AC 038

KDB ATEX

[1] # EC-TYPE EXAMINATION CERTIFICATE

[2] Equipment, protective systems and components intended for use in potentially explosive atmospheres - Directive 94/9/EC

[3] EC – type examination certificate:

KDB 06ATEX025

[4] Equipment or protective system:

Temperature sensors of type TP-Exi

[5] Manufacturer:

Czaki Thermo-Product

[6] Address:

ul. 19 Kwietnia 58, 05-090 Raszyn-Rybie

[7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Central Mining Institute, Notified Body number 1453 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment and protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential report number KDB No. 06.027 [T-5701]

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997+A1:1999+A2:1999, EN 50020:2002,
EN 50284:1999, EN 50281-1-1:1999

[10] If the sign „X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-type examination certificate relates only to the design and construction of the specified equipment and protective system in accordance with Directive 94/9/EC.
Further requirements of the Directive may apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 1/2 G D EExia IIC T6* T75*

* Temperature classification of a sensor depends on the measured temperature

Date of issue: 03.03.2006

Date of English version: 28.04.2006

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[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 06ATEX025**

[15] **Description:**

Temperature sensors of type TP-Exi are intended for use in potentially explosive atmospheres caused by dust, vapours or gases - air mixtures. Platinum resistors or thermocouples can be used as sensing elements.

Each sensor contains a single measuring element or two measuring elements placed in a steel sheath. There is a terminal box for electrical connections at the other end. This terminal box is placed in aluminum head with IP65 protection grade, except types TP-Exi-701… and TP-Exi-702… It is possible to replace the terminal box with a intrinsically safe transmitter of type R/I, R/U or U/I, U/U (4÷20mA, 0÷20mA or 0 ÷ 5V etc.) which is explosion-proof II (1) G EExiaII* T* (* gas group and temperature class of the transmitter should be suitable for application). According to EN 50284:2004, sensors of type TP-Exi-611 ÷ TP-Exi-615, TP-Exi-681, TP-Exi-901 ÷ TP-Exi-903, TP-Exi-911, TP-Exi-912 can be used as an element of isolation between areas which differ in intrinsic safety requirements.

Technical data:

measurement range	200 ÷ 1250°C; depends on sensor type, according to catalog data sheet
4-20mA transmitter	optional; for sensors with head only; suitable for actual explosive hazard class; certified according to directive 94/9/WE(94/9/CE); matching dimensions of the head of sensor
single TCD: terminals: 1-2 two TCDs: terminals: 1-2 and 3-4	Uo=10V, Io=10mA, Po=100mW, Co=3µF (for sensor with single thermocouple), Co=0,9µF (for sensor with two thermocouples), Lo=100mH; two measuring elements placed in one sheath should be considered as galvanically not isolated
single 2-wire RTD: terminals: 1-2 two 2-wire RTDs: 1-2 and 3-4 single 3-wire RTD: terminals: 1-2-6 two 3-wire RTD: terminals: 1-2-6 and 3-4-5 single 4-wire RTD: terminals: 1-2-3-4	Ui=10V, Ii=10mA, Pi=100mW, Ci=1000pF, Li~0; two measuring elements placed in one sheath should be considered as galvanically not isolated
ambient temperature range	-40 ÷ +75 °C
protection grade according to EN 60529:1992	IP65 or IP20/00

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[14] **EC-Type Examination Certificate KDB 06ATEX025**

[15] **Description: continued**

Temperature classification of a sensor depends on the measured temperature. After mounting, it should be checked if temperature of any part doesn't exceed acceptable limits for potentially explosive atmosphere, materials and devices.

There are following types of sensors:

TP - Exi - A - B - C - D - E - F

A Housing shape

sheathed thermocouple: 431, 432, 433, 434
sheathed thermoresistor: 461, 462, 463
with wrapper without mounting part: 601, 602, 603, 604, 605
with wrapper with sheath: 611, 612, 613, 614, 615, 681
with measuring insert: 701,702
with additional conical wrapper: 901
with additional threaded wrapper: 902
with additional wrapper and flange: 903
with wrapper with flange: 911, 912

B Type of measuring element

1xPt100 2-wire	1P2
1xPt100 3- wire	1P3
1xPt100 4- wire	1P4
2xPt100 2- wire	2P2
2xPt100 3- wire	2P3
1xFe-CuNi	1J
1xNiCr-NiAl	1K
1xNiCrSi-NiSi	1N
2xFe-CuNi	2J
2xNiCr-NiAl	2K
2xNiCrSi-NiSi	2N

C Length of sheath L

length L [mm] according to order

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[13] # SCHEDULE

[14] **EC-Type Examination Certificate KDB 06ATEX025**

[15] **Description: continued**

D Mounting type

thread size M20x1,5	M20x1,5
thread size M24x1,5	M24x1,5
thread size M27x2	M27x2
thread size G1/2"	G1/2
thread size G3/4"	G3/4
thread size G1"	G1
other thread size	thread specification
drilled flange	thread specification and flange specification
flange according to draft	according to order
flange according to PN-ISO 7001.5	specification according to PN-ISO 7001.5

E Potentially explosive atmosphere specification

gas group and temperature class for category G
II 1/2 G EExiaIIC T6* and
dust group and temperature surface for category D
II 1/2 D EExiaIICT75°C*

ingress protection	IP65

F Other

accuracy class not offered in catalog	class A or class I
specification sheathed measurement insert	WPP
threaded handle	type specification
assembly clamp	type specification
ATEX certified temperature transmitter	0 - no transmitter, 1 - with transmitter

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[13] # SCHEDULE

[16] **Test report:**

Report no. KDB 06.027

[17] **Special condition for safe use:**

– none

[18] **Essential health and safety requirements:**
Met by compliance with standards listed in section 9. of this Certificate.

[19] **Descriptive documents:**

Temperature sensor type TP-Exi-43X - drawing list	item 23
Temperature sensor type TP-Exi-46X - drawing list	item 26
Temperature sensor type TP-Exi-60X - drawing list	item 23
Temperature sensor type TP-Exi-61X - drawing list	item 18
Temperature sensor type TP-Exi-681 - drawing list	item 12
Temperature sensor type TP-Exi-701 - drawing list	item 11
Temperature sensor type TP-Exi-702 - drawing list	item 10
Temperature sensor type TP-Exi-90X - drawing list	item 14
Temperature sensor type TP-Exi-91X - drawing list	item 9
Data sheets.	p.16
User guide. Safety instruction.	p.14