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 13.0071**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 7	Issue 6 (2021-10-04) Issue 5 (2020-08-10) Issue 4 (2020-04-09) Issue 3 (2019-01-22) Issue 2 (2018-02-28) Issue 1 (2016-12-21) Issue 0 (2014-08-29)
Date of Issue:	2025-02-20		
Applicant:	**nVent Thermal Belgium NV** Research Park Haasrode - Zone 2 Romeinsestraat 14 B-3001 Leuven **Belgium**		
Equipment:	**ETS-05 Electronic Thermostat**		
Optional accessory:			
Type of Protection:	**Increased safety, Protection by Encapsulation, Intrinsic Safety, Dust Protection by Enclosure**		
Marking:	**Ex eb ia mb [ia Ga] IIC T5 Gb (-40 ≤ Ta ≤ +60ºC)** **Ex tb IIIC T100ºC Db (-40ºC ≤ Ta ≤ +60ºC)**		

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

Position: **Lead Certification Engineer**

Signature: (for printed version)

Date: 20/2/2025
(for printed version)

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

IECEx Certificate of Conformity

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

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

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

IEC 60079-18:2014 Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
Edition:4.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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/ExTR14.0185/00
GB/BAS/ExTR16.0395/00
GB/BAS/ExTR18.0099/00
GB/BAS/ExTR18.0125/00
GB/BAS/ExTR20.0070/00
GB/BAS/ExTR20.0119/00
GB/BAS/ExTR21.0172/00
GB/SGS/ExTR25.0029/00

Quality Assessment Report:

GB/BAS/QAR07.0053/11

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The nVent ETS-05 Electronic Thermostat provides accurate temperature control for heating cables.

It comprises a plastic box with terminals inside for connection to the sensor and to the incoming user connections. Relay contacts are present to allow resistive loads of up to 253V (or 277V for the ETS-05-a2R-bb-c) at 32A to be controlled.

ETS-05-a1-bb-c
The supply range for the equipment is 99 to 121V a.c.
Supply & relay terminal block TB1 U_m = 253V. Rated current = 32A.
Relay terminal block TB3 (if present) U_m = 253V.

ETS-05-a1R-bb-c
The supply range for the equipment is 99 to 132V a.c. U_m = 253V.
Supply & relay terminal block TB1 Um = 253V. Rated current = 32A.
Relay terminal block TB3 (if present) Um = 253V.

ETS-05-a2-bb-c
The supply range for the equipment is 195 to 230V a.c. U_m = 253V.
Supply & relay terminal block TB1 Um = 253V. Rated current = 32A.
Relay terminal block TB3 (if present) Um = 253V.

ETS-05-a2R-bb-c
The supply range for the equipment is 195 to 277V a.c. Um = 277V.
Supply & relay terminal block TB1 Um = 277V. Rated current = 32A.
Relay terminal block TB3 (if present) Um = 277V.
The options a bb & c affect the operational non-safety aspects:-
a = A (0°C to 49°C model)
H (0°C to 499°C model)
L (0°C to 199°C model)
b (1st) = A (American market version)
= E (European market version)
= J (Japanese market version)
b (2nd) = p (earth plate option)
c = A (Alarm output model) Rated alarm output = 253V (or 277V for the ETS-05-a2R-bb-c), 3A resistive.
= not present (Alarm output not present)

Sensor Connections - Terminal Block TB2

U_o = 5.88V

I_o = 29mA

P_o = 43mW

C_i = 26nF

L_i = 0

U_i = 0

Continued on Page 4.

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Equipment (continued):

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to hazardous area terminals must not exceed the following values:

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR	L/R RATIO (µH/ohm)
IIC	43	43		843
IIB	1000	172		3373
IIA	1000	345		6746

The above load parameters apply where:

1. The external circuit contains no combined lumped inductance L_i and capacitance C_i greater than 1% of the above values, or
2. The inductance and capacitance are distributed as in a cable, or
3. The external circuit contains either only lumped inductance or lumped capacitance in combination with a cable.

In all other situations e.g. the external circuit contains combined lumped inductance and lumped capacitance, up to 50% of each of the L and C values is allowed.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 7.0

To permit minor changes to the equipment description.

ExTR: **GB/SGS/ExTR25.0029/00**	File Reference: **25/0068**