

# EU-TYPE EXAMINATION CERTIFICATE

## Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- EU-Type Examination Certificate Number:** ITS20ATEX15497X      **Issue 00**
- Product:** Laser Absorption Spectroscopy Analyzer, model AccuLase CE
- Manufacturer:** Galvanic Applied Sciences Inc.
- Address:** 7000 Fisher Rd SE, Calgary, AB T2H 0W3, Canada
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 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 of the Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-11:2012 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
- 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.
- The marking of the product shall include the following:



II 2 G Ex db ia mb IIB+H<sub>2</sub> T4 Gb  
-20°C ≤ Ta ≤ +45°C

**Certification Officer:** \_\_\_\_\_



M Newman

**Date:** \_\_\_\_\_

29 May 2020

## SCHEDULE:

EU-Type Examination Certificate Number: ITS20ATEX15497X

Issue 00

### 11. Description of Equipment or Protective System

The Galvanic Applied Sciences AccuLase CE analyzer is a Laser Absorption Spectroscopy Analyzer that uses tuneable diode laser absorption spectroscopy to determine the concentration of a target gas species in a variety of gaseous process streams.

The analyzer is comprised of an electronics enclosure, tubular laser detector enclosure, an intrinsically safe keypad and a set of Parker solenoid valves (certificate number LCIE 03ATEX6451X) all mounted onto a backboard that measures 914mm (35 3/4") wide by 1016mm (39 3/4") tall.

The electronics enclosure housing is an approved XCE Series enclosure (certificate number Demko 03ATEX0303070U) with dimensions of approximately 254mm (10") wide by 356mm (14") tall by 152mm (6") deep. A single 101mm (4") glass window provides a view of an internal LCD screen. The enclosure houses a power filter module, the 24V power supply, an intrinsic barrier SA2925 and the universal controller (PT3048), laser IO (PT3042) and LCD display (PT3050) boards. The enclosure cabling is sealed with Hawke (certificate number Baseefa 06ATEX0058X or CML 18ATEX1268X) and Hummel (certificate number SIRA 11ATEX1110X) cable glands.

The laser detector enclosure housing is a tubular enclosure (report number US/ETL/ExTR18.0037) with dimensions of 915mm (36") wide by 216mm (8 1/2") diameter which has 6 equally spaced entry ports welded onto the top side. There are two entry ports for control and power wiring harnesses and three for the gas sampling and breathing ports. All gas ports are fitted with a M.A.M. flame arrestor (certificate number INERS 12ATEX9013U). The enclosure cabling is sealed with Hawke (certificate number Baseefa 06ATEX0058X or CML 18ATEX1268X) and Hummel (certificate number SIRA 11ATEX1110X) cable glands and require Hazardous Location Solutions adaptors (certificate number SIRA 07ATEX1175X).

The enclosure houses a heater, pressure transducer, the laser detector and the WMS board (laser controller) along with the mounting hardware.

The Keypad SA2992-ZZ (certificate number ITS 17ATEX201662X) is powered by the IS barrier SA2925 (certificate number ITS 12ATEX27509U). The keypad is connected to a socket located at the right side of the enclosure. The socket for the keypad is marked "Connect Intrinsically Safe Keypad SA2992-ACL only". The IS circuit from the associated apparatus to the connector and keypad is insulated from the chassis and can only be used in a Zone 1 Gb area.

All un-utilized conduit entries are sealed with a Hazardous Location Solutions blanking elements (certificate number SIRA 07ATEX1175X).

There are four entries on the electronics enclosure for the end user. The power entry is M20 and is located on the top of the enclosure. There are 3 x M20 entries located on the left side of the enclosure for signal wiring.

The analyzer is designed to be installed at a measurement site on a permanent basis and is permanently connected to the main power supply. A suitably located and easily reached switch shall be included in the installation. Both internal and external earthing points are provided.

Ratings: 110-230Vac, 50/60Hz, 120W

## SCHEDULE:

EU-Type Examination Certificate Number: ITS20ATEX15497X Issue 00

### 12. Report Number

Intertek Report: 103932960EDM-001 Issue: 00 Dated: 25 May 2020.

### 13. Special Conditions of Certification

#### (a). Special Conditions of Use

- The end user shall be responsible for the supply, installation and connection of a suitably certified AC mains disconnect switch at the power input in final installation.
- The end user shall be responsible for the supply and installation of a cable and certified Ex db IIB+H<sub>2</sub> cable entry device suitable for use in a gas atmosphere in the final installation.
- Only suitably approved Ex db IIB+H<sub>2</sub> Gb (minimum) cable glands or blanking elements with an operating ambient range of -20°C to +50°C shall be used.
- No modifications to the flamepaths are permitted without consultation with the controlled documentation or notified body.
- The equipment's Flameproof joints are not intended to be repaired.
- Use only those bolts supplied with the enclosure. No cover bolts shall be omitted. Install and alternate cover bolt pattern when tightening, see recommended torque value table in the Maintenance and Safety manual in section 1.3.1.
- Certification details, instructions (including any required special conditions for use) for all certified equipment installed shall be conveyed to the user in an appropriate manner.
- Avoid ignition due to impact or friction.
- The fittings and adapters SHALL NOT be loosened for alignment purposes.
- The equipment is for internal use only and is not meant for outdoor use.
- IS installation shall comply with IEC/EN 60079-25. IS wiring shall be kept away from all other non-IS wiring.
- A clamping device for cable shall be provided near the cable device entry for solenoid valve.
- Potential electrostatic charging hazard – see Instructions.

#### (b). Conditions of Manufacture - Routine Tests

- The tubular laser detector enclosure shall be subjected to a minimum routine pressure test of 15.4Bar (224psi) for 10 seconds. There shall be no leakage during the test.
- The tubular laser detector enclosure's containment system shall be subjected to a minimum routine pressure test of 1.551Bar (22.5psi) for 2 minutes. There shall be no leakage during the test.
- Records of routine tests shall be kept and maintained.

## SCHEDULE:

EU-Type Examination Certificate Number: ITS20ATEX15497X Issue 00

### 14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 103932960EDM-001 Issue: 00 Dated: 25May 2020.

## SCHEDULE:

EU-Type Examination Certificate Number: ITS20ATEX15497X

### 15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Zone 1 Flameproof Control Enclosure ATEX / IEC Ex Drilling and Tapping EB2987 (2 sheets)	APR-000079	1	25-OCT-2019
Cylindrical Flameproof Enclosure 8in x 36in (7 sheets)	APR-000167	2	21-AUG-2018
ACCULASE CE CRITICAL COMPONENTS (Sheet 1 and 2 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
ACCULASE CE ELECTRONICS ENCLOSURE CLEARANCE (Sheet 3 to 5 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
ACCULASE CE INTERCONNECT DIAGRAM AC POWERED SYSTEM (Sheet 6 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
ACCULASE CE ANALYZER NAME PLATE (Sheet 7 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
ACCULASE CE ZONE 1 INTRINSICALLY SAFE WIRING (Sheet 8 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
ACCULASE CE IS BARRIER CLEARANCES (Sheet 9 of 9)	RAD-DWG-E30-CGY-ACCULASE02-APR-000191-REV14	14	25-MAY-2020
Installation and Safety Manual	RAD-MNL-E30-CGY-ACCULASE02-APR-000192-Rev 11	11	25-MAY-2020
Laser IO Board	PU-3041/PT-3401	1.0	24-JAN-2019
Laser USB TO FOUR SERIAL PORT BOARD	PU-3043/PT-3044	1.0	21-JAN-2019
Universal Controller - 2 (SECOND GENERATION)	PT-3048/PU-3047	1.0	25-JAN-2019
Universal Controller LCD - 2 (SECOND GENERATION)	PU-3049/PT-3050	1.0	24-JAN-2019

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.  
Intertek Testing & Certification Limited, Cleve Road, Leatherhead, Surrey, KT22 7SA  
Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

**SCHEDULE:**

**EU-Type Examination Certificate Number: ITS20ATEX15497X**

Laser 4-20mA ANALOG_OUTPUT_BOARD	PU-3051/PT-3052	1.0	25-JAN-2019
Zone 1 Flameproof Control Enclosure ATEX / IEC Ex Drilling and Tapping EB2987 (2 sheets)	APR-000079	1	25-OCT-2019
Cylindrical Flameproof Enclosure 8in x 36in (7 sheets)	APR-000167	2	21-AUG-2018

