# 1 EU - TYPE EXAMINATION CERTIFICATE

**2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III**

**3** EU - Type Examination Certificate No.: **TRAC12ATEX0030X (incorporating variation V1)**

**4** Product: **Ultrasonic Transducers, i-Series Intelligent Sensors**

**5** Manufacturer: **Nivus GmbH,**

**6** Address: **Im Täle 2, 75031 Eppingen, Germany**

**7** This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

**8** Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 **TRA-008917-33-02A**

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

**EN60079-0:2009** **EN60079-11:2012** **EN60079-26:2007**

Except in respect of those requirements listed at section 18 of the schedule.

**10** If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

**11** This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

**12** The marking of this product shall include the following:

**Ex II 1 G Ex ia IIC T4 Ga** **$T_{amb}$ = -40°C to +80°C**

**II 1 D Ex ia IIIC T130°C Da**

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2021-01-15



Element Materials Technology Rotterdam B.V.
Zekeringstraat 33, 1014 BV, Amsterdam, Netherlands
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

## 13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

## 14 CERTIFICATE NUMBER TRAC12ATEX0030X (incorporating variation V1)

## 15 Description of Product

The “i-Series Intelligent Sensors” are ultrasonic transducers. They are a range of low power, compact acoustic measurement devices and are intended to be powered, via an ATEX approved galvanic / zener barrier or a specialist ATEX approved PSU, by a control unit which also processes the measurement data received.

The range of transducers consists of slightly different constructions with respect to dimensions but all have a non-metallic enclosure which houses 2 internal electronic PCBs and a piezo crystal. The free space internally is potted with 1 of 2 types of material. Each unit has an integral screened cable for the power supply and some of the models use syntactic foam as a facing material.

| Table of entity parameters | |
|---|---|
| Parameter | Channel 1 |
| Ui | 28V |
| Ii | 162mA |
| Pi | 1.03W |
| Ci | 0 |
| Li | 0 |

## 16 Test Report No. (as added for this issue of the certificate): TRA-008917-33-02A.

## 17 Specific Conditions of Use

1. The “i-Series Intelligent Sensors” must be powered by an ATEX approved barrier that meets the following parameters: Uo = ≤28V, Io = ≤162mA, Po = ≤1.03W
2. The equipment must be routinely inspected to avoid the build up of dust layers when installed in a Zone 20, 21 & 22.
3. The power supply cable to the transducers shall meet the relevant installation requirements of clause 9 of EN60079-14:2008.

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

## 18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

## 19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

## 20 Routine Tests

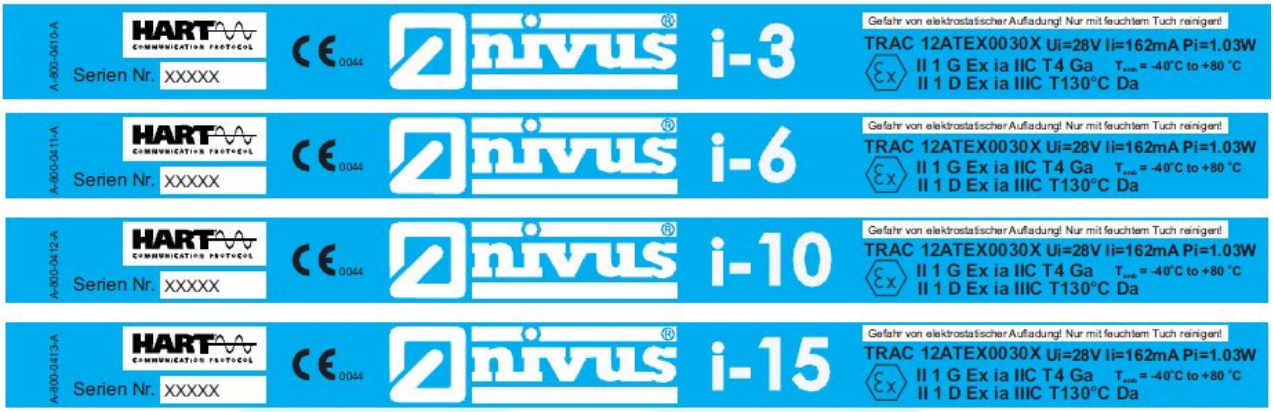
None.

## 21 Specific Conditions for Manufacture

1. Wiring and potting of the “i-Series Intelligent Sensors” shall be manufactured in accordance with document ref. Special process instruction 9.0, i potting rev 1.0 dated 2012-06-13.
2. Conditions for manufacturing and production control are the same as for equipment detailed within report **TRA-008917-33-01A.**

## 22 Photographs

## 23 Details of Markings




## 24 Certificate History

| | | |
|---|---|---|
| Original certificate | 2012-09-06 | First issue. |
| Variation V1 | 2021-01-15 | This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation. |

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations and amendments.

## 25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

## 26 Notes to this certificate

Element Materials Technology certification reference: **TRA-008917-33-02A**. (**NR-NVSQ-0002**).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

## 27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

**SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**

**CERTIFICATE NUMBER TRAC12ATEX0030X (incorporating variation V1)**

## APPENDIX A - TECHNICAL DOCUMENTS

| Title: | Drawing No.: | Rev. Level: | Date: |
|---|---|---|---|
| Intelligent Transducer General Layout | D-804-0948-A | A | 2011-12-01 |
| HIPA (Hart, imp, PA) Schematic For ATEX Certification | D-804-0949-A | A | 2012-01-03 |
| HIPA PCB (3 pages) | D-804-0950-B | B | 2012-01-03 |
| ATEX Certified HIPA Ping BOM (2 pages) | * | 1.0 | 2012-01-17 |
| Hart CPU Schematic For ATEX Certification | D-804-0951-A | A | 2012-01-03 |
| Hart CPU PCB (4 pages) | D-804-0952-B | B | 2012-04-23 |
| ATEX Certified Hart Transducer Processor BOM (3 pages) | * | 1.0 | 2012-01-17 |
| NIVUS i 3, 6, 10 & 15 HART Transducer Wraparound Labels for Ex ia | D-804-0964-C | C | 2012-06-27 |
| i Transducer Potting Thickness | D-804-0969-A | A | 2012-03-13 |
| i Transducer Block Diagram For Exia | D-804-0979-A | A | 2012-04-23 |
| i Transducer Cap | D-804-0980-A | A | 2012-04-23 |
| i 3 Standard Housing | D-804-0981-A | A | 2012-04-23 |
| i 6 Standard Housing | D-804-0982-A | A | 2012-04-23 |
| i 10 Standard Housing | D-804-0983-A | A | 2012-04-23 |
| i 15 Standard Housing | D-804-0984-A | A | 2012-04-23 |
| i 3 Threaded Nose Housing | D-804-0985-A | A | 2012-04-23 |
| i 6 Threaded Nose Housing | D-804-0986-A | A | 2012-04-23 |
| i 10 Threaded Nose Housing | D-804-0987-A | A | 2012-04-23 |
| i Housing Extension Ring | D-804-0988-A | A | 2012-04-23 |
| Special Process Instruction 9.0 i Potting | * | 1.0 | 2012-06-13 |
| Instruction Manual for i-Series Intelligent Sensors | i-Series Sensors | 00 | 2012-07-20 |
| * No information provided. | | | |