



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: **IECEX EPS 18.0107X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 1 Issue 0 (2018-11-09)
Date of Issue: 2020-11-24
Applicant: **Schischek GmbH**
Mühlsteig 45, Gewerbegebiet Süd 5
90579 Langenzenn
Germany
Equipment: **Actuator type RedMax-*****
Optional accessory:
Type of Protection: **Flameproof enclosures "d", protection by enclosure "t", intrinsic safety "i"**
Marking: Ex db [ic Gc] IIC T6, T5, T4 Gc
Ex tc [ic Dc] IIIC T80°C, T95°C, T130°C Dc

Approved for issue on behalf of the IECEX
Certification Body:

Position:

Signature:
(for printed version)

Date:

Holger Schaffer

Certification Manager

2020-11-24



1. This certificate and schedule may only be reproduced in full.
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Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





IECEX Certificate of Conformity

Certificate No.: **IECEX EPS 18.0107X**

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Date of issue: 2020-11-24

Issue No: 1

Manufacturer: **Schischek GmbH**
Mühlsteig 45, Gewerbegebiet Süd 5
90579 Langenzenn
Germany

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/EPS/ExTR18.0112/01](#)

Quality Assessment Report:

[DE/BVS/QAR07.0009/13](#)



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Certificate No.: **IECEX EPS 18.0107X**

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Date of issue: 2020-11-24

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The actuator type RedMax consists of a flameproof enclosure containing a brushless DC motor with actuator shaft, control electronics and an optional potentiometer with shaft. The two shafts represent flameproof joints. All electronics is encapsulated in casting compound in order to reduce surface temperatures and separation distances and to exclude explosive atmospheres. The flameproof enclosure consists of a top and a bottom part that are sealed with cemented joints. It is mounted in a protective housing with additional mechanical components such as a gearing mechanism and a spring (option). The mechanical parts do not form part of this type approval however the resistance to impact test was performed on this protective enclosure. Five components, a two-color status LED, a push-button and a rotary switch (both for actuator parametrisation), and RS232 connector (for factory-programming) and an EEXi contact (for connection of a temperature trigger = option "BF") protrude from the encapsulation and flameproof enclosure into the explosive atmosphere. They are intrinsically safe components. Electrical connection is done by means of a permanently-connected cable with flying leads.

Electrical Data:
See appendix.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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 2 and 3 of IEC 60079-1 is not accepted.

The actuator shall be only used together with certified enclosure provided by Schischek.



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Date of issue: 2020-11-24

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Addition of appendix.

Annex:

[Schi_18TH0505_Attachment to IECEx certificate IECEx EPS 18.0107_1.pdf](#)



Applicant: Schischek GmbH
Mühlsteig 45, Gewerbegebiet Süd 5
90579 Langenzenn
Germany

Electrical equipment: Actuator type RedMax-***

Description:

The actuator type RedMax-*** 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 together 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:

Power supply: terminals 1-5 (X1, XA)		
Nominal voltage U_o/U	up to	24 – 240 V
Rated voltage	max.	240 V
Rated current	max.	2.5 A
Option –S terminals 1-6 (XB)		
Nominal voltage U_o/U	up to	24- 230 V
Rated voltage	max.	240 V
Rated current	max.	5.0 A
Option –Y terminals 1-6 (X2, XB)		
Nominal voltage U_o/U	up to	24 V
Rated voltage	max.	24 V
Rated current	max.	30 mA

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 up to +40 °C
	T5	-40 °C up to +50 °C
	T4	-40 °C up to +60 °C



Intrinsic safe circuits

Option –BF, terminals 1,2 (EEXi output, JP101)

U _o	5.88 V
I _o	24.75 mA
P _o	0.037 W

Linear circuit

Li negligible

Ci negligible

Maximum of external lumped capacitance and inductance:

	Ex ic		
	IIC	IIB	IIA
Lo	50 mH	50 mH	50 mH
Co	43 μF	1000 μF	1000 μF

RS232, terminals 1-6 (EEXi output, SV101)

U _o	5.88 V
I _o	119 mA
P _o	0.7 W

Linear circuit

Li negligible

Ci negligible

Maximum of external lumped capacitance and inductance:

	Ex ic		
	IIC	IIB	IIA
Lo	2 mH	2 mH	2 mH
Co	43 μF	1000 μF	1000 μF



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INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX EPS 20.0027X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-03-24

Applicant: **Schischek GmbH**
Mühlsteig 45
90579 Langenzenn
Germany

Equipment: **Actuator gearbox**

Optional accessory: ExMax, RedMax

Type of Protection: **"h"**

Marking:	ExMax	RedMax
	Ex h IIC T6/T5/T4 Gb	Ex h IIC T6/T5/T4 Gc
	Ex h IIIC T80°C/T95°C/T130°C Db	Ex h IIIC T80°C/T95°C/T130°C Dc

Approved for issue on behalf of the IECEx
Certification Body:

Holger Schaffer

Position:

Head of Certification

Signature:
(for printed version)

Date:

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IECEx Certificate of Conformity

Certificate No.: **IECEx EPS 20.0027X**

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Date of issue: 2020-03-24

Issue No: 0

Manufacturer: **Schischek GmbH**
Mühlsteig 45
90579 Langenzenn
Germany

Additional
manufacturing
locations:

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STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

ISO 80079-36:2016 Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
Edition:1.0

ISO 80079-37:2016 Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"
Edition:1.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/EPS/ExTR20.0024/00](#)

Quality Assessment Report:

[DE/BVS/QAR07.0009/12](#)



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Certificate No.: **IECEX EPS 20.0027X**

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Date of issue: 2020-03-24

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The actuator gearboxes ExMax and RedMax are mounted on a separately certified actuator with electrical motor. The assembly group of gearbox and actuator is used for adjustment of air and fire dampers, valves such as ball valves, mixer and throttle valves as well as control valves.

The gearbox comes in different sizes MaxS, MaxS (F1), MaxM, MaxM (F3).

The gearbox shall only be assembled together with either of the two already certified actuators ExMax-*** (IECEX EPS 17.0065X) and RedMax-*** (IECEX EPS 18.0107X).

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The gearbox shall only be used together with an already certified actuator and enclosure provided by Schischek, ensuring a proper earth connection of all metal parts.
- Only lubricants with an ignition temperature (see IEC 60079-20-1) at least 50 K above the maximum surface temperature shall be used.
- Ambient temperature range: $-40^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}/+50^{\circ}\text{C}/+60^{\circ}\text{C}$ (results in different temperature classes)