

## Translation

# EU-Type Examination Certificate

Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

EU-Type Examination Certificate Number: **BVS 20 ATEX E 048 X** Issue: **01**

Equipment: **Gas analyser type AO2040-Fidas24**

Manufacturer: **ABB AG**

Address: **Stierstädter Straße 5, 60488 Frankfurt, Germany**

This product and any acceptable variations thereto are 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 20.2070 EU. This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate BVS 20 ATEX E 048 X.

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

**EN IEC 60079-0:2018**

**EN 60079-2:2014/AC:2015**

**EN 60079-11:2012**

**General requirements**

**Pressurized enclosure "p"**

**Intrinsic Safety "i"**

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. 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 2G Ex pxb ib IIC T3 Gb**

**II 2D Ex pxb ib [ib] IIIC T195 °C Db**

DEKRA Testing and Certification GmbH  
Bochum, 2023-05-31

Signed: Dr. Rolf Krökel

Managing Director



## 13 Appendix

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## 15 Product description

### 15.1 Subject and type

Gas analyser type AO2040-Fidas24 Ex 24041-xxxx<sup>1)</sup>

1) 1 – EPL Gb

7 – EPL Db

### 15.2 Description

The gas analyser type AO2040-Fidas24 Ex is used for continuous measurement of hydrocarbon concentration.

The gas analyser type AO2040-Fidas24 Ex consist of a base enclosure with mounted terminal box in type of protection pressurized enclosure "p". The enclosure front door is equipped with operating- and display unit (LP-display, LED display and keyboard foil) in type of protection intrinsically safety "i".

If the gas analyser is used in areas with EPL Db, a separately key switch is used for the technical release by the user according to the cleaning requirements of the equipment.

Additionally, a monitoring unit for controlling of the analyser system, different electrical equipment (terminals and power supply) and an analyser module are installed inside of the enclosure.

Measuring gas will be burned in measuring block which is supplied by burn air and burn gas (H<sub>2</sub>) for the determination of the hydrocarbon concentration.

The measuring block is equipped with two reversible temperature limiters. If one limiter switches off, the heating circle will be switched off. For a reset of those temperature limiters, the system must be powered off manually.

For the monitoring and control of the pressurized enclosure a separately certified purge unit F870S (BVS 10 ATEX E 112) is used.

#### Details of change:

- Change of the manufacturer name to ABB AG
- Alternative burn gas pipe material
- Inrush current limiter and temperature fuse added
- Alternative gasket for magnetic block and between distribution block and isolating plate
- Clarification of test report

### 15.3 Parameters

#### Electrical parameters

Rated voltage	AC 115 V / 230 V ± 10 % (50 / 60 Hz ± 3 Hz)
Rated power	242 VA
Ambient temperature range	+5 °C ... +45 °C



Intrinsically safe parameters (output circuits (key switch) level of protection Ex ib (EPL Db Pressurization system type F870S)):

Voltage	$U_0$	DC	5.4	V
Current	$I_0$		6.2	mA
Power	$P_0$		8.3	mW
Max. external inductance	$L_0$		0.5	mH
Max. external capacitance	$C_0$		100	nF

Pneumatic parameters

Protective gas supply	4000 +/- 500 hPa (air)
Purge time	$\geq 250$ s
Flow rate during pre-purge	1 l/s
Flow rate during normal operation	1080 l/h
Min./max. Overpressure	0.8 ... 15 hPa
Containment System	$p_e = 1200 \pm 100$ hPa (max. pressure $H_2$ ) 10 l/h (Flow rate $H_2$ )

16 **Report Number**

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17 **Specific Conditions of Use**

- 17.1 The analysis of explosive gas mixture is not permitted.
- 17.2 The analysis of gas mixture is only allowed for a pressure limit up to 1100 hPa. The analyzer is capable of discharging the exhaust gas against an outlet pressure of 1250hPa (for operating conditions see operation manual).
- 17.3 For the necessary shutdown of the gas analyser by default of the pressurized enclosure, a separately certified cut-off relay must be used (only for zone 1 / 21).
- 17.4 The measurement function for the explosion protection is not part of this examination.
- 17.5 The intrinsically safe circuit is connected to earth. Along the intrinsically safe circuit, potential equalization must exist.



18 **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

19 **Remarks and additional information**

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, 2023-05-31  
BVS-Pz/MGR A 20211009 / 3424516



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Managing Director