

Translation

EU-Type Examination Certificate Supplement 10

Change to Directive 2014/34/EU

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU
Device with a measuring function for explosion protection
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 03 ATEX E 406 X**

Product: **Gas measuring transmitter type P3S, P3U and P3FB**
(P3U/P3FB alternative with P3U Remote Adapter and P3U Remote Sensor)

Manufacturer: **Dräger Safety AG & Co. KGaA**

Address: **Revalstr. 1, 23560 Lübeck, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 03 ATEX E 406 X to apply to products designed and constructed in accordance with the specification set out in the Annex of the said certificate but having any variations specified in the Annex attached to this certificate and the documents therein referred to.

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 test reports BVS PP 03.2298 EU, PFG-no. 41300504P NIV and PFG-no. 41300504P NV.

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

EN 60079-0:2012+A11:2013
EN 60079-11:2012
EN 50104:2010
EN 50271:2018

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.

12 The marking of the product shall include the following:

 II 1G Ex ia IIC T4 Ga (-40 °C ≤ T_a ≤ + 65 °C)
II 1G Ex ia IIC T6 Ga (-40 °C ≤ T_a ≤ + 40 °C)
I M1 Ex ia I Ma (-40 °C ≤ T_a ≤ + 65 °C)
II 3G Ex ic IIC T4 Gc (-40 °C ≤ T_a ≤ + 65 °C)
II 3G Ex ic IIC T6 Gc (-40 °C ≤ T_a ≤ + 40 °C)

DEKRA Testing and Certification GmbH
Bochum, 2019-11-18

Signed: Kilisch
Managing Director

13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 03 ATEX E 406 X
Supplement 10

15 **Product description**

15.1 **Subject and type**

Gas measuring transmitter type P3S, type P3U and type P3FB
(P3U/P3FB alternative with P3U Remote Adapter and P3U Remote Sensor)

15.2 **Description**

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.)

Reason for the supplement:

Change to Directive 2014/34/EU

The definition of the internal used electrochemical sensors for the detection of gases was modified.
The gas measuring transmitter was tested in accordance to the standards listed on page 1.

Description of Product

The gas measuring transmitters types P3S, P3U and P3FB are intended for gas detection under atmospheric conditions in fixed installations. The device is housed in a plastic enclosure (surface resistance < 10⁹ Ω). Supply of the electronics and signalling is accomplished by a 2-, 3- or 4-wire connection. For all cases, supply and signalling occur from one common intrinsically safe circuit. All device types may be equipped with a "Duct Extension". This enables direct mounting of the device to a duct, due to the protruding sensor.

P3S:

The device may be equipped with an integral LC-Display for displaying the measurement value. The front of the device provides a circular bayonet cover, which may be opened for maintenance work (calibration). Behind the opening, control elements and 2 contacts are located. The contacts allow connection of an I.S. certified voltage meter, which enables reading of the measurement value in case no internal display is provided.

P3U / P3FB:

The device may be equipped with an integral LC-Display for displaying the measurement value and a membrane keypad. For measurements at remote locations the P3U Remote Adapter may be plugged in, instead of the electrochemical sensor. The cable of the P3U Remote Adapter, which may be up to 100 m in length, connects to the P3U Remote Sensor which now accepts the electrochemical sensor. The gas measuring transmitter type P3FB is identical to the type P3U, except that the internal electronic provides a field bus connection in accordance with the FISCO concept (Terminal X7).

15.3 Parameters

15.3.1 Gas measuring transmitter type P3S

15.3.1.1 Supply-/signal circuit, Connection via terminals X1/1 and X1/2

Maximum input voltage	U_i	DC	30	V
Maximum input current	I_i		300	mA
Maximum input power	P_i		700	mW
Maximum internal capacitance	C_i		negligible	
Maximum internal inductance	L_i		50	μ H

15.3.1.2 Measuring circuit, for calibration only, Connection via 2 contact areas

Maximum output voltage	U_o	DC	7,6	V
Maximum output current	I_o		1	mA
Maximum external capacitance	C_o		2,5	μ F
Maximum external inductance	L_o		10	mH
Maximum input voltage	U_i	DC	10,4	V
Maximum internal capacitance	C_i		negligible	
Maximum internal inductance	L_i		negligible	

15.3.2 Gas measuring transmitter type P3U

Supply-/signal circuit, Connection via terminals X7/1 - X7/4 or X8/1 - X8/4 (looped through)

Maximum input voltage	U_i	DC	30	V
Maximum input current	I_i		300	mA
Maximum input power	P_i		700	mW
Maximum internal capacitance	C_i		5	nF
Maximum internal inductance	L_i		50	μ H

15.3.3 Gas measuring transmitter type P3FB

Field bus connection in accordance with the FISCO concept, connection only via terminal X7

Maximum input voltage	U_i	DC	24	V
Maximum input current	I_i		380	mA
Maximum input power	P_i		5,32	W
Maximum internal capacitance	C_i		5	nF
Maximum internal inductance	L_i		10	μ H

15.3.4 Ambient temperature range for all types

Ex ia IIC T4 Ga	$(-40^\circ\text{C} < T_a < +65^\circ\text{C})$
Ex ia IIC T6 Ga	$(-40^\circ\text{C} < T_a < +40^\circ\text{C})$
Ex ia I Ma	$(-40^\circ\text{C} < T_a < +65^\circ\text{C})$
Ex ic IIC T4 Gc	$(-40^\circ\text{C} < T_a < +65^\circ\text{C})$
Ex ic IIC T6 Gc	$(-40^\circ\text{C} < T_a < +40^\circ\text{C})$

15.4 Measuring function for explosion protection

This EU-type examination certificate covers:

- Gas measuring transmitter type P3U with software versions V8.6 (main) and V16 (SIOS).
- the measurement of oxygen with sensors types DraegerSensor O₂ (part-no. 6809720) or DraegerSensor O₂ LS (part no. 6809630) in the measuring range 0 %(v/v) to 25 %(v/v).
- use of the following outputs for safety relevant purposes:
 - 4-20 mA output for measured values
 - relays
- use of the following accessories:
 - Relay module (part no. 8317360)
 - Remote sensor with a maximum cable length of 30 m (part no. 8317275)
 - Calibration adapter V (part no. 6810536)
 - Sensor test dongle (part no. 6817619)
 - Diagnostic dongle (part no. 6817860)
 - Data dongle (part no. 6817618)

The EU-type examination includes the following deviations from the operating conditions required by EN 50104:

- Extended range for the unpowered storage test: -20 °C to +60 °C (with sensor O₂ LS only)
- Extended range of temperature at operation: -20 °C to +55 °C (with sensor O₂)
-40 °C to +65 °C (with sensor O₂ LS)
- Extended range of pressure at operation: 70 kPa to 130 kPa
- Extended range of humidity of the measured gas: 10 % RH to 95 % RH (with sensor O₂)
5 % RH to 95 % RH (with sensor O₂ LS)

16 Test report

BVS PP 03.2298 EU of 15/09/2017
PFG-no. 41300504P NIV of 30/08/2013
PFG-no. 41300504P NV of 15/11/2019

17 Special Conditions for Use

- In applications, which require devices with category 1G (Zone 0) resp. EPL Ga, intensive electrostatic charging processes have to be prevented.
- Do not use the relay module in explosive atmospheres.
- The function of the dongles listed in 15.4 is not subject of this EU-type examination certificate.
- Configure the alarms as Non Acknowledging.
- Configure Alarm A1 and Alarm A2 as latching. If both alarm thresholds have the same direction (activation when the oxygen concentration is increasing or decreasing), the first alarm may be configured as Non Latching.

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 test reports.

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, dated 2019-11-18



Managing Director