



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEX EPS 14.0022X Issue No: 2 Certificate history:  
Status: Current Page 1 of 4 Issue No. 2 (2017-01-16)  
Date of Issue: 2017-01-16 Issue No. 1 (2015-07-24)  
Applicant: Schischek GmbH Issue No. 0 (2014-08-20)  
Mühlsteig 45  
90579 Langenzenn  
Germany  
Equipment: Explosion protected electrical sensor  
Optional accessory: ExCos-...  
Type of Protection: Increased safety "e", intrinsic safety "i", encapsulation "m", protection by housing "t"  
Marking: Ex e ma [ia Ga] IIC T6...T4 Gb  
Ex tb [ia Da] IIIC T80°C...T130°C Db IP66

Approved for issue on behalf of the IECEx  
Certification Body:

Dieter Zitzmann

Position:

Manager Certification

Signature:  
(for printed version)

Date:

2017-01-16



1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





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Manufacturer: Schischek GmbH  
Mühlsteig 45  
90579 Langenzenn  
Germany

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate does not indicate compliance with electrical 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/ExTR14.0050/02](#)

#### Quality Assessment Report:

[DE/BVS/QAR07.0009/09](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The explosion protected electrical sensor, type ExCos-... is used for the measurement of pressures, humidity and/or temperatures and for the conversion of measurands into standard signals.

The associated sensors of type ExPro may be applied in hazardous areas of category 20 or 2D. Different sensor variants are available corresponding to the usage site.

The maximum permissible ambient temperature is +50 °C.

CONDITIONS OF CERTIFICATION: YES as shown below:

- Ambient temperature range:  $-20^{\circ}\text{C} < T < +50^{\circ}\text{C}$
- Do not open when hazardous atmosphere is present.
- Do not open when energized.
- The ExPro-C is only allowed to be used with the ExCos-D.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

Update of standards and constructional change of enclosure cover.

**Annex:**

[Schi\\_Ex\\_Cos\\_Anhang zu IECEx CoC\\_14TH0060\\_2.pdf](#)

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Annexe to: IECEx EPS 14.0022X issue No.:2  
 Applicant: Schischek GmbH  
 Apparatus: Explosion protected electrical sensor type Ex-Cos-...



Description of equipment:

The explosion protected electrical sensor, type ExCos-... is used for the measurement of pressures, humidity and/or temperatures and for the conversion of measurands into standard signals.

The associated sensors of type ExPro may be applied in hazardous areas of category 2G or 2D. Different sensor variants are available corresponding to the usage site.

The maximum permissible ambient temperature is 50 °C.

Electrical data:

Supply (terminals 1, 2)	U = 24 V AC/DC ±20%, 50...60 Hz Um = 30 V
Analog outputs (terminals 3, 4, 5)	I = 0(4)...20 mA U = 0(2)...10 V Um = 30 V
Digital sensor circuits (ExCos-D-.. / ExCos-P-..)	Type of protection Intrinsic Safety Ex ia IIC
Maximum values:	U <sub>o</sub> = 7.9 V I <sub>o</sub> = 48 mA P <sub>o</sub> = 95 mW C <sub>i</sub> negligibly low L <sub>i</sub> negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
L <sub>o</sub>	2 mH	5 mH	10 mH
C <sub>o</sub>	1.3 µF	5.8 µF	7.1 µF

Passive sensor circuits (ExCos-A-..)	Type of protection Intrinsic Safety Ex ia IIC
Maximum values:	U <sub>o</sub> = 7.9 V I <sub>o</sub> = 6.4 mA P <sub>o</sub> = 12.7 mW C <sub>i</sub> negligibly low L <sub>i</sub> negligibly low





For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
$L_o$	2 mH	5 mH	10 mH
$C_o$	1.4 $\mu$ F	6.3 $\mu$ F	7.9 $\mu$ F

Analog outputs (optional).....Type of protection Intrinsic Safety Ex ia IIC

Maximum values:

$$U_o = 15.8 \text{ V}$$

$$I_o = 85 \text{ mA}$$

$$P_o = 336 \text{ mW}$$

$C_i$  negligibly low

$L_i$  negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
$L_o$	2 mH	5 mH	10 mH
$C_o$	0.33 $\mu$ F	1.6 $\mu$ F	1.8 $\mu$ F

IRDA interface (optional).....Type of protection Intrinsic Safety Ex ia IIC

Maximum values:

$$U_o = 7.9 \text{ V}$$

$$I_o = 48 \text{ mA}$$

$$P_o = 95 \text{ mW}$$

$C_i$  negligibly low

$L_i$  negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
$L_o$	2 mH	5 mH	10 mH
$C_o$	1.3 $\mu$ F	5.8 $\mu$ F	7.1 $\mu$ F

All circuits are safely electrically isolated from each other up to a peak value of the rated voltage of 30 V.



Special conditions for safe use:

- Ambient temperature range:  $-20^{\circ}\text{C} < T < +50^{\circ}\text{C}$
- Do not open when hazardous atmosphere is present.
- Do not open when energized.
- The ExPro-C is only allowed to be used with the ExCos-D.
- Temperature class (group II) and max. surface temperature (group III) depending on used enclosure type (material):

Modell	Max. ambient temperature:	Max. ambient temperature :
	+40°C	+50°C
ExCos (aluminium enclosure)	T6 (T80°C)	T6 (T80°C)
ExCos (stainless steel enclosure)	T5 (T95°C)	T4 (T130°C)

- end of annex -

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