



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

Certificate No.: **IECEX TUN 21.0003X** Page 1 of 3 [Certificate history:](#)  
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<sub>200</sub>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.
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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
<b>Options</b>											
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											
<b>Sensor length / switch</b>											
() 6 ft capillary											
12 6 ft capillary											
25 6 ft capillary											
<b>Material of the wetted part</b>											
() Copper sensor											
S Stainless steel sensor											
<b>Temperature levels</b>											
154 Remote sensor -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 Fixed sensor -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											
<b>Microswitch contact</b>											
H H-microswitch ( see data sheet )											
B B-microswitch ( see data sheet )											
G G-microswitch ( see data sheet )											
J J-Microswitch ( see data sheet )											
L L-Microswitch ( see data sheet )											
M M-Microswitch ( see data sheet )											
GM GM-Microswitch ( see data sheet )											
GH GH-Microswitch ( see data sheet )											
S S-Microswitch ( see data sheet )											
AA AA-Microswitch ( see data sheet )											
CC CC-Microswitch ( see data sheet )											
HH HH-Microswitch ( see data sheet )											
<b>Housing</b>											
H NEMA 4 housing, Aluminum											
X NEMA 4,7 &9, EX-d, housing, Aluminum											
<b>Microswitch</b>											
1 1 switching point											
2 2 switching points (only for Txx or Lxx devices)											
M T Temperature switch, 1 setpoint model, remote sensor											
T Temperature switch, remote sensor											
M L Temperature switch, 1 setpoint model, fixed sensor											
L Temperature switch, fixed sensor											

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**Attachment to IECEx TUN 21.0003X issue No.: 0**

**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.