TÜV
Cert

(1) # EC Design Test Certificate

(2) Machines and protection systems for proper use in explosion-hazard zones - **Directive 94/9/EC**

(3) EC Design Test Certificate Number:

TÜV 97 ATEX 1204 X

(4) Machine: Pt 100 Measuring Transducer, Type 17-6582-1.../...

(5) Manufacturer: BARTEC Componenten und Systeme GmbH

(6) Address: Max-Eyth-Strasse 16
D-97980 Bad Mergentheim
Germany

(7) The design of this machine and the different permitted models are defined in the annex to this Design Test Certificate.

(8) The Certification Agency of TÜV Hannover/Sachsen Anhalt e.V. has been appointed as agency no. 0032. In this capacity the Agency hereby certifies in accordance with Article 9 of the Directive of the Council of the European Community of March 23, 1994 (94/9/EC) that the machine fulfils the basic safety and health requirements for the design and construction of machines and protective systems for proper use in explosion-hazard zones, as specified in Annex II of the Directive.

The results of the test are specified in the confidential test report no. 044/97/7002.

(9) The basic safety and health requirements are met in conformity with

DIN EN 50 014 3.94 DIN EN 50 020 4.96 Draft DIN EN 50 014/PR/A1 4.96

(10) If the certificate number has an "X" after it, then this indicates the presence of special conditions for the safe application of the machine, specified in the annex to this Certificate.

(11) This EC Design Test Certificate only refers to the design and construction of the defined machine as specified in Directive 94/9/EC. Further requirements of this Directive are applicable to the manufacturing and distribution of this machine.

(12) The machine must be marked with the following details:

Ex II (1) G [EEx ia] IIC

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover
Germany

[Logo of TÜV Hannover/ Sachsen-Anhalt e.V.]

Hannover, 1997-08-26

[signature]
The Manager

(13) ANNEX

(14) **EC Design Test Certificate No. TÜV 97 ATEX 1204 X**

(15) Machine specifications:

The Pt 100 Measuring Transformer, Type 17-6582-1 .../... serves to amplify and transform the measuring signals of a Pt 100 transducer and must be set up outside the explosion-hazard zone.

The permitted ambient temperature is -25°C to +70°C.

Electrical details

Supply circuit (connection Z7 and Z4/Z5)	U ≤ 24 V DC +10%, -15%; approx. 0.6 W U_m = 253 V
Input circuit (connection Z1, Z2, Z3)	Type of protection: intrinsic safety EEx ia IIC with the following maximum values: U_o = 21 V I_o = 81.1 mA P_o = 331 mW Characteristic curve: linear

The maximum values for external capacity / inductivity can be found in the following table:

EEx ia	IIC	IIB
C_o	170 µF	1,250 µF
L_o	9 mH	35 mH

Output circuit: (connection Z6 and Z4/Z5)	unitary signal 4 mA to 20 mA U_m = 253 V

(16) The test documents, consisting of 8 pages and 6 drawings (including itemised lists), are listed in the Test Report.

(17) Special condition:

The Pt 100 Measuring Transformer, Type 17-6582-1 .../... must be set up in such a way that it meets at least protective system IP 20 (as specified in EN 60529).

(18) Basic safety and health requirements:

No additional requirements.

Translation

1. S U P P L E M E N T

to Certificate No.	**TÜV 97 ATEX 1204 X**
Equipment:	Measuring transducer for Pt100 type 17-6582-1***/****
Manufacturer:	BARTEC GmbH
Address:	Max-Eyth-Str. 16 97980 Bad Mergentheim Germany
Order number:	8000556261
Date of issue:	2011-10-19

Amendments:

In the future the device may also be manufactured and operated according to the test documents listed in the test report. The changes concern components and the standards used for assessment.

The electrical data and all other data apply unchanged for this supplement.

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2009 **EN 60079-11:2007** **EN 61241-11:2006**

In the future the marking must include the following:

⟨Ex⟩ **II (1) G [Ex ia Ga] IIC** **resp.** **II (1) G [Ex ia Ga] IIB** **and**
II (1) D [Ex ia Da] IIIC **resp.** **II (1) D [Ex ia Da] IIIB**

(16) The test documents are listed in the test report No. 11 203 556261.

(17) Special conditions for safe use

No additional ones

(18) Essential Health and Safety Requirements

No additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Translation

2. SUPPLEMENT

to Certificate No.	**TÜV 97 ATEX 1204 X**
Equipment:	Pt100 Measuring Transducer Type 17-6582-1***/****
Manufacturer:	**BARTEC GmbH**
Address:	Max-Eyth-Straße 16 97980 Bad Mergentheim Germany
Order number:	8000432952
Date of issue:	2014-07-18

Amendments:

Within the scope of the supplement the assembly of the Pt100 measuring transducer was revised and the compliance to the actual standards was checked. The variant with galvanic separation was added to the product. The type code was extended with the number 17-6582-1*1*/****.

The type code changes as follows:

Type No.	**17**	**-**	**6**	**5**	**8**	**2**	**-**	**1**	**.**	**.**	**.**	**/**	**.**	**.**	**.**	**.**
Key No.	**A**		**B**	**C**	**D**	**E**		**F**	**G**	**H**	**I**		**J**	**K**	**L**	**M**

Key No:	*Digit for:*	*Variation:*	*Description:*
A	General code	17	Code for electronically equipment
B	Product group	6	Measuring transducer
C	Class	5	outside Ex, output intrinsically safe
D	Construction	8	Europe card/Modular board
E	Design	2	Measuring transducer Pt 100
F	Input/Output	1	U_B = DC 24 V; IA = 4 ... 20 mA 2 or 3 wire measurement
G	Measuring range	0	
		1	-50°C ... 100°C
		2	0°C ... 200°C
		3	0°C ... 400°C
		4	-10°C ... +15°C
		5	-10°C ... +40°C
		6	-30°C ... +40°C
		7	0°C ... 150°C
		8	-50°C ... 350°C
		9	-30°C ... 50°C
		A	0°C ... 300°C
H	Galvanic isolation	0	None
		1	Supply / output / input
I-M	Number or letter for characteristics without influence on the explosion protection		

The technical data of type 17-6582-1*1*/**** are as follows:

Supply circuit
(connection points X5 and X7)

rated voltage	DC 24 V -10%/+20%
rated power	~ 1,6 W
Maximum RMS value of the alternating current or maximum direct current	U_m = 253 V

Output circuit
(connection points X4 and X6)

Uniform signal	4 ... 20 mA
min./max. signal at sensor error (break/short)	2,5 mA / 26 mA
Maximum RMS value of the alternating current or maximum direct current	U_m = 253 V

Input circuit (connection points X1, X2, X3) — in type of protection intrinsic safety Ex ia IIC / IIB resp. Ex ia IIIC / IIIB only for connection to a certified intrinsic safe circuit.

		IIC resp. IIIC	IIB resp. IIIB
maximum values:	U_o =	17,3 V	
	I_o =	12 mA	
	P_o =	51,9 mW	
perm. external capacitance	C_o =	341 nF	2048 nF
perm. External inductance	L_o =	200 mH	800 mH

For circuits with both inductances and capacitance the following values can be used.

IIC	C_o	341 nF	278 nF	218 nF	148 nF
	L_o	50 µH	5 mH	20 mH	100 mH
IIB	C_o	2048 nF	1588 nF	1188 nF	868 nF
	L_o	50 µH	5 mH	20 mH	100 mH

Permissible range of ambient temperature of type 17-6582-1*1*/****:
Ambient temperature range: $-40\ °C \le T_{amb} \le +70\ °C$
Storage temperature range: $-40\ °C \le T_{amb} \le +70\ °C$

The marking of the type 17-6582-1*1*/**** is as follows:

II (1) G [Ex ia Ga] IIC resp. II (1) G [Ex ia Ga] IIB resp.
II (1) D [Ex ia Da] IIIC resp. II (1) D [Ex ia Da] IIIB

The technical data of type 17-6582-1*0*/**** are valid furthermore.

The equipment incl. this supplement meets the requirements of these standards:

EN 60079-0:2012 **EN 60079-11:2012** **EN 60079-26:2007**

(16) The test documents are listed in the test report No. 14 203 139483.

(17) Special conditions for safe use

1. The measuring transducer type 17-6582-1***/**** shall be installed outside the explosion hazardous area, in such a way that the minimal type of protection of the enclosure IP 20 according to EN 60529 is adhered.

2. If the measuring transducer will be installed inside the explosion hazardous area, an enclosure which corresponds to the requirements of a recognized type of protection in accordance with EN 60079-0:2012 shall be used.

3. When installing in an enclosure with an type of protection increased safety "e"" in accordance with EN 60079-7:2007, the clearance and creepage distances according Section 4.3, Section 4.4 and Table 1 must be adhered.

4. The device can be used in Group I and II, because of the requirements for intrinsically safe circuits are identical.

5. The used enclosure must be completely filled up with glass spheres with a diameter of ø 0.75 mm.

(18) Essential Health and Safety Requirements

no additional ones

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