

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: **EESF 21 ATEX 022X**
4. Product: **Measuring and control unit**
 Certified types: **SET-1000 and SET-2000**
5. Manufacturer: **Labkotec Oy**
6. Address: **Myllyhaantie 6, FI-33960 Pirkkala, Finland**
7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. Eurofins Expert Services Oy, Notified Body number 0537, 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 confidential report No. EUFI29-21003167-T2.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018
EN 60079-11:2012
10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the 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 the product shall include the following:



II (1)G [Ex ia Ga] IIC

-25 °C ≤ Ta ≤ +50 °C

Espoo, 24.08.2021
Eurofins Expert Services Oy

Jenni Hirvelä
 Senior Expert

Kari Koskela
 Senior Expert

This document is digitally signed.

13. **Schedule**

 14. **EU-Type Examination Certificate EESF 21 ATEX 022X**

 15. **Description of Product**

The liquid level switch type SET-1000 or SET-2000 is an associated apparatus and supplies one (SET-1000) or two (SET-2000) intrinsically safe level probes. The material of the enclosure is polycarbonate. The liquid level switch type SET-1000 or SET-2000 shall be installed outside the explosive area.

Electrical data

Supply voltage according to the type plate: 230 Vac or 110 V ac, 50/60 Hz, $U_m = 250$ V or 11-17 V dc, $U_m = 23$ V. The ac version liquid level switch is equipped with a 125 mA supply fuse and the dc version is equipped with a 315 mA supply fuse. There are one (SET-1000) or two (set-2000) potentially free relay contact outputs (250 V, 5 A, 100 VA).

The maximum values of the intrinsically safe output values are:

U_o	I_o	P_o
14,7 V	55 mA	297 mW

Maximum external capacitance and inductance values are:

Gas group	C_o	L_o	L_o / R_o
IIC	608 nF	10 mH	116,5 μ H/ Ω
IIB	3,84 μ F	30 mH	466 μ H/ Ω

The output supply is of trapezoidal characteristic according to EN60079-25 with parameters $U_Q = 21,95$ V or $R = 404$ Ω and maximum combined external capacitance and inductance values are:

Gas group IIC		Gas group IIB	
$L_o /$ mH	$C_o /$ nF	$L_o /$ mH	$C_o /$ μ F
0,15	568	0,15	3,5
0,5	458	0,5	3,1
1	388	1	2,4
2	328	2	1,9
5	258	5	1,6

The output circuits are isolated from ground and other circuits.

16. Report Number

EUFI29-21003167-T2

17. Specific Conditions of Use

 The permissible ambient temperature range is $-25\text{ °C} \leq T_a \leq +50\text{ °C}$
18. Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

19. Drawings and Documents

Drawings and documents are listed in the confidential report.

20. Certificate History

Issue	Date	Report No.	Change
VTT 04 ATEX 031X	02.06.2004	TUO26-044010	Prime Certificate
Issue 1	23.10.2017	VTT-S-05557-17	Compliance with the latest standards revised. Alternative type mains transformer for SET-1000 assessed.
EESF 21 ATEX 022X	24.08.2021	EUFI29-21003167-T2	NB name changed from VTT Expert Services to Eurofins Expert Services. New certificate template. Compliance with EN IEC 60070-0:2018 revised.