

- [1] **1<sup>st</sup> Addition to**  
**EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1124 X**  
according to Directive 94/9/EC, Annex III



- Translation -

- [2] Equipment: **Piezoresistive Pressure Transmitters**  
Series 23SYEi, 23YEi, 23YMEi, 25YEi, 26YEi and 26YMEi
- [3] Manufacturer: KELLER AG für Druckmesstechnik
- [4] Address: St. Gallerstrasse 119  
8404 Winterthur  
SWITZERLAND

[5] **Addition / Alteration**

The equipment mentioned under [2] can also be manufactured according to the altered documents.  
The maximum input power  $P_i$  for T4 is enhanced in dependency of the ambient temperature

| Temperature class | max. ambient temp. $T_a$ | input power $P_i$ |
|-------------------|--------------------------|-------------------|
| T4                | 40°C                     | 1.33 W            |
|                   | 65°C                     | 1.1 W             |
|                   | 100°C                    | 0.64 W            |

The minimal ambient temperature is expanded to -40 °C.

[6] **Test report**

The proof of explosion protection of changed equipment mentioned under [5] is documented in the Test Report IB-11-3-246 dated 17 July 2012. The documentation is part of the Test Report.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] and changed according to [5] 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, EN 60079-11:2012, EN 60079-26:2007 and EN 50303:2000.

The piezoresistive pressure transmitter fulfils the requirements of the type of protection intrinsic safety for explosion-protected apparatus of group I, category M1 as well as group II, category 1G, explosion group IIC and temperature class T6 – T4 respectively category 1D with a maximum surface temperature of 130 °C. The marking is unchanged.

[17] **Special conditions for safe use**

The special conditions included in the EC-Type Examination Certificate IBExU10ATEX1124 X remain valid and are extended:

- The minimal ambient temperature is -40 °C.
- For all types of cable sensors is additional safety and mounting information to take into account.

**This addition is only valid in combination with the EC-Type Examination Certificate IBExU10ATEX1124 X of 20 December 2010.**

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Authorized for certifications  
- Explosion protection -

By order

(Dr. Wagner)



- Seal -  
(Identification No. 0637)

Freiberg, 19 July 2012

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

[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: **IBExU10ATEX1124 X**

[4] Equipment: **Piezoresistive Pressure Transmitters**  
Series 23SYEi, 23YEi, 23YMEi, 25YEi, 26YEi and 26YMEi

[5] Manufacturer: **KELLER AG für Druckmesstechnik**

[6] Address: **St. Gallerstrasse 119  
8404 Winterthur  
SWITZERLAND**

[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 directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that the equipment mentioned in [4] 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-10-3-286 of 17 December 2010.

[9] Compliance with the essential health and safety requirements has been assured by compliance with EN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007, EN 61241-11:2006 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 in [17] in the schedule to this 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**

 **II 1G Ex ia IIC T6 – T4**

 **II 1D Ex ia IIC T 130 °C**

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Freiberg, 20 December 2010

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**Schedule**

[13]

**Schedule**

[14]

**to the EC-Type Examination Certificate IBExU10ATEX1124 X**

[15]

**Description of equipment**

The piezoresistive pressure transmitter is used for the measuring of absolute, relative and differential pressures in explosive atmospheres. The process pressure is converted into a proportional voltage signal resp. electrical signal. The pressure transmitter consists of a metallic enclosure with the process connections or without thread in the design level probe. The electrical connection is carried out by means of a plug respectively with an integrated connecting cable.

Ambient and media temperature range:

|                           |                        |
|---------------------------|------------------------|
| for temperature class T6  | from -20 °C to +65 °C  |
| for temperature class T5  | from -20 °C to +80 °C  |
| for T4, group I and dusts | from -20 °C to +100 °C |

Degree of protection of the enclosure: IP 68 (design with cable)  
IP 65 (design with plug)

Supply and signal circuit  
(2- resp. 3-conductor)

in type of protection intrinsic safety

|       |            |
|-------|------------|
| $U_i$ | 30 V       |
| $I_i$ | 200 mA     |
| $P_i$ | 640 mW     |
| $C_i$ | 2 nF       |
| $L_i$ | negligible |

Effective internal capacitance  
Effective internal inductance

In addition to the above-mentioned values  $L'$  and  $C'$  of the tightly installed connecting cable have to be taken into account.

|                  |                  |
|------------------|------------------|
| $L'$             | = 0,64 $\mu$ H/m |
| $C'$ wire-wire   | = 125 pF/m       |
| $C'$ wire-shield | = 215 pF/m       |

[16]

**Test report**

The proof of the explosion protection is explained in detail in the test report IB-10-3-286. The test documents are part of the test report and are listed there.

Summary of the test results:

The piezoresistive pressure transmitter fulfils the requirements of the type of protection intrinsic safety on an explosion-protected apparatus of group I, category M1 as well as group II, category 1G, explosion group IIC and temperature class T6 – T4 respectively category 1D with a maximum surface temperature of 130 °C.

[17]

**Special conditions for safe use**

- The ambient and medium temperature range varies according to the operating conditions and is specified in the above list.
- The permissible operating pressures are specified in the manufacturer's documents.
- Piezoresistive pressure transmitters of the series 25YEi may only be exposed to the pressure measuring of a process medium which does not contain any explosive gas/air-mixture unless the metal separating membrane is effectively protected against a mechanical damage.
- The electric strength of the metallic enclosure is  $\leq 320 V_{SS}$ .
- The safety and installation instructions in the operating manual have to be taken into account.

[18]

**Essential health and safety requirements**

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

By order

Freiberg, 20 December 2010



(Dr. Wagner)