



(1) **EC-Type-Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3) **Certificate Number** TÜV 12 ATEX 102320 X

(4) for the equipment: TNCD flameproof enclosures
Type: TNCD xx yy zz

(5) of the manufacturer: BARTEC TECHNOR AS

(6) **Address:** Dusavikveien 39, P.O. Box 658, 4003 Stavanger, Norway

Order number: 8000408368

Date of issue: 2013-11-05

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EC-Type-Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 12 203 102320.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 EN 60079-1:2007 EN 60079-31:2009

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

Ex II 2G or II 2(1) G Ex d [Ia Ga] [Ib Gb] [Op is Ga] IIC T6-T4 Gb
II 2D Ex tb [Ia Da] [Ib Db] IIC T85°C – T135°C Db

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Schwedt

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(13) **SCHEDULE**

(14) **EC-Type-Examination Certificate No. TÜV 12 ATEX 102320 X**

(15) Description of equipment

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

The enclosures are designed for mounting of standard components inside. Equipment to be installed inside TNCD enclosures in accordance with Technical Note 54-CDX-5: "Specification for the completion of TNCD enclosures":

- Instruments of measure of electrical parameters.
- Electronic thermoregulations units
- Certified radio communication and telephony units, max 3,5 W 80 μ S, 250 μ J.
- Certified laser or optical fibre units in accordance with Technical Note 54-CDX, 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

Type reference: TNCD xx yy zz

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

yy: Dimension of box, height: 19 cm 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

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Ambient temperature area: -20°C to $+40^{\circ}\text{C}$

Max approved T_{amb} : -20°C to $+60^{\circ}\text{C}$.

Temperature class in accordance with Technical Note 54-CDX-5.

Max voltage: 1000 V

Max heat dissipation in accordance with document: "Specification for the completion of the TNCD enclosures rev. C dated 2012-06-21. Max. 435 W

(16) Test documents are listed in the test report No. 12 203 101309

(17) Special conditions for safe use

- 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 T_{amb} for the [Ex i] component. Alternatively a full scale test for determination of the surface temperature must be performed.
- 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 that it's maximal T_{amb} .
- Repairs on flame-proof joints can only be done by Bartec Technor.

(18) Essential Health and Safety Requirements

no additional ones