



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX EESF 21.0015X** Page 1 of 4 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-08-24
Applicant: **Labkotec Oy**
Myllyhaantie 6
FI-33960 PIRKKALA
Finland
Equipment: **Measuring and control units SET-1000 and SET-2000**
Optional accessory: n/a
Type of Protection: **Intrinsically Safe associated apparatus**
Marking: [Ex ia Ga] IIC
-25 °C ≤ Ta ≤ +50 °C

Approved for issue on behalf of the IECEx
Certification Body:

Jenni Hirvelä

Position:

Senior Expert

Signature:
(for printed version)

Date:

2021-08-24

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins Expert Services Oy
Kivimiehentie 4
FI-02150 Espoo
Finland

eurofins | Expert Services



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Date of issue: 2021-08-24

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Manufacturer: **Labkotec Oy**
Myllyhaantie 6
FI-33960 PIRKKALA
Finland

Additional
manufacturing
locations:

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with 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/EESF/ExTR21.0019/00](#)

Quality Assessment Report:

[FI/EESF/QAR19.0001/01](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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:

Uo	Io	Po
14,7 V	55 mA	297 mW

Maximum external capacitance and inductance values are:

Gas group	Co	Lo	Lo / Ro
IIC	608 nF	10 mH	116,5 mH/W
IIB	3,84 mF	30 mH	466 mH/W

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

Gas group IIC		Gas group IIB	
Lo / mH	Co / nF	Lo / mH	Co / mF
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.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The permissible ambient temperature range is -25 °C $\leq T_a \leq +50$ °C



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Additional information:

Certificate History:

IECEX VTT 10.0003X: Original release

IECEX EESF 21.0015X: NB name changed from VTT Expert Services to Eurofins Expert Services. Compliance with IEC 60070-0:2017 revised.