

[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: **IBExU09ATEX1095 X**

[4] Equipment: **Process Monitor PM420^{ex}**
Typ 17-71MM - 1***/*

[5] Manufacturer: Bartec GmbH

[6] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

[7] This design of the equipment mentioned in [4] and any acceptable variation 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 this equipment or protective system 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 examination and test results are recorded in the test report IB-09-3-198/2 of 11 December 2009.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2006 and EN 60979-11:2007.

[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:

⊕ II 2(1)G Ex ia ib IIC T5
-20 °C ≤ T_a ≤ +60 °C

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Authorised for certifications
- Explosion protection -

By order

(Dr. Wagner)



- Seal-
(ID no. 0637)

Freiberg, 11 December 2009

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 IBExU09ATEX1095 X

[15]

Description of the equipment

The Process Monitor is used for indication of process data in explosive areas. It consists of a console panel enclosure with display and a membrane keyboard. The monitor is supplied by an intrinsically safe 4-20 mA current loop. In addition, it can be provided with LCD backlight. The lighting is supplied by a further intrinsically safe circuit.

Technical data

Types **1 7- 7 1 MM – 1 0 0 2 / ****** without LCD backlight
1 7- 7 1 MM – 1 0 0 3 / **** with LCD backlight

Ambient temperature range: -20 °C to +60 °C

Measuring circuit (4 - 20 mA): in type of protection Ex ia IIC
Terminal: X2-1, X2-3
 $U_i \leq 30 \text{ V DC}$
 $I_i \leq 100 \text{ mA}$
 $L_i \leq \text{negligible}$
 $C_i \leq 12 \text{ nF}$

Lighting circuit: in type of protection Ex ib IIC
Terminal: X1-1, X1-2
 $U_i \leq 10 \text{ V DC}$
 $I_i \leq 125 \text{ mA}$
 $P_i \leq 313 \text{ mW}$
 $L_i \leq \text{negligible}$
 $C_i \leq 1 \text{ nF}$

The intrinsically safe circuits are safely electrically isolated up to a peak value of 90 V.

[16]

Test report

The test results are recorded in the test report IB-09-3-198/2 of 11 December 2009.
The test documents are part of the test report and are listed there.

Summary of the test results

The Process monitor PM 420^{ex} fulfils the requirements of the explosion protection of the equipment group II and category 2G for explosive gas atmospheres of the explosion group IIC in type of protection Intrinsic safety. It can be connected to circuits inside areas where equipment of category 1 is required.

[17]

Special conditions

The equipment has to be marked according to EN 60079-0, chapter 29.9 g).
It shall be mounted in a metallically grounded surrounding. In addition the measuring circuit must be connected with $< 10^6 \Omega$ to the earth ground.

[18]

Essential Health and Safety Requirements

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

By order

Freiberg, 11 December 2009



(Dr. Wagner)



[1] **1st Addition to
EC-TYPE EXAMINATION CERTIFICATE IBExU09ATEX1095 X**
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment: **Process monitor 420^{ex}**
Type 17-71MM-1^{***}/^{****}

[3] Manufacturer: BARTEC GmbH

[4] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

[5] **Addition/Alteration**

The process monitor mentioned in [2] can also be marked in accordance with the current standards as specified in [7].

[6] **Test documents**

The proof of the explosion protection of the equipment mentioned in [2] is documented in the Test Report IB-13-3-104 of 15 August 2013. The test documents are part of the test report.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] has been found to comply with the Essential Health and Safety Requirements given in Annex II of Directive 94/9/EC by compliance with EN 60079-0:2009 and EN 60079-11:2012.

The equipment mentioned in [2] meets the requirements of the explosion protection for equipment group II, category 2(1) G with type of protection intrinsic safety. The marking of the equipment shall include the following:

II 2 (1) G Ex ib [ia] IIC T5 alternative
 II 2 (1) G Ex ib [ia Ga] IIC T5 Gb
-20 °C ≤ T_a ≤ +60 °C

[8] **Special conditions**

The equipment has to be marked with the warning marking according to EN 60079-0, clause 29.11 g).

The equipment has to be installed in a metallically earthed environment. In addition, the measuring current circuit has to be connected to the earth potential via a resistor < 10⁶ Ω.

This addition is only valid in combination with the EC-Type Examination Certificate IBExU09ATEX1095 X of 11 December 2009.

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Freiberg, 15 August 2013

Authorized for certifications
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(Dipl.-Ing. Willamowski)



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