



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

Certificate No.: IECEx DNV 09.0004X Issue No: 1 Certificate history:
Status: **Current** Page 1 of 5 [Issue No. 1 \(2013-09-20\)](#)
Date of Issue: **2013-09-20** [Issue No. 0 \(2009-10-20\)](#)

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

Electrical Apparatus: **TNCN Range of enclosures**
Optional accessory:

Type of Protection: **Increased Safety and Dust**

Marking: Ex eb IIC T4/T5/T6 Gb
Ex tD A21 IP66-68 T80°C-110°C

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

Asle Kaastad

Position:

Certification Manager

*Signature:
(for printed version)*

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.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](#).

Certificate issued by:

DNV
Det Norske Veritas AS
Veritasveien 1
1322 Hovik
Norway





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Manufacturer: **BARTEC 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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 61241-0 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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:

[NO/DNV/ExTR08.0001/00](#)
[NO/DNV/ExTR09.0005/00](#)

[NO/DNV/ExTR08.0001/01](#)

[NO/DNV/ExTR08.0001/02](#)

Quality Assessment Report:

[NO/NEM/QAR07.0003/06](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TNCN Junction Box comprises a stainless steel enclosure in various sizes up to max 1000x2200xXXX, the quantity and sizes of terminals is based upon heat dissipation, not limited to samples as described below.

Enclosures can be delivered with screws, hinges and screws, hinges and quick locks.
The enclosure may also be used as a connection box for intrinsically safe circuits, the code is: Ex [ia] IIC T6.

See annex to this CoC for full description of Tamb range and options.

CONDITIONS OF CERTIFICATION: YES as shown below:

If Lexan window is used there is a risk for electrostatic discharge, and the following label must be present on the TNCN box
"WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS"



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EQUIPMENT (continued):

Ingress protection of enclosures:

Option 1: IP66 / IP67. With silicone gasket IP68 (0.2 bar for 30 minutes)

Option 2: For enclosure with silicone gasket, cover screws, cover screws and hinges, and extended Tamb: IP66

For enclosure with silicone gasket SIL 16, cover screws, cover screws and hinges, and extended Tamb: IP66/67, IP68 (0.2bar for 30 minutes)

Operating temperature for neoprene gasket and Lexan window: - 40°C to + 100°C.

Operating temperature for silicon gasket -50 to + 200°C.

Operating temperature for silicone gasket SIL16: -50 to + 110°C.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1:

Added Tamb range for option 1, updated descriptive documents. Update of standard. X-marking applied.
Included new gasket material and new flange design

Annex:

[Annex to IECEx DNV 09.0004 issue 1.pdf](#)

Ambient temperature range

Option 1:

Enclosures can be delivered with screws, hinges and screws, hinges and quick locks.

$T_{amb} = -40^{\circ}\text{C}$ to $+40^{\circ}\text{C}$, Ex eb IIC T5 Gb. Internal wiring must have a temperature rating of at least 85°C .

For dust: tD A21 IP66-IP68 $T85^{\circ}\text{C}$

$T_{amb} = -40^{\circ}\text{C}$ to $+45^{\circ}\text{C}$, Ex eb IIC T5 Gb. Internal wiring must have a temperature rating of at least 90°C

For dust: tD A21 IP66-IP68 $T90^{\circ}\text{C}$

$T_{amb} = -40^{\circ}\text{C}$ to $+60^{\circ}\text{C}$, Ex eb IIC T4 Gb. Internal wiring must have a temperature rating of at least 110°C .

For dust: tD A21 IP66 -IP68 $T110^{\circ}\text{C}$

$T_{amb} -40^{\circ}\text{C}$ to $+60^{\circ}\text{C}$, Ex eb IIC T6 Gb for load on terminals **below 4A**. Internal wiring must have a temperature rating of at least 80°C

For dust: tD A21 IP66-IP68 $T80^{\circ}\text{C}$

Option 2:

Extended T_{amb} to -50°C . Enclosures can be delivered with screws, hinges and screws, silicone gasket.

$T_{amb} = -50^{\circ}\text{C}$ to $+40^{\circ}\text{C}$, Ex eb IIC T5 Gb. Internal wiring must have a temperature rating of at least 85°C .

For dust: tD A21 IPxx $T85^{\circ}\text{C}$ (see below for IP rating)

$T_{amb} = -50^{\circ}\text{C}$ to $+60^{\circ}\text{C}$, Ex eb IIC T4 Gb. Internal wiring must have a temperature rating of at least 110°C .

For dust: tD A21 IPxx $T110^{\circ}\text{C}$ (see below for IP rating)

Ingress protection of enclosures:

Option 1: IP66 / IP67. With silicone gasket IP68 (0.2 bar for 30 minutes)

Option 2:

For enclosure with silicone gasket, cover screws, cover screws and hinges, and extended T_{amb} : IP66

For enclosure with silicone gasket SIL 16, cover screws, cover screws and hinges and extended T_{amb} : IP66/67, IP68 (0,2 bar for 30 min)

Power dissipation in the various sizes of the enclosure:

The size is indicated in cm W*H*D. Where D is indicated as xx the depth may be 10cm or larger.

Size	Max. dissipated Power at Ta=40
121009	6 W
1515xx	15 W
2828xx	30 W
2838xx	40 W
3020xx	30 W
3838xx	40 W
3845xx	50 W
3857xx	65 W
5757xx	90 W
5776xx	120 W
7676xx	180 W
7695xx	200 W
9595xx	240 W
76114xx	240 W
95114xx	240 W
95152xx	240 W
95200xx	240 W

Intermediate sizes between the sizes described in the table may use the dissipated power of the nearest smaller size.

Dissipated power in the terminals:

	Box up to TNCN1515XX		Box up to TNCN2828XX		Box up to TNCN5757XX	
Terminal size	Dissipated power		Dissipated power		Dissipated power	
1,5 mm ²	0,9W @ 16A	0,4W @ 10A	2,2W @ 16A	0,9W @ 10A	3,0W @ 16A	1,2W @ 10A
2,5 mm ²	0,9W @ 20A	0,6W @ 16A	1,4W @ 20A	0,9W @ 16A	2,8W @ 20A	1,8W @ 16A
4 mm ²	0,9W @ 25A	0,6W @ 20A	1,4W @ 25A	0,9W @ 20A	2,7W @ 25A	1,7W @ 20A
6 mm ²	0,8W @ 31A	0,6W @ 25A	1,0W @ 31A	0,9W @ 25A	2,7W @ 31A	1,8W @ 25A
10 mm ²	1,0W @ 43A	0,7W @ 35A	1,7W @ 43A	1,1W @ 35A	3,1W @ 43A	2,0W @ 35A
16 mm ²	1,6W @ 65A	1,0W @ 52A	2,6W @ 65A	1,7W @ 52A	4,7W @ 65A	3,0W @ 52A
35 mm ²	2,7W @ 120A	1,7W @ 96A	4,2W @ 120A	2,7W @ 96A	7,4W @ 120A	4,7W @ 96A
50 mm ²	4,8W @ 135A	3,8W @ 120A	6,1W @ 135A	4,8W @ 120A	9,0W @ 135A	7,1W @ 120A
95 mm ²	7,5W @ 210A	3,1W @ 135A	9,2W @ 210A	3,8W @ 135A	12,9W @ 210A	5,3W @ 135A
150 mm ²	11,7W @ 250A	8,2W @ 210A	13,2W @ 250A	9,3W @ 210A	16,5W @ 250A	11,6W @ 210A
185 mm ²	15,3W @ 350A	7,8W @ 250A	17,1W @ 350A	8,7W @ 250A	21,1W @ 350A	10,8W @ 250A
240 mm ²	6,3W @ 307A	3,6W @ 234A	8,1W @ 307A	4,7W @ 234A	12,2W @ 307A	7,1W @ 234A
300 mm ²	12,1W @ 452A	5,6W @ 307A	14,5W @ 452A	6,7W @ 307A	19,9W @ 452A	9,2W @ 307A
	Box up to TNCN95114XX		Box up to TNCN95152XX		Box up to TNCN100200XX	
Terminal size	Dissipated power		Dissipated power		Dissipated power	
1,5 mm ²	3,3W @ 16A	1,3W @ 10A	6,5W @ 16A	2,5W @ 10A	7,5W @ 16A	4,8W @ 10A
2,5 mm ²	5,0W @ 20A	3,2W @ 16A	6,0W @ 20A	3,9W @ 16A	7,5W @ 20A	4,8W @ 16A
4 mm ²	4,9W @ 25A	3,1W @ 20A	5,9W @ 25A	3,8W @ 20A	7,3W @ 25A	4,7W @ 20A
6 mm ²	5,0W @ 31A	3,3W @ 25A	6,0W @ 31A	3,9W @ 25A	7,5W @ 31A	4,8W @ 25A
10 mm ²	5,6W @ 43A	3,7W @ 35A	6,7W @ 43A	4,4W @ 35A	8,3W @ 43A	5,5W @ 35A
16 mm ²	8,3W @ 65A	5,3W @ 52A	9,9W @ 65A	6,3W @ 52A	12,3W @ 65A	7,8W @ 52A
35 mm ²	13,1W @ 120A	8,4W @ 96A	15,6W @ 120A	10,0W @ 96A	19,0W @ 120A	12,0W @ 96A
50 mm ²	14,0W @ 135A	11,1W @ 120A	16,2W @ 135A	12,8W @ 120A	19,4W @ 135A	15,3W @ 120A
95 mm ²	19,4W @ 210A	8,0W @ 135A	22,2W @ 210A	9,2W @ 135A	26,3W @ 210A	10,9W @ 135A
150 mm ²	22,2W @ 250A	15,7W @ 210A	24,7W @ 250A	17,4W @ 210A	28,4W @ 250A	20,1W @ 210A
185 mm ²	28,1W @ 350A	14,4W @ 250A	31,1W @ 350A	15,9W @ 250A	35,6W @ 350A	18,2W @ 250A
240 mm ²	19,3W @ 307A	11,2W @ 234A	22,4W @ 307A	13,0W @ 234A	26,9W @ 307A	15,6W @ 234A
300 mm ²	29,2W @ 452A	13,5W @ 307A	33,2W @ 452A	15,3W @ 307A	39,2W @ 452A	18,1W @ 307A

For loads on terminals below 4 A: The quantity will be limited by the available space inside the box. There is no restriction in the number of terminals. The temperature class will then be T6.

Variations:

1. The enclosure can be equipped with windows in lid up to a max size of 0.3 m² for each window. Material of window can be either glass and/or Lexan. If Lexan window is used the following label must be present on the TNCN box “WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS”
2. Mounting of all types of approved transit frames is allowed.
3. Several TNCN junction boxes may be mounted together using a special flange connection, or welded together.
4. TNCN may be supplied with gland plates.
5. TNCN may be supplied with one or several doors.
6. TNCN may be used as connection box for flameproof equipment.
7. TNCN may be equipped with certified connectors, glands and plugs.