



(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 04 ATEX 1028 X

(4) Equipment: Actuator, model S, type Ex Max-../..

(5) Manufacturer: Schischek Explosionsschutz GmbH

(6) Address: 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 report PTB Ex 04-12347.

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

EN 50014: 1997 + A1 + A2

EN 50018: 2000

EN 50020: 2002

EN 50281-1-1:1998

(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 G/D EEx d ia IIC T6 or T5 IP 66 T 80 °C or 95 °C

Zertifizierungsstelle Explosionsschutz

By order:

Braunschweig, August 31, 2004

Dr.-Ing. U. Klausmeyer
Regierungsdirektor



SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 1028 X**

(15) Description of equipment

The actuator, model S, type Ex Max-./..., consists of a flameproof enclosure with actuator shafts that accommodate electromechanical components. The internal portion is temperature controlled. The flameproof enclosure is mounted in a protective housing with additional mechanical components. The gears and mechanical actuators mounted in the protective housing do not form part of this type approval.

Connection is by means of a connecting lead (open-ended line).

Electrical data

Nominal voltage U_0/U	up to	300/500 V
Rated voltage	max.	250 V
Rated cross section	max.	2.5 mm ²

Rated values are maximum values, the actual electrical values are determined by mounted electrical apparatus. Within these limiting values complying with the appropriate standards the manufacturer specifies the final limiting values dependent on power supply specifications, operating mode, utilization category, etc. Any additional technical features are specified in the test documents and the operating manual.

Ambient temperature	T6	-40 °C to 40 °C
	T5	-40 °C to 50 °C

Intrinsically safe circuits

Voltage supply U = 250 V AC/DC, 50...60 Hz
 $U_m = 253$ V

Sensor circuit type of protection Intrinsic Safety EEx ia IIC

Maximum values:

$U_o = 10.6$ V

$I_o = 11$ mA

$P_o = 30$ mW

Linear characteristic

L_i negligibly low

C_i negligibly low

Protective circuit **with** existing concentrated outer capacitance and inductance:

	EEx ia		
	IIC	IIB	IIA
L_o	2 mH	5 mH	10 mH
C_o	830 nF	3.7 μ F	4.5 μ F

sheet 2/3

(16) Test report PTB Ex 04-12347

(17) Special conditions for safe use

If connection is made in the potentially explosive area, the connecting lead (open-ended line) of the actuator shall be connected in an enclosure that meets the requirements of a type of protection specified in EN 50014, section 1.2.

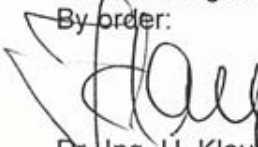
The quality of the connecting lead shall be such that it complies with the local thermal and mechanical requirements.

(18) Essential health and safety requirements

Met by compliance with the aforementioned Standards.

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, August 31, 2004

1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 1028 X (Translation)

Equipment: Actuator type Ex Max-../..

Marking:  II 2 G/D EEx d ia IIC T6 and T5 IP 66 T 80 °C and 95 °C

Manufacturer: Schischek GmbH

Address: Mühlsteig 45, 90579 Langenzenn, Germany

Description of supplements and modifications

The field of application is extended to include temperature class T4 (T130). In this case, the range of accepted ambient temperatures covers values between -40 °C and +60 °C.

The 'M' series is included in addition to the previously type approved 'S' series. The structural modifications concern the gearing and the outer casing, which are not covered by the EC-Type Examination Certificate.

Special conditions for safe use

For repair of the flameproof joints due regard must be given to the structural specifications provided by the manufacturer. Repair on the basis of the values in tables 1 and 2 of EN 60079-1 is not accepted.

The other "special conditions" listed in EC-Type-Examination Certificate PTB 04 ATEX 1028 X remain valid.

Additional notes for safe operation:

When used in zone 20 or 21, only sensors that meet category 1-D and 2-D requirements, respectively, may be connected to the intrinsically safe sensor circuit.

Applied standards

EN 60079-0:2006

EN 60079-1:2004

EN 60079-11:2007

EN 61241-0:2006

EN 61241-1:2004

EN 61241-11:2006

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With the application of the above standards, the marking changes to:

II 2 (1) G Ex d [ia] IIC T6, T5 and T4
 II 2 (1) D Ex tD [iaD] A21 IP66 T80, T95 and T130 °C

Assessment and test report: PTB Ex 09-19313

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, January 27, 2010

Dr.-Ing. M. Thedens
Oberregierungsrat

