



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

Certificate No.:  issue No.:

Status:

Date of Issue: **2013-10-28** Page 1 of 5

Applicant: **BARTEC TECHNOR AB**  
Dusavikveien 39  
P.O. Box 658  
4003 Stavanger  
**Norway**

Electrical Apparatus: **Flameproof Enclosure type TNCD**  
*Optional accessory:*

Type of Protection: **Ex d, Ex t**

Marking: Ex d [ia Ga] [ib Gb] [op is Ga] IIC T6-T4 Gb  
in dependence of equipment used, resp.  
Ex t [ia Da] [ib Db] IIIC T85°C – T135°C Db  
in dependence of equipment used  
IP66

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

Karl-Heinz Schwedt

*Position:*

Head of IECEx Certification Body

*Signature:  
(for printed version)*

*Date:*

2013-10-28

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:

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





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Manufacturer: **BARETC TECHNOR AS**  
Dusavikveien 39  
P.O. Box 658  
4003 Stavanger  
**Norway**

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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*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/TUN/ExTR12.0020/00](#)

##### Quality Assessment Report:

[NO/NEM/QAR07.0003/03](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The TNCD "d" enclosure is a complete assembly for termination, control and signaling devices and comprises of a SS316 Acid Resistant Stainless steel in various sizes up to (570 x 570 x 380) mm.

**Type / model reference: TNCD xx yy zz**

xx: Dimensions of box, width: 19 to 57 cm

yy: Dimension of box, height: 19 to 57 cm

zz: Dimension of box, depth: max. 38 cm

Enclosure type	Maximum window diameter
TNCD1919xx	65 mm
TNCD2828xx	100 mm
TNCD3838xx	100 mm
TNCD5757xx	154 mm

### CONDITIONS OF CERTIFICATION: YES as shown below:

- It's only allowed for the manufacturer to make the finished mounting of the enclosures in accordance to "Technical Note 54-CDX-5, Specification for the completion of TNCD enclosures".
- Spacing between internal mounted components must be in accordance with Installation drawing CDX-139-5.
- The requirements in clause D.4 of EN 60079-1 shall be observed.
- Ultrasonic sources may not be mounted into the enclosure.
- Primary or secondary batteries may not be installed.
- [Ex i] certified components can only be installed if two thermostats are mounted in series for disconnecting the [Ex i] component if the temperature inside the flameproof enclosure exceeds the highest Tamb for the [Ex i] component. Alternatively a full scale test for determination of the surface temperature must be performed.



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## EQUIPMENT(continued):

- When viewing windows are mounted the temperature of the cementing resp. window shall not exceed 90 °C.
- The maximum number of apertures is 72, their maximum sizes are M42 and their positions are addressed with a reference to drawing number "CDX-107-4: Entries TNCD 575727".
- IECEx Certified and tested components that are build into the enclosure's walls need to fulfil the requirements of types of explosion protection used as well the IP level shown on the type label.
- Bartec Technor's Type TNCN/TNCC Ex e junction box may be used for indirect cable entry.
- Rotating machines, or other devices which create turbulence, shall not be incorporated.
- Oil-filled circuit-breakers and contactors shall not be used.
- The Maximum dissipated power in the TNCD enclosures have to follow values in the manufacturer's power dissipation tables.
- Calculations of inner and surface temperatures must be performed by program: TempCalc-sm Rev. 1.
- The Manufacturer has to ensure all maximum temperatures of equipment used inside or in the enclosure walls are lower than its maximal Tamb.
- Repairs on flame-proof joints can only be done by Bartec Technor.



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## Additional information:

**Routine tests:** Due to a welded construction routine test has to be done with a minimum of  $1,5 \times 9.2 \text{ bar} = 13.8 \text{ bar}$  on each product.

The enclosures are designed for mounting of standard components inside. Equipment to be installed inside TNCD enclosures:

- Instruments of measure of electrical parameters
- Electronic thermoregulations units
- Certified radio communication and telephony units, max 3,5 W 80  $\mu\text{S}$ , 250  $\mu\text{J}$ .
- Certified laser or optical fibre units in accordance with Technical Note 54-CDX-5, section 6
- Certified optical fibre in accordance with Technical Note 54-CDX-5, section 6
- PLC and Multiplexer
- Devices for the control and the weight measure: pressure, damp; level; temperature
- Automatic and /or earth leakage circuit breakers
- Switches; on load switches; rotary switches
- Fuses
- Contactors; remote control switches
- Relays
- Electrical and electronic regulation and starting devices
- Time relays
- Photocells
- Capacitors
- Transformers
- Anti-condensate heating
- Various electronic boards

