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 VTT 09.0002X issue No.:1

Status: **Current**

Certificate history:
Issue No. 1 (2009-8-26)
Issue No. 0 (2009-6-10)

Date of Issue: **2009-08-26** Page 1 of 4

Applicant: **Vaisala Oyj**
Vanha Nurmijärventie 21
FI-01670 Vantaa
Finland

Electrical Apparatus: **Humidity and temperature transmitter type HMT360**
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T4 Ga**

Approved for issue on behalf of the IECEx Certification Body: Risto Sulonen

Position: Team Leader

Signature:
(for printed version)

Date: 26.8.2009

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:

VTT Technical Research Centre of Finland
Otakaari 7 B, Espoo
P.O.Box 1000
FI-02044 VTT
Finland

IECEx Certificate of Conformity

Certificate No.: IECEx VTT 09.0002X

Date of Issue: **2009-08-26** Issue No.: **1**

Manufacturer: **Vaisala Oyj**
Vanha Nurmijärventie 21
FI-01670 Vantaa
Finland

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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:

FI/VTT/ExTR09.0002/00

Quality Assessment Report:
FI/VTT/QAR09.0001/00

IECEx Certificate of Conformity

Certificate No.: IECEx VTT 09.0002X

Date of Issue: **2009-08-26** Issue No.: **1**

Schedule

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

The humidity and temperature transmitter, type HMT 360, for the measurement of temperature and humidity with the following assosiated sensor heads:
HMP361 wall-mounting probe
HMP362 probe can be used in conjunction with sampling cells
HMP363 probe for restricted space
HMP364 probe for low and high pressure
HMP365 probe for elevated temperature
HMP367 probe for high moisture applications
HMP368 probe for pressure pipes or liquids
Electrical data (maximum values per channel):
Ui = 28 V
Ii = 100 mA
Pi = 700 mW
Ci = 1 nF
Li negligibly low

CONDITIONS OF CERTIFICATION: YES as shown below:

1) The equipment with display window and/or with associated cable of the sensor head can be used in Zone 0 Group IIC areas only if the danger of ignition due to electrostatic charge is avoided.
2) With the installation of the equipment in Zone 0 Group II area it has to be ensured that sparks due impact or friction do not occur.
3) The serial interface must only be used outside the explosion hazardous area. The associated serial interface cable 25905ZZ is to be used
4) Allowed ambient temperature range is -40 °C...+60 °C

IECEx Certificate of Conformity

Certificate No.: IECEx VTT 09.0002X

Date of Issue: **2009-08-26** Issue No.: **1**

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

EPL marking Ga added
Extension of ambient temperature range

1. # EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective Systems Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3. Reference: VTT 09 ATEX 028X issue No:1

4. Equipment: **Humidity and temperature transmitter**

Certified types: **HMT360**

5. Manufactured by: **Vaisala Oyj**

6. Address: **Vanha Nurmijärventie 21**
FI-01670 Vantaa
Finland

7. This equipment and any acceptable variations thereto are specified in the schedule and possible supplement(s) to this certificate and the documents therein referred to.

8. VTT, Technical Research Cenre of Finland, notified body number 0537, in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that the assembly 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.

9 The examination and test results are recorded in confidential Report no VTT-S-03434-09.

10. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 (2006)
EN 60079-11 (2007)
EN 60079-26 (2007)

11. If the sign "X" is placed after the certificate number, it indicates that these equipment is subject to special conditions for safe use specified in the schedule to this Certificate

12. 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 may apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

13. The marking of the equipment shall include the following:

II 1 G Ex ia IIC T4 Ga

Espoo, 26.8.2009

VTT , Technical Research Centre of Finland

Martti Siirola
Research scientist

Risto Sulonen
Senior research scientist

14. # Schedule

15. **EC-TYPE EXAMINATION CERTIFICATE**
VTT 09 ATEX 028X issue No:1

16. Description of equipment

The humidity and temperature transmitter, type HMT 360, for the measurement of temperature and humidity with the following associated sensor heads:

HMP361 wall-mounting probe
HMP362 probe can be used in conjunction with sampling cells
HMP363 probe for restricted space
HMP364 probe for low and high pressure
HMP365 probe for elevated temperature
HMP367 probe for high moisture applications
HMP368 probe for pressure pipes or liquids

Electrical data (maximum values per channel):

U_i = 28 V, I_i = 100 mA, P_i = 700 mW, C_i = 1 nF, L_i negligibly low

17. Report No. VTT-S-03434-09

18. Special conditions for safe use

1) The equipment with display window and/or with associated cable of the sensor head can be used in Zone 0 Group IIC areas only if the danger of ignition due to electrostatic charge is avoided.
2) With the installation of the equipment in Zone 0 Group II area it has to be ensured that sparks due impact or friction do not occur.
3) The serial interface must only be used outside the explosion hazardous area. The associated serial interface cable 25905ZZ is to be used
4) Allowed ambient temperature range is -40 °C...+60 °C

19. Essential Health and Safety Requirements

Met by compliance with the standards listed on the front page.

Espoo, 26.8.2009
VTT, Technical Research Centre of Finland

Martti Siirola
Research scientist

Risto Sulonen
Senior research scientist

1. EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective Systems Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3. Reference: VTT 04 ATEX 023X

4. Equipment: **Humidity and temperature transmitter assembly**

Certified types: **HMT360**

5. Manufactured by: **Vaisala Oyj**

6. Address: **Vanha Nurmijärventie 21**
FIN-01670 Vantaa
Finland

7. This equipment and any acceptable variations thereto is specified in the schedule and possible supplement(s) to this certificate and the documents therein referred to.

8. VTT Industrial Systems, notified body number 0537, in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that the assembly 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.

9 The examination and test results are recorded in confidential Report no TUO26-044075.

10. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50281-1-1 (1998)

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus
Otakaari 7B, Espoo
P.O.Box 13071, FIN-02044 VTT, Finland

Tel + 358 9 4561
Fax + 358 9 456 7042

11. If the sign "X" is placed after the certificate number, it indicates that these equipment is subject to special conditions for safe use specified in the schedule to this Certificate

12. 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 may apply to the manufacturing process and supply of these equipment. These are not covered by this certificate.

13. The marking of the equipment shall include the following:

II 1 D IP 65 T = 70 °C

Espoo, 7.4.2004

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus

FINAS AKKREDITOINTI SUOMI FINLAND
I018
(EN45004,liite A)

Martti Siirola
Research scientist

Risto Sulonen
Senior research scientist

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: **781 762 4300** F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

HMT360abcdefghi4jklAmn. Transmitter and Probe or Transmitter only.
IS / I,II,III / 1 / ABCDEFG / T5 Ta = 60°C - DRW211603, Entity;
NI / I, / 2 / ABCD / T5 Ta = 60°C; S / II,III / 2 / FG / T5 Ta = 60°C
Entity Parameters:

Terminals	V_{Max} *(V)*	I_{Max} *(mA)*	P_{Max} *(W)*	C_i *(nF)*	L_i *(µH)*
Ch 1: + and -	28	100	0.7	1	0
Ch 2: + and -	28	100	0.7	1	0

a = Probe type: 0, 1, 2, 3, 4, 5, 7 or 8.
b = Transmitter type: any single letter A-Z.
c = Display: 1 or 2.
d = Output channels: 1 or 2.
e = Analog output signal (Ch1): any single letter A-Z.
f = Analog output signal (Ch 2): any single letter A-Z.
g = Output range: any single letter A-Z.
h = Units: 1 or 2.
i = Cable bushings: A, B, C or 4.
j = Manual: Any single letter A-Z.
k = Cable length: (any single letter) A-Z or 0, 1, 2 or 3.
l = Humidity sensor: 0, 1, 2, 3, 4, 5, 6, 7, 8 or A.
m = Sensor protection: 0, 1, 2, 3, 4, 6 or 7.
n = Installation kit: A-Z or 0.

FM Approvals®
Member of the FM Global Group

Equipment Ratings:

Intrinsically Safe Class I, II, III, Division 1, Groups A, B, C, D, E, F, & G; also as Class I, Zone 0, AEx ia IIC; in accordance with Entity requirements when installed per installation drawing DRW211603; and Nonincendive Class I, Division 2, Groups A, B, C, & D; Suitable for Class II & III, Division 2, Groups F & G, for use in an indoor hazardous (classified) locations with a temperature rating of T5, Ta = 60°C.

FM Approved for:

Vaisala Oyj
Helsinki, Finland

FM Approvals

Member of the FM Global Group

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	1999
Class 3611	1999
Class 3810	1989
Including Supplement #1	1995

Original Project ID: 3010615 Approval Granted: January 9, 2002

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3016167	March 14, 2003		
3017701	August 7, 2003		
030916	November 3, 2003		
051221	May 24, 2006		
091102	November 5, 2009		

FM Approvals LLC

J.E. Marquedant

J. E. Marquedant
Group Manager, Electrical

5 November 2009
Date

CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1300863 **Master Contract:** 213862

Project: 1813104 **Date Issued:** 2006/07/24

Issued to: **Vaisala Oyj**

P.O. Box 26
Helsinki, 00421
Finland
Attention: Mr. Riku Hakala

The products listed below are eligible to bear the CSA Mark shown

Issued by: Dorin Stochitoiu, P.Eng

Authorized by: Patricia Pasemko, Operations Manager

PRODUCTS

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

Class I, Div.1 and Div.2, Groups A, B, C and D; Class II, Div.1 and Div.2, Groups G and Coal Dust; Class III

HMT 360 series, humidity and temperature transmitters, rated 28V, 4-20 mA, and provides intrinsically safe outputs to HMP36* series probe when connected as per installation drawing DRW213478, Maximum ambient temperature 60°C, Temperature Code T4.

APPLICABLE REQUIREMENTS

CSA Std C22.2 No. 142-M1987 - Process Control Equipment

防爆構造電気機械器具型式検定合格証

申請者	東京都新宿区神楽坂六丁目４２番地 ヴァイサラ株式会社
製造者	Vanha Nurmijärventie 21, FIN-01670 Vantaa, FINLAND Vaisala Oyj
品名	湿・温度変換器
型式の名称	ＨＭＴ３６０　７Ｄ２２ＨＫＤ２Ｂ７ＢＸ１Ａ１Ａ （同一型式は別表のとおり）
防爆構造の種類	本質安全防爆構造（ｉａ）
対象ガス又は蒸気の爆発等級及び発火度	ⅡＣＴ４
定格	チャンネル１回路 許容電圧　２８Ｖ 許容電流　１００ｍＡ 許容電力　７００ｍＷ 内部インダクタンス　無視できる値 内部キャパシタンス　１ｎＦ チャンネル２回路 許容電圧　２８Ｖ 許容電流　１００ｍＡ 許容電力　７００ｍＷ 内部インダクタンス　無視できる値 内部キャパシタンス　１ｎＦ 周囲温度　６０℃
使用条件	
型式検定合格番号	第　ＴＣ１７８９７　号
有効期間	平成１９年　４月　４日から平成２２年　４月　３日まで
	平成　年　月　日から平成　年　月　日まで
	平成　年　月　日から平成　年　月　日まで
	平成　年　月　日から平成　年　月　日まで

機械等検定規則による型式検定に合格したことを証明する。

平成１９年　４月　４日

型式検定実施者　社団法人　産業安全技術協会長

防 爆 合 格 证

CONFORMITY CERTIFICATE OF EXPLOSION-PROOF

证 号
Certificate No. CE092145

产品名称 Name of Product	温湿度变送器
型号及规格 Type of Product	HMT360
防爆标志 Marking	**Exia II CT4**
技术文件 Technical Documents	/
图 号 Drawing No.	/
备 注 Note (s)	1 此产品必须与安装在安全区的关联设备连接，关联设备参数见使用说明书。 2 制造商：维萨拉责任有限公司。

经对上述产品图样及技术文件的审查和样品的检验，其符合以下中国现行标准：
By verifying the drawings and technical documents and checking samples, the product complies with the following standards currently valid in P. R.China:

GB3836.1-2000 GB3836.4-2000

发 给：
Issued to: 维萨拉（北京）气象测量技术有限公司

本证失效日期：
Date of Expire: 2014-10-20

发 证 日 期：
Date of Issue: 2009-10-20

中心印章
Center seal

中心主任
Director

本中心由以下组织认可：
PCEC has been approved by

石油和化学工业电气产品防爆质量监督检验中心
Supervision & Test Center of Ex- products of China Petroleum & Chemical Industry

注：本证仅对与送检样品一致的产品有效。
Note: This certificate is only valid for the products that are in accord with sample(s) tested and verified.

中心地址：中国天津市丁字沽三号路85号 邮政编码：300131 电话/传真：022-26651066 /26689116
Center Add: No.85 No.3 Road DingZiGu Tianjin China Post code: 300131 Tel/ Fax: 022-26651066/26689116
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