Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 09 ATEX 2011

(4) Equipment: Explosion-protected electrical sensor, type ExBin-..

(5) Manufacturer: Schischek GmbH

(6) Address: Mühlsteig 45, 90579 Langenzenn, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 the confidential assessment and test report PTB Ex 09-29025 .

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2006 **EN 60079-7:2005** **EN 60079-11:2007**
EN 60079-18:2004 **EN 61241-0:2006** **EN 61241-1:2004**
EN 61241-11:2006

(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 the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2 (1) G Ex e mb [ia] IIC T6 or II 2 (1) D Ex tD A21 [iaD] IP66 T80 °C

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, May 14, 2009

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

ZSEx10100e.dot

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 09 ATEX 2011

(15) Description of equipment

The explosion-protected electrical sensor, type ExBin-.. is used for the measurement of pressures, humidity and/or temperatures and for the conversion of the measurands into a switching signal.

The equipment is intended for stationary application inside the hazardous area.

The sensor circuits of the ExBin-.. may be led in hazardous areas of category 1G or 1D respectively, provided that the associated sensors comply with the requirements of these categories.

The sensors of type series ExPro-B.. may be led in hazardous areas of category 2G or 2D respectively. They are available in various designs corresponding to the place of installation.

The permissible range of the ambient temperature is -20 °C ... 50 °C.

For relationship between explosion group and the permissible external reactances, reference is made to the respective table.

Electrical data

Supply ..... (terminals 1, 2)	U	=	24	V AC/DC ± 20 %, 50 ... 60 Hz
	U_m	=	30	V
Auxiliary contacts..... (terminals 3, 4)	U	=	24	V AC/DC ± 20 %, 50 ... 60 Hz
	U_m	=	30	V
Relay outputs..... (terminals 5...10)	V AC	=	250 V / 0.1 A 125 VA / 0.2 A 30 V / 0.5 A	
	or			
	V DC	=	220 V / 0.1 A 110 V / 0.2 A 30 V / 0.5 A	

The relay outputs are safely electrically isolated from the other circuits up to a maximum value of the rated voltage of 375 V.

Sensors circuits ..... type of protection Intrinsic Safety Ex ia IIC
(ExBin-A.., Ex-Bin-FR)

Maximum values:

U_o = 7.14 V
I_o = 8 mA
P_o = 15 mW

	IIC	IIB	IIA
L_o	5 mH	10 mH	20 mH
C_o	1.5 µF	6.7 µF	8.6 µF

C_i negligibly low
L_i negligibly low

Sensors circuit ..... type of protection Intrinsic Safety Ex ia IIC
(ExBin-D..)

Maximum values:

U_o = 7.9 V
I_o = 6.4 mA
P_o = 12.7 mW

	IIC	IIB	IIA
L_o	5 mH	10 mH	20 mH
C_o	1.5 µF	6.7 µF	8.6 µF

C_i negligibly low
L_i negligibly low

Sensor circuit, NAMUR ..... type of protection Intrinsic Safety Ex ia IIC
(ExBin-N..)

Maximum values:

U_o = 9.6 V
I_o = 9.7 mA
P_o = 24 mW

	IIC	IIB	IIA
L_o	5 mH	10 mH	20 mH
C_o	0.84 µF	3.8 µF	4.9 µF

C_i negligibly low
L_i negligibly low

Sensor circuit.....type of protection Intrinsic Safety Ex ia IIC (ExPro-B..)

Maximum values:

U_i = 9.6 V
I_i = 9.7 mA

C_i = 120 nF
L_i negligibly low

The intrinsically safe circuits are safely electrically isolated from each other and from the non-intrinsically safe circuits up to a maximum value of the rated voltage of 30 V.

(16) Assessment and test report PTB Ex 09-29025

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungssektor Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

Braunschweig, May 14, 2009