

EU-Type Examination Certificate



1. **EU-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**
3. **EU-Type Examination Certificate Number: ITS16ATEX18474**
4. **Product:** UE Vanguard TCD50H1A
5. **Manufacturer:** United Electric Controls
6. **Address:** 180 Dexter Ave, Watertown, MA 02472 USA
7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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 confidential Intertek Report no. 102281476CRT-002a, -002b, -002c, -002d, -002e, -002f, -002g and -002h dated August 15, 2016.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012, EN 60079-1:2014 and EN 60079-11:2012 except in respect of those requirements referred to at item 16 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 Safe 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 the product shall include the following:



II 2 G Ex db ia IIB T4 Gb

Ambient Temperature: -20°C to 60°C T4

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Brad Bombardier, P.E.
Certification Officer
16 August 2016



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS16ATEX18474

13. Description of Equipment or Protective System

The product (TCD50H1A) is a Wireless Hart Communication based Gas detector for use in Zone 1 potentially explosive atmospheres. The product is comprised of a certified component (U) flameproof enclosure manufactured by Killark-Hubbell Inc.. The component flameproof enclosure comes with two compartments (front and rear). The front compartment uses a glass window cover. The rear compartment uses a solid metallic cover. The covers are threaded onto the housing. The front and rear compartments are completely separated from each other. The flameproof enclosure includes three threaded entries. Two of the threaded entries go to the front compartment and the third threaded entry goes to the rear compartment. The certified component enclosure is then modified by United Electric. The modification includes drilling between the front and rear compartments and making a pass-through potted/cemented bushing and populating with the electronics assemblies. The front compartment entries are populated with a certified equipment (X) antenna and gas sensor (one of two: H2S or CH4). The CH4 Sensor is a certified component (U). The H2S Sensor is not a certified component.

The front compartment is intended to be Flameproof (Ex d) with included Intrinsic Safety Barrier Circuits (QTY = 3) for connections to the Gas Sensor (either H2S or CH4) and the rear compartment items (Battery and HART Field Connection). The barriers are used to make the passed-through circuits suitable for Zone 1 outside the Ex d enclosure (Ex ia). The CH4 Sensor is a certified component (U) as Ex ia. The CH4 sensor is modified by mounting into Flameproof Entry (glass-metal seal) and includes additional limitation in the joint to further limit energy to meet the entity parameters of the CH4 Sensor. The rear compartment is intended to be Intrinsically Safe (Ex ia) only even though the rear compartment is a flameproof enclosure. It is not intended to be able to change the battery pack housed in the rear compartment while the product is in the potentially explosive atmosphere. Also, the Hart Field Connection is allowed for use in Non-Hazardous Area only.

14. Report Number

Intertek Report no. 102281476CRT-002a, -002b, -002c, -002d, -002e, -002f, -002g and -002h dated August 15, 2016.

15. Special Conditions of Certification

- (a). Specific Conditions of Safe Use
 - None
- (b). Conditions of Manufacture - Routine Tests
 - None

SUPPLEMENTARY EU-Type Examination Certificate



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SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS16ATEX18474/1

10. Description of the variation to the Equipment or Protective System

1. Battery replacement is permitted in certified Zone and EPL.
2. Change of Battery Pack enclosure material.
3. Documentation change as result of permitting Battery Replacement.
4. Allowance of HART connection for field inspection.

11. Report Number

Intertek Report Ref 102281476CRT-002c and -002d Issue dated 01/30/2017.

12. Conditions of Certification

- (a). Specific Conditions of Safe Use
 - None
- (b). Conditions of Manufacture - Routine Tests
 - None

SUPPLEMENTARY EU-Type Examination Certificate



SCHEDULE

SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS16ATEX18474/1

13. Essential Health and Safety Requirements (EHSRs)

Compliance with the Essential Health and Safety Requirements (EHSRs) is not affected by this variation.

The relevant Essential Health and Safety Requirements (EHSRs) affected by this variation have been identified and assessed in Intertek Report Ref: 102281476CRT-002c and -002d Issue dated 01/30/2017

14. Drawings and Documents

Manufacturer's Documents

Title:	Drawing No.:	Rev. Level:	Date:
Vangaurd Gas Detector Agency Drawing*	B-62174-65	D	01/09/17
Molded Battery Pack*	B-62149-181	J	01/09/17
Battery Pack	B-62149-184	B	07/06/16
UEC-100 Gas Detector Main PC Board	6247-700	B1	05/06/16
PCB ASS'y UEC 100 Gas Detector	B-63136-408	C	12/15/16
UEC-100 Gas Detector Main PCB	A-62137-498	B1	05/06/16
UEC-100 H2S Sensor PCB	6247-701	B1	05/06/16
UEC-100 Mipex Methane Sensor Board	6247-702	B1	05/06/16
PCB ASS'y UEC-100 Gas Detector Methane	B-63136-410	B2	08/16/16
UEC-100 Gas Detector PCB, Methane	A-62137-500	B1	05/06/16
Installation and Maintenance Instructions*	IM_TCD50-03	3	01/23/17

(* Drawings revised)

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification

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