

[1] **EC-TYPE EXAMINATION CERTIFICATE**

according to Directive 94/9/EC, Annex III

(Translation)



[2] Equipment and Protective Systems intended for use
in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU13ATEX1110**

[4] Equipment: **Pressure and temperature measurement device**
type SIMPL-Ex®

[5] Manufacturer: Grünewald GmbH

[6] Address: Oberallener Weg 7
59069 Hamm
Germany

[7] The design of the equipment mentioned in [4] and any acceptable variations thereto are specified in the schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that the in [4] mentioned equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The test results are recorded in the test report IB-13-3-114 of 7 May 2014.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012, EN 60079-11:2012 and EN 50303:2000.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this EC-Type Examination Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned in [4] shall include the following:

 **I M1 Ex ia I Ma**
-50 °C ≤ T_a ≤ +100 °C

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Authorised for certifications Explosion protection

By order

(Dr. Wagner)



- Seal -
(ID no. 0637)

Freiberg, 7 May 2014

Certificates without signature and seal are not valid.
Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Schedule

[13]

Schedule

[14]

to the EC-TYPE EXAMINATION CERTIFICATE IBExU13ATEX1110

[15]

Description of the equipment

The universal measuring device type SIMPL-Ex ® provides pressure transmitters and temperature measuring equipment is composed of a pressure-measuring cell or PT1000 and evaluation electronics arranged on several boards in a high-grade steel enclosure with process tap. The device can be used in potentially explosive atmospheres as a Group I device. It is supplied with an intrinsically safe power source.

Technical Data

Ambient temperature range: -50 °C to +100 °C
Degree of protection: IP64 / IP68

Electrical Data

Supply electric circuit: in type of protection Intrinsic safety Ex ia I
 U_i 14 V or 16.1 V
 C_i negligible
 L_i negligible

Signal circuit (current output) in type of protection Intrinsic safety Ex ia I
 U_o $\leq U_i$
 I_o 120 mA
 C_o 1.6 μ F
 L_o 26 mH

Linear characteristic: $R_i = 96 \Omega$

Signal circuit (voltage output) in type of protection Intrinsic safety Ex ia I
 U_o 12.7 V
 I_o 12 mA
 C_o 3 μ F
 L_o 100 mH

Linear characteristic: $R_i = 1102 \Omega$

The intrinsically safe circuits are galvanically connected.

[16]

Test report

The test results are recorded in the test report IB-13-3-114. The test documents are part of the test report.

Summary of the test results:

The Pressure and temperature measurement device type SIMPL-Ex ® fulfills the requirements of type of protection Intrinsic safety on an electrical apparatus of the Equipment Group I and Category M1.

[17]

Special conditions

none

[18]

Essential Health and Safety Requirements

Confirmed by compliance with standards (see [9]).

By order



(Dr. Wagner)

Freiberg, 7 May 2014