# (1) EU - Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

**EPS 14 ATEX 1 656 X** **Revision 2**

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

(5) Manufacturer: Schischek GmbH

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

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

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, 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 of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 14TH0061.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

**EN 60079-0:2012/A11:2013** **EN 60079-11:2012**

**EN 60079-15:2010** **EN 60079-31:2014**

(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 annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

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

II 3 (1) G Ex nC [ia Ga] IIC T6...T4 Gc

II 3 (1) D Ex tc [ia Da] IIIC T80°C...T130°C Dc IP66

Certification department of explosion protection

Nuremberg, 2017-01-16

D. Zitzmann





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(13) # Annex

(14) **EU - Type Examination Certificate EPS 14 ATEX 1 656 X** **Revision 2**

(15) Description of equipment:

The explosion protected electrical sensor, type RedCos-... 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.

Two intrinsically safe sensor circuits which are available as an option may be installed into areas of categories 1 G or 1D. The sensors to be used shall comply with the requirements for these categories.

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

The maximum permissible ambient temperature is +50 °C.

Electrical data:

| | |
|---|---|
| Supply..... | U = 24 V AC/DC ±20%, 50...60 Hz |
| (terminals 1, 2) | $U_m$ = 30 V |
| Analog outputs..... | I = 0(4)... 20 mA |
| (terminals 3, 4, 5) | U = 0(2)... 10 V |
| | $U_m$ = 30 V |
| Digital sensor circuits..... | type of protection Intrinsic Safety Ex ia IIC |
| (ExCos-D-.. / ExCos-P-..) | |
| Maximum values: | $U_o$ = 7.9 V |
| | $I_o$ = 48 mA |
| | $P_o$ = 95 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 µF | 5.8 µF | 7.1 µF |





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Passive sensor circuits .....type of protection Intrinsic Safety Ex ia IIC

(ExCos-A-..)

Maximum values:

$U_o$ = 7.9 V

$I_o$ = 6.4 mA

$P_o$ = 12.7 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 |
| $C_o$ | 1.4 µF | 6.3 µF | 7.9 µF |

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

Maximum values:

$U_o$ = 15.8 V

$I_o$ = 85 mA

$P_o$ = 336 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 µF | 1.6 µF | 1.8 µF |

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

Maximum values:

$U_o$ = 7.9 V





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$I_o$ = 48 mA

$P_o$ = 95 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 µF | 5.8 µF | 7.1 µF |

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





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(16) Reference number: 14TH0061

(17) Special conditions for safe use:

- Ambient temperature range: -20°C < T < +50°C

- Do not open when hazardous atmosphere is present.

- Do not open when energized.

- Temperature class (group II) and max. surface temperature (group III) depending on used enclosure type (material):

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

(18) Essential health and safety requirements:

Met by compliance with standards.

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