



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 BAS 08.0047X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 6 Issue 5 (2013-11-26)
Date of Issue: 2019-01-22 Issue 4 (2013-04-11)
Applicant: **nVent Thermal Belgium NV** Issue 3 (2012-03-29)
Research Park Haasrode - Zone 2 Issue 2 (2010-05-24)
Romeinsestraat 14 Issue 1 (2009-10-22)
B-3001 Leuven Issue 0 (2008-08-13)
Belgium
Equipment: **DigiTrace NGC-20-CL-E Heat-Tracing Temperature Control Unit**
Optional accessory:
Type of Protection: **Increased Safety, Encapsulation, Intrinsic Safety.**
Marking: **Ex e mb ib IIC T * Gb (-40°C ≤ Ta ≤ + * °C) *See Schedule**
Ex tb III C T * °C Db IP66 (-40°C ≤ Ta ≤ + * °C) *See Schedule

Approved for issue on behalf of the IECEx
Certification Body:

R S Sinclair

Position:

Technical 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 www.iecex.com or use of this QR Code.



Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





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Issue No: 6

Manufacturer: **nVent Thermal Belgium NV**
Research Park Haasrode - Zone 2
Romeinsestraat 14
B-3001 Leuven
Belgium

Additional manufacturing locations:

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2009 Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
Edition:3

IEC 60079-31:2008 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
Edition:1

IEC 60079-7:2006-07 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:4

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 Reports:

[GB/BAS/ExTR08.0090/00](#)
[GB/BAS/ExTR10.0095/00](#)
[GB/BAS/ExTR18.0125/00](#)

[GB/BAS/ExTR08.0091/00](#)
[GB/BAS/ExTR12.0006/00](#)

[GB/BAS/ExTR09.0207/00](#)
[GB/BAS/ExTR13.0254/00](#)

Quality Assessment Report:

[GB/BAS/QAR07.0053/07](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The DigiTrace NGC-20-CL-E Heat-Tracing Temperature Control Unit with Intelligent Safety Limiter, rated at 100V to 250V and up to 25A, comprises a plastic enclosure into which are encapsulated a number of printed circuit boards. Termination facilities are provided within the enclosure, above the level of the encapsulation, for the connection of power supply, external RTDs, alarm and data transmission facilities.

The encapsulated parts are divided into intrinsically safe and non-intrinsically safe printed circuit boards, with correspondingly segregated Ex ib and Exe termination facilities above the encapsulant.

Internal connections provided from the encapsulated printed circuit boards for three external resistance temperature detectors (RTDs), are made to Ex ib (RTD) terminals situated at the other side of the enclosure, and are segregated from the non-intrinsically safe terminals. Internal connections from the encapsulated printed circuit boards supply a seven segment LED display, five indicator LEDs and two internal push button switches, all mounted on a separate unencapsulated display printed circuit board behind a window in the lid of the enclosure. A common Earth Terminal is provided adjacent to the Ex ib (RTD) terminals for the termination of cable screens.

External connection is provided via cable entry holes, which enter the enclosure above the level of the encapsulation. Internal and external earthing facilities are provided. For Safety Parameters, see Annex.

The safety temperature limiter function of the DigiTrace NGC-20-CL-E meets the requirements of IEC 61508-1:1998 and IEC 61508-2:2003, Certificate Number Baseefa08SR0134.

Variation 0.1

Omission of the safety temperature limiter function and associated circuitry to form the DigiTrace NGC-20-C-E Heat-Tracing Temperature Control Unit.

The temperature control function of the DigiTrace NGC-20-C-E has not been assessed to the requirements of IEC 61508-1:1998 and IEC 61508-2:2003

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Cable entry devices shall be suitably certified and maintain the IP66 minimum of the enclosure. Unused cable entries must be filled with suitably certified stopping plugs.
2. Not more than one single or multiple strand wiring lead shall be connected into either side of the terminals.
3. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1mm of the metal of the terminal throat.
4. When used in dust atmospheres any dust layers occurring shall have a maximum depth of no greater than 50mm.
5. The max permitted current of the Non IS alarm contacts is 3A.
6. The earth pillar adjacent to the RTD connectors must be used only for RTD cable screens.
7. The external RTDs must be capable of withstanding a 500V test to earth.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 6.1

To confirm the certificate is now held in the name of nVent Thermal Belgium NV.

Variation 6.2

To update the product marking labels to show the name of nVent Thermal Belgium NV.

ExTR: **GB/BAS/ExTR18.0125/00**

File Reference: **17/0864**

Annex:

[IECEx BAS 08.0047X Annex.pdf](#)

Baseefa

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ANNEX to IECEx BAS 08.0047X

Issue No. 0

Date: 2008/08/13

For both the DigiTrace NGC-20-CL-E Heat-Tracing Temperature Control Unit with Intelligent Safety Limiter and the DigiTrace NGC-20-C-E Heat-Tracing Temperature Control Unit:-

Input Parameters for the certified Ex e Terminal Block, the non-intrinsically safe RS485 data terminals and alarm relay terminals:

$U_m = 254V$

Output Parameters for each of the Ex ib, RTD1, RTD2 and the optional RTD3 terminals, (each RTD circuit comprising of three intrinsically safe interface circuits combined):

$U_o = 4.6V$

$I_o = 81mA$

$P_o = 96mW$