



Translation

# EC-Type Examination Certificate

- Directive 94/9/EC -

Equipment and protective systems intended for use  
in potentially explosive atmospheres

## BVS 10 ATEX E 102 X

- (4) **Equipment:** Sensor type ColorPlus Ex
- (5) **Manufacturer:** Dr. Sigrist AG
- (6) **Address:** 6373 Ennetbürgen, Switzerland
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 10.2188 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079-0:2009 General requirements  
EN 60079-1:2007 Flameproof enclosure "d"  
EN 60079-26:2007 Equipment protection level "Ga"
- (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 appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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 1/2G Ex d IIC T\* Ga/Gb**

\*) see 15.3.2

**DEKRA EXAM GmbH**

Bochum, dated 01.12.2010

Signed: Dr. Eickhoff

Signed: Dr. Wittler

Certification body

Special services unit

(13)

Appendix to

(14)

## EC-Type Examination Certificate

### BVS 10 ATEX E 102 X

(15) 15.1 Subject and type

Sensor type ColorPlus Ex

15.2 Description

The Sensor ColorPlus Ex is used for absorption measurements in liquids. The unit consists of a sending and receiving module. These are connected by means of a signal cable. Both modules have their electronic section, which accommodates the printed boards, delimited from the environment (Zone 1) and the medium (Zone 0) by the Flameproof enclosure. The light signal produced by a light source in the sending module transmitted into the medium by means of a sapphire bushing that is sealed in the metal. The diffusion-tight sapphire bushing safeguards that the required segregation is maintained between the zones. Having passed the medium, the signal enters another sealed bushing before it reaches the sensor unit in the receiving module. The measuring signal is conditioned in the receiving module electronics system and is transmitted by a cable to a control unit, which must be installed outside the potentially explosive area. The control unit is not covered by the EC type-examination certificate.

15.3 Parameters

15.3.1 electrical parameters

Nominal voltage	24 V DC
Nominal current	14 W
Max. medium pressure	20 bar

15.3.2 thermal parameters

Temperature class is dependent on the medium temperature:

Temperaturklasse	Mediumstemperatur
T6	-20 °C ... +80 °C
T5	-20 °C ... +95 °C
T4	-20 °C ... +130 °C
T3	- 0 °C ... +195 °C

(16) Test and assessment report

BVS PP 10.2188 EG as of 01.12.2010

(17) Special conditions for safe use

The lengths of the flameproof joints are in parts longer and the gaps of the flameproof joints are in parts smaller than the values of table 1 of IEC 60079-1:2007. For information of the dimensions of the flameproof joints contact the manufacturer.

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We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 01.12.2010  
BVS-Yil/Schae A20100280

**DEKRA EXAM GmbH**



Certification body



Special services unit

Translation

# EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

**Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU**

EU-Type Examination Certificate Number: **BVS 10 ATEX E 102 X**

Product: **Sensor type ColorPlus 2 Ex**

Manufacturer: **Sigrist-Photometer AG**

Address: **Hofurlistrasse 1, 6373 Ennetbürgen, Switzerland**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 10 ATEX E 102 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 10.2188 EU.

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

<b>EN 60079-0:2012 + A11:2013</b>	<b>General requirements</b>
<b>EN 60079-1:2014</b>	<b>Flameproof enclosure "d"</b>
<b>EN 60079-26:2015</b>	<b>Equipment with equipment protection level (EPL) Ga</b>

Except in respect of those requirements listed under item 18 of the appendix.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

 **II 1/2G Ex db IIC T\* Ga/Gb**

\*) see 15.3.2

DEKRA EXAM GmbH  
Bochum, 2018-02-01

Signed: Dr Franz Eickhoff

Certifier

Signed: Dr Michael Wittler

Approver

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 10 ATEX E 102 X  
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Sensor type ColorPlus 2 Ex

15.2 **Description**

The Sensor ColorPlus 2 Ex is used for absorption measurements in liquids. The unit consists of a sending and receiving module. These are connected by means of a signal cable. Both modules have their electronic section, which accommodates the printed boards, delimited from the environment (Zone 1) and the medium (Zone 0) by the flameproof enclosure. The light signal produced by a light source in the sending module transmitted into the medium by means of a sapphire bushing that is sealed in the metal. The diffusion-tight sapphire bushing safeguards that the required segregation is maintained between the zones. Having passed the medium, the signal enters another sealed bushing before it reaches the sensor unit in the receiving module. The measuring signal is conditioned in the receiving module electronics system and is transmitted by a cable to a control unit, which must be installed outside the potentially explosive area. The control unit is not covered by the EU type-examination certificate.

**Reason of the supplement:**

- Change to Directive 2014/34/EU
- Updating of the standards EN 60079-0:2012+A11:2013, EN 60079-1:2014 and EN 60079-26:2015
- Change of the type name to ColorPlus 2 Ex
- Modification of the mounted electronic

With this supplement the certificate is changed to Directive 2014/34/EU.  
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

15.3 **Parameters**

15.3.1 **Electrical parameters**

Nominal voltage	24 V DC
Nominal current	9 W
Max. media pressure	20 bar

15.3.2 **Thermal parameters**

Temperature class is dependent on the medium temperature:

Temperature class	Media temperature
T6	-20 °C ... +80 °C
T5	-20 °C ... +95 °C
T4	-20 °C ... +130 °C
T3	-20 °C ... +195 °C

16 **Report Number**

BVS PP 10.2188 EU, as of 2018-02-01

17 **Special Conditions for Use**

In case of the parts forming the joint shall be replaced or repaired, the dimensions information of the flameproof joints must be obtained from the manufacturer, because the gap length of the flameproof joint of this apparatus are in parts longer and the gap width are in parts smaller than required by Table 3 of EN 60079-1:2014.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

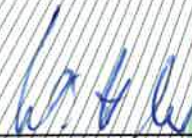
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We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH  
Bochum, dated 2018-02-01  
BVS-Pz/Nu A 20170994



Certifier



Approver

Translation

# EU-Type Examination Certificate Supplement 2

Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 10 ATEX E 102 X**

Product: **Sensor type ColorPlus Ex**

Manufacturer: **Sigrist-Photometer AG**

Address: **Hofurlistrasse 1, 6373 Ennetbürgen, Switzerland**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 10 ATEX E 102 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 10.2188 EU.

The Essential Health and Safety Requirements are assured in consideration of:

**EN IEC 60079-0:2018**  
**EN 60079-1:2014**  
**EN 60079-26:2015**

**General requirements**  
**Flameproof enclosure "d"**  
**Equipment with Equipment Protection Level (EPL) Ga**

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

 **II 1/2G Ex db IIC T\* Ga/Gb**

\*) see 15.3.2

DEKRA Testing and Certification GmbH  
Bochum, 2020-11-11

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**  
 14 **EU-Type Examination Certificate**

**BVS 10 ATEX E 102 X  
 Supplement 2**

15 **Product description**

15.1 **Subject and type**

Sensor type ColorPlus Ex

15.2 **Description**

The Sensor ColorPlus Ex is used for absorption measurements in liquids. The unit consists of a sending and receiving module. These are connected by means of a signal cable. Both modules have their electronic section, which accommodates the printed boards, delimited from the environment (Zone 1) and the medium (Zone 0) by the flameproof enclosure. The light signal produced by a light source in the sending module transmitted into the medium by means of a sapphire bushing that is sealed in the metal. The diffusion-tight sapphire bushing safeguards that the required segregation is maintained between the zones. Having passed the medium, the signal enters another sealed bushing before it reaches the sensor unit in the receiving module. The measuring signal is conditioned in the receiving module electronics system and is transmitted by a cable to a control unit, which must be installed outside the potentially explosive area. The control unit is not covered by the EU type-examination certificate.

**Reason of the supplement:**

- Updating of the standards EN IEC 60079-0:2018
- Change of the type name to ColorPlus Ex
- Modification of the mounted electronic

15.3 **Parameters**

15.3.1 **Electrical parameters**

Nominal voltage	24 V DC
Nominal current	14 W
Max. media pressure	20 bar

15.3.2 **Thermal parameters**

Temperature class depends on the sample temperature

Temperature class	Sample temperature
T6	-20 °C ... +80 °C
T5	-20 °C ... +95 °C
T4	-20 °C ... +130 °C
T3	-20 °C ... +195 °C

16 **Report Number**

BVS PP 10.2188 EU, as of 2020-11-11



17 **Special Conditions for Use**

In case of the parts forming the joint shall be replaced or repaired, the dimensions information of the flameproof joints must be obtained from the manufacturer, because the gap length of the flameproof joint of this apparatus are in parts longer and the gap width are in parts smaller than required by Table 3 of EN 60079-1:2014.

The requirements of EN 60079-14 have to be fulfilled for the installation of the sensors.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

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We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2020-11-11  
BVS-Ret/Mu A20200943

  
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Managing Director