



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 TUN 21.0003X	Page 1 of 3	<u>Certificate history:</u>
Status:	Current	Issue No: 0	
Date of Issue:	2022-08-18		
Applicant:	Barksdale GmbH Dorn-Assenheimer Str. 27 61203 Reichelsheim Germany		
Equipment:	Temperature switch type as described in Attachment to IECEx TUN 21.0003X issue No.0		
Optional accessory:			
Type of Protection:	Intrinsic Safety		
Marking:	Ex ia IIC T6 Ga or Ex ia IIIC T ₂₀₀ 100°C Da		

Approved for issue on behalf of the IECEx
Certification Body:

Anke Drews

Position:

Deputy Head of IECEx Certification Body

Signature:
(for printed version)

Date:
(for printed version)

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:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany





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Manufacturer: **Barksdale GmbH**
Dorn-Assenheimer Str. 27
61203 Reichelsheim
Germany

Manufacturing
locations: **Barksdale GmbH**
Dorn-Assenheimer Str. 27
61203 Reichelsheim
Germany

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 Report:

[DE/TUN/ExTR21.0003/00](#)

Quality Assessment Report:

[DE/TUN/QAR13.0009/05](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description:

The temperature switches type L1X-xxxxxx-xx-xx-EXI, T1X-xxxxxx-xx-xx-EXI, T2X-xxxxxx-xx-xx-EXI, L2H-xxxxxx-xx-xx-EXI, T2H-xxxxxx-xx-xx-EXI, ML1H-xxxxxx-xx-xx-EXI and MT1H-xxxxxx-xx-xx-EXI are used for monitoring and controlling processes with maximum or minimum temperatures. When minimum or maximum temperatures are reached, an electrical signal is triggered by a microswitch.

Type code:

Refers to the Attachment to IECEx TUN 21.0003X issue No.0 for details.

Electrical and Thermal data:

Refers to the Attachment to IECEx TUN 21.0003X issue No.0 for details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The size of the nameplate exceeds the permissible area and can therefore be electrostatically charged:

For IIC Ga uses the temperature switches have to be installed and used in such a way, that electrostatic charging from operation, maintenance and cleaning is excluded.

For the use in explosive dust atmospheres process-related electrostatic charges, e.g. due to passing media have to be excluded.

2. ALL metallic parts have to be included in the local potential equalization.

3. The intrinsically safe circuit of the device is connected to the earth potential, therefore potential equalization has to exist in the entire area of the installation of the intrinsically safe circuit.

4. The housings of the devices consist of more than 10% aluminum, therefore in EPL Ga applications the installation has to be carried out in such a way, that ignition hazard due to impact or friction can be excluded.

5. Some of the available process connections consist of more than 65% copper, therefore, when these devices are used in acetylene atmospheres, they have to be installed in such a way that the creation of acetylides or a risk due to friction or impact can be excluded.

Annex:

[Attachment to IECEx TUN 21.0003X issue No.0 .pdf](#)

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Attachment to IECEx TUN 21.0003X issue No.: 0

Description:

The temperature switches type **L1X**-xxxxxx-xx-xx-EXI, **T1X**-xxxxxx-xx-xx-EXI, **T2X**-xxxxxx-xx-xx-EXI, **L2H**-xxxxxx-xx-xx-EXI, **T2H**-xxxxxx-xx-xx-EXI, **ML1H**-xxxxxx-xx-xx-EXI and **MT1H**-xxxxxx-xx-xx-EXI are used for monitoring and controlling processes with maximum or minimum temperatures. When minimum or maximum temperatures are reached, an electrical signal is triggered by a microswitch.

Type code:

X	X	X	X	-	XX	XXX	X	-	XX	-	EXI	
												Options
												EXI ATEX (Ex ia)
												A 302 VA steel protective sleeve for capillary tube, reinforced
												WS 316 VA steel protection tube
												W Brass protection tube
												RD Manual Reset (only with G-microswitch)
												Sxxx Factory default
												FX NEMA 4X Housing
												FE Epoxy paint coating
												GL Shipbuilding Approval
												Sensor length / switch
											()	6 ft capillary
											12	6 ft capillary
											25	6 ft capillary
												Material of the wetted part
											()	Copper sensor
											S	Stainless steel sensor
												Temperature levels
						154						-45°C...+66°C
						251						10°C...+121°C
						351						66°C...+177°C
						601						149°C...+227°C
						603						160°C...+316°C
						201						-45°C...+66°C
						202						10°C...+60°C
						203						24°C...+93°C
						351						38°C...+107°C
						204						-45°C...+93°C
						354						38°C...+177°C
						454						66°C...+232°C
												Microswitch contact
												H-microswitch (see data sheet)
												B-microswitch (see data sheet)
												G-microswitch (see data sheet)
												J-Microswitch (see data sheet)
												L-Microswitch (see data sheet)
												M-Microswitch (see data sheet)
												GM-Microswitch (see data sheet)
												GH-Microswitch (see data sheet)
												S-Microswitch (see data sheet)
												AA-Microswitch (see data sheet)
												CC-Microswitch (see data sheet)
												HH-Microswitch (see data sheet)
												Housing
												NEMA 4 housing, Aluminum
												NEMA 4,7 & 9, EX-d, housing, Aluminum
												Microswitch
												1 switching point
												2 switching points (only for Txx or Lxx devices)
M	T											Temperature switch, 1 setpoint model, remote sensor
M	T											Temperature switch, remote sensor
M	L											Temperature switch, 1 setpoint model, fixed sensor
M	L											Temperature switch, fixed sensor

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Electrical data:

Power supply

In type of protection intrinsic safety Ex ia IIC/IIIC
only for the connection to certified intrinsically safe circuits
Maximum values:

$$U_i = 28 \text{ V}$$

$$I_i = 50 \text{ mA}$$

$$P_i = 0.84 \text{ W}$$

Effective internal capacitance

C_i is negligibly small

Effective internal inductance

L_i is negligibly small

Thermal data:

Permissible ambient temperature range during operation:

$$-40 \text{ °C} \leq T_a \leq +75 \text{ °C}$$

Specific Conditions of Use:

1. The size of the nameplate exceeds the permissible area and can therefore be electrostatically charged:
For IIC Ga uses the temperature switches have to be installed and used in such a way, that electrostatic charging from operation, maintenance and cleaning is excluded.
For use in explosive dust atmospheres process-related electrostatic charges, e.g. due to passing media have to be excluded.
2. All metallic parts of the devices have to be included in the local potential equalization.
3. The intrinsically safe circuit of the device is connected to the earth potential, therefore potential equalization has to exist in the entire area of the installation of the intrinsically safe circuit.
4. The housings of the devices consist of more than 10% aluminum, therefore in EPL Ga applications the installation has to be carried out in such a way, that ignition hazard due to impact or friction can be excluded.
5. Some of the available process connections consist of more than 65% copper, therefore, when these devices are used in acetylene atmospheres, they have to be installed in such a way that the creation of acetylides or a risk due to friction or impact can be excluded.