell that will be fixed to the head of connector.

Connection head enclosure are made of aluminium alloy or stainless steel

The measuring element is connected either to a terminal block or one of the following 4-20mA transmitters.

Manufacturer	Type	Certificate n°	Standards
ABB	TT* 300-*1... TT*200-*1...	IECEX PTB 09.0014X Issue 4	IEC 60079-0:2011 IEC 60079-11:2011
ROSEMOUNT	248	IECEX BAS 07.0086X Issue 3	IEC 60079-0:2017 IEC 60079-11:2011
ROSEMOUNT	644	IECEX BAS 12.0069X Issue 2	IEC 60079-0:2017 IEC 60079-11:2011

The maximum length of the probe is 200m for:

- the models without transmitter,
- the models equipped with the TT*200-*1, TT*300-*1 and 644 transmitters.

The maximum length of the probe is 85m for:

- the models equipped with the 248 transmitter.

Temperature classification in relation to the ambient temperature range:

Models	Temperature classification	Ambient temperature range
Without transmitter	T6	-55°C to +55°C
	T5	-55°C to +70°C
	T4	-55°C to +90°C
With transmitter ABB: TT*300...	Category 1 (ia)	
	T6	-50°C to +44°C
	T4	-50°C to +60°C
	Category 2 (ib)	
With transmitter ABB: TT*200...	T6	-50°C to +55°C
	T4	-50°C to +85°C
	Category 1 (ia)	
	T6	-40°C to +44°C
With transmitter ABB: TT*200...	T4	-40°C to +60°C
	Category 2 (ib)	
	T6	-40°C to +55°C
	T4	-40°C to +85°C
With transmitter Rosemount: 248	T6	-55°C to +55°C
	T5	-55°C to +70°C
With transmitter Rosemount: 644	T6 (Pi: 0.67W)	-55°C to +40°C
	T5 (Pi: 0.67W)	-55°C to +50°C
	T5 (Pi: 0.75W)	-55°C to +40°C
	T4 (Pi: 0.75W)	-55°C to +80°C

MARKING

Complete marking:

⇒ Models without transmitters:

Rüeger SA

Address: ...

Type: S**

Serial number: ...

Year of manufacturing: ...

Ex ia IIC T6...T4 Ga

(1)

IECEX LCIE 13.0023 X

U_i : 30 V; I_i : 100 mA; P_i : 0.75W; C_i : 280pF/m; L_i : 15µH/m



Annex to Certificate IECEX LCIE 13.0023 X issue 02



MARKING (continued)

Complete marking: (continued)

- ⇒ Models with transmitters:
Rüeger SA
Address: ...
Type: S95 or S96
Serial number: ...
Year of manufacturing: ...
Ex ia IIC T... Ga (1)
Ex ia IIB T... Ga (1)
Ex ib IIC T... Gb
Ex ib IIB T... Gb
IECEX LCIE 13.0023 X
 $U_i : \dots ; I_i : \dots ; P_i : \dots ; C_i : \dots ; L_i : \dots$ (2)

(1) See temperature table in clause "FULL EQUIPMENT DESCRIPTION"

(2) Adapted according to the certificate of the used transmitter.

The marking can be reduce as following:

- ⇒ Models without transmitters:
Rüeger SA
Address: ...
Type: S**
Serial number: ...
Year of manufacturing: ...
Ex ia IIC T6...T4 Ga
IECEX LCIE 13.0023 X
 $U_i : 30 V ; I_i : 100 \text{ mA} ; P_i : 0.75W ; C_i : 280\text{pF/m} ; L_i : 15\mu\text{H/m}$
- ⇒ Models with transmitters:
Rüeger SA
Address: ...
Type: S95 or S96
Serial number: ...
Year of manufacturing: ...
Ex ia IIC T... Ga (3)
Ex ia IIB T... Ga (3)
Ex ib IIC T... Gb
Ex ib IIB T... Gb
IECEX LCIE 13.0023 X
 $U_i : \dots ; I_i : \dots ; P_i : \dots ; C_i : \dots ; L_i : \dots$ (3)

(3) Adapted according to the certificate of the used transmitter.

RANGE DETAILS

S 01 : Insert thermometer with thermocouple or RTD

S 10 : Consists of Connection head with cable gland \geq IP20

S 20 : Consists of

- Connection head with cable gland \geq IP20
- Built-up thermowell according to DIN 43772 / T.2 Form 2-2G-2F

RANGE DETAILS (continued)

S 21 : Consists of

- Connection head with cable gland \geq IP20
- Hammered thermowell according to DIN 43772 / T.2 Form 3-3G-3F

S 22 : Consists of

- Connection head with cable gland \geq IP20
- Stepped and welded thermowell according to DIN 43772 / T.2 Form 2-2G-2F

S 30 : Consists of

- Connection head with cable gland \geq IP20
- Extension tube between thermowell and connection head
- Tapered thermowell machined according to DIN 43772 / T.2 Form 4

S 31 : Consists of

- Connection head with cable gland \geq IP20
- Extension tube between the thermowell and the connection head
- Straight thermowell machined according to DIN 43772 / T.2 Form 6-6F

S 40 : Consists of

- Connection head with cable gland \geq IP20
- Insert with ceramic insulation
- Ceramic or metallic thermowell (AK, AMK,

S 41 : Consists of

- Connection head with cable gland \geq IP20
- Insert with ceramic insulation
- Ceramic thermowell (AK, AKK)

S 50 : Consists of

- Connection head with cable gland \geq IP20
- Assembly of nipple extension tube union
- Ensuring threads \geq IP20

S 60 : Consists of

- Connection head with cable gland \geq IP20
- Connection in three parts
 - Joint in 3 parts
 - Nipple-Union-Nipple

S 61 : Same as S 60 but tube machined with T extension

S 62 : Same as S 60 but tube machined with welded flange

S 70 : Consists of

- Connection head with cable gland \geq IP20
- Insert S 01, diameter \geq 2 mm
- Connection in three parts
 - Joint in 3 parts
 - "Nipple" with compression fitting to fix the insert
 - Reduction in steel with internal thread from $\frac{1}{2}$ " to 1" and external thread from 1" to 2" NPT
 - To be threaded with a minimum engaged length of 5 threads
 - With spiral to compensate the thermal expansion
 - Different welding executions: welding point for RTD, crimped execution and welded execution

S 80 : Consists of

- TC K-J-E-T-U-L-N-S-R-B according to standard
- MgO insulating
- Metallic outer sheath diameter from 3 to 12.7mm, max length 200m

S 81 : Consists of

- RTD Pt, Ni or Cu with ceramic or glass insulating according to standard
- MgO insulating
- Metallic outer sheath diameter from 3 to 12.7mm, max length 200m



Annex to Certificate IECEx LCIE 13.0023 X issue 02



RANGE DETAILS (continued)

S 82 : Consists of

- TC K-J-E-T-U-L-N-S-R-B according to standard
- MgO insulating
- Outer sheath diameter from 3 to 12.7mm, max length 200m
- Compensated terminals and differentiated

S 83 : Consists of

- RTD Pt, Ni or Cu with ceramic or glass insulating according to standard
- MgO insulating
- Metallic outer sheath diameter from 3 to 12.7mm, max length 200m
- With extension insulated and/or shielded cable

S 96 : Metallic enclosure including terminal blocks, 4-20mA certified transmitters and equipment with several temperature probes (S 01) at independent output of enclosure (S 96-FS-157) or common output enclosure (S 96-SN-145)

RATINGS

⇒ Models without transmitters:

U_i : 30 V; I_i : 100 mA; P_i : 0.75W; C_i : 280pF/m; L_i : 15μH/m

⇒ Models with transmitters:

According to the certificate of the used transmitters.

ROUTINE TESTS

None.