



CERTIFICATE



[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] Equipment, protective systems and components intended for use in potentially explosive atmospheres - Directive 94/9/EC

[3] EC – type examination certificate:

KDB 05ATEX190X

[4] Equipment or protective system:

Universal optical smoke detector type DUR-40Ex

[5] Manufacturer:

**Zakład Urządzeń Dozymetrycznych
„POLON-ALFA” Spółka z o.o.**

[6] Address:

ul. Glinki 155, 85-861 Bydgoszcz

[7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Central Mining Institute, Notified Body number 1453 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment and protective system 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 confidential report number KDB No. 05.177 [T-5485]

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

EN 50014:1997+A1:1999+A2:1999; EN 50020:2002

[10] If the sign „X“ is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-type examination certificate relates only to the design and construction of the specified component in accordance with Directive 94/9/EC.

Further requirements of the Directive may apply to the manufacturing process and supply of this component. These are not covered by this certificate.

[12] The marking of the component shall include the following:

 **II 2G EEx ib IIC T6**

Date of issuance: 17.06.2005

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Date of English version: 27.02.2014

Specjalista ds. Certyfikacji
Urządzeń Przeciwwybuchowych

dr inż. Michał Górny



KIEROWNIK
Zespołu Certyfikacji Wyrobów
KD "BARBARA" Mikołów
dr hab. inż. Krzysztof Cybulski, prof. GIG

KDB ATEX



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Product Certification Team
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[13]

SCHEDULE

[14]

EC-Type Examination Certificate KDB 05ATEX190X

[15] **Description:**

The universal optical smoke detector DUR-40Ex type is intended to detect and signal fire hazard or fire in confined spaces in which smoke appears in the first phase of fire. The main part of the device is a detection system composed of transmitting diode and receiving diode.

The detection system is fixed to the printed circuit board. The printed circuit board includes electronic parts and processor supervising operation of the detector.

All parts are placed in the plastic enclosure. Connection with detection line is done with a series of G-40 slots.

Technical parameters:

| | |
|-----------------------------|---------------|
| Operating voltage | 12V ÷ 28V |
| Alarm current | 20mA |
| Operating temperature range | -25°C ÷ +55°C |

Parameters of intrinsically safe circuits:

Detection line (Terminals - and +):

| | |
|----------------|--------------------------|
| $U_i = 25V$ | C_i - negligibly small |
| $I_i = 99mA$ | L_i - negligibly small |
| $P_i = 0,613W$ | |

The line connecting the detector with the detection indicator (Terminals 1 and 2):

| |
|----------------|
| $U_o = 25V$ |
| $I_o = 99mA$ |
| $P_o = 0,613W$ |

| |
|--|
| $C_o = 110nF - C_k$ |
| C_k - cable capacity of detection line |
| $L_o = 2,5mH - L_k$ |
| L_k - cable inductance of detection line |





[13]

SCHEDULE

[14]

EC-Type Examination Certificate KDB 05ATEX190X

[16] **Test report:**

Report no. KDB Nr 05.177

[17] **Special condition for safe use:**

Ambient temperature range: -25°C to +55°C

[18] **Essential health and safety requirements:**

Met by compliance with standards listed in section 9. of this Certificate.

[19] **Descriptive documents:**

| | | |
|--|-------------------------|------------|
| Technical documentation E317/DUR-40Ex and drawings: | | |
| Uniwersalna optyczna czujka dymu DUR-40Ex | E317-00 00 ark.2/2 | 2005.03.07 |
| Koszyk | A/E281-00.01 | 2005.02.01 |
| Siatka | A/E281-00.02 | 2005.03.01 |
| Osłona czujki | A/E281-00.03 | 2005.02.01 |
| Ekran | B/E281-00.04 | 2003.01.20 |
| Ekran metalowy | B/E281-00.05 | 2000.11.15 |
| Szybka | B/E281-00.06 | 2003.02.14 |
| Blokada | D/E281-00.07 | 2003.02.12 |
| Nalepka plombująca | D/E281-00.09 | 2000.11.15 |
| Płytki DUR-40Ex kompl. | E317-02 00-1 | 2005.06.14 |
| Schemat ideowy DUR-40Ex | E317-02 00/A | 2005.05.30 |
| Płytki DUR-40Ex U.E. | E317-02 01-1 | 2005.03.07 |
| Płytki DUR-40Ex Z.M. | C/E317-02 02-1 | 2005.05.30 |
| Płytki DUR-40Ex | E317-02 03-1 ark.1-6 | 2005.03.07 |
| Szablon DUR-40Ex | E317-02 04-1 | 2005.03.07 |
| Labirynt DOR-4046 | C/E282-01.04 | 2002.02.28 |
| Styk | D/E281-01.05 | 2001.09.05 |
| Uchwyt diody | E306-01 05-1 | 2004.09.24 |
| Uchwyt diody | E306-01 06-1 | 2004.09.24 |
| Opakowanie zbiorcze | C/E281-02.00 | 2003.02.18 |
| Osłonka | B/E281-02.01 | 2000.11.15 |
| Opakowanie jednostkowe | C/E281-03.00 | 2003.02.18 |
| Norma Zakładowa ZN-04/POLON-ALFA W/E317 | | |
| Universal optical smoke detector DUR-40Ex Installation and Maintenance Manual IK-E317-001GB | | |





AC 038



KDB ATEx



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Product certification program
no: PCW-ISO/IEC-1b
CODE ICS 13.230



[1] **SUPPLEMENT No 1**
to EC-TYPE EXAMINATION CERTIFICATE
KDB 05ATEX190X

[2] Equipment, protective systems and components intended for use in potentially explosive atmospheres - Directive 94/9/EC

[3] Equipment and protective system:
Universal optical smoke detector type DUR-40Ex

[4] Manufacturer:
Zakład Urządzeń Dozymetrycznych
„POLON-ALFA” Spółka z o.o.

[5] Address:
ul. Glinki 155, 85-861 Bydgoszcz

[6] Changes were introduced to design or construction of component in accordance with the specification set out in the Schedule attached to this certificate and the documents therein referred to.

This document shall be held with the original Certificate.

The examination and test results are recorded in confidential report
KDB No. 05.177-1 [T-5485]


[7] Marking:
 **II 2G, EEx ib IIC T6**

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

EN 60079-0:2006; (PN-EN 60079-0:2009);

EN 60079-11:2007; (PN-EN 60079-11:2007);

[9] The marking will change to:
 **II 2G Ex ib IIC T6**

Specjalista ds. Certyfikacji
Urządzeń Przeciwwybuchowych

dr inż. Michał Górny



KIEROWNIK
Zespołu Certyfikacji WYROBÓW
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Date of issue: 18.02.2010

Date of English version: 27.02.2014

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[10]

SCHEDULE

[11]

Supplement no 1 to EC-Type Examination Certificate KDB 05ATEX190X

[12] **Description of the variation to the equipment or protective system:**

Any constructional changes have not been introduced in the device.
Construction documentation:

- includes safety analysis carried out in compliance with the requirements of EN 60079-0:2006, EN 60079-11:2007.
- design of the nameplate has been changed

Technical data:

As in the certificate KDB 05ATEX190X

[13] **Special conditions for safe use:**

As in the certificate KDB 05ATEX190X





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Product certification program
no: PCW-ISO/IEC-1b
CODE ICS 13.230



[1] **SUPPLEMENT No 2**
to EC-TYPE EXAMINATION CERTIFICATE
KDB 05ATEX190X

[2] Equipment, protective systems and components intended for use in potentially explosive atmospheres - Directive 94/9/EC

[3] Equipment and protective system:
Universal optical smoke detector type DUR-40Ex

[4] Manufacturer:
Polon-Alfa
Spółka z ograniczoną odpowiedzialnością Sp. k.

[5] Address:
ul. Glinki 155, 85-861 Bydgoszcz

[6] Changes were introduced to design or construction of component in accordance with the specification set out in the Schedule attached to this certificate and the documents therein referred to.

This document shall be held with the original Certificate.


The examination and test results are recorded in confidential report
KDB No. 05.177-2 [T-5485]

[7] Marking:
 **II 2G Ex ib IIC T6**

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

EN 60079-0:2009; (PN-EN 60079-0:2009);

EN 60079-11:2012; (PN-EN 60079-11:2012);

[9] The marking will change to:
 **II 2G Ex ib IIC T6 Gb**

Specjalista ds. Certyfikacji
Urządzeń Przeciwwybuchowych
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Date of issue: 14.02.2014
Date of English version: 27.02.2014

[10]

SCHEDULE

[11]

Supplement no 2 to EC-Type Examination Certificate KDB 05ATEX190X

[12] **Description of the variation to the equipment or protective system:**

The parameters of intrinsically safe circuits of the universal optical smoke detector type DUR-40Ex have been changed. Marking of the device and the name of the manufacturer have also been changed from:

Zakład Urządzeń Dozymetrycznych
„POLON-ALFA” Spółka z o.o.
ul. Glinki 155, 85-861 Bydgoszcz

to:

Polon-Alfa
Spółka z ograniczoną odpowiedzialnością Sp. k.
ul. Glinki 155, 85-861 Bydgoszcz

The assessment of safety of the device was carried out in compliance with the requirements of EN 60079-0:2009, EN 60079-11:2012.

The analysis states that the device meets the requirements of the standards listed in paragraph. 8 of this certificate.

Technical data:

Parameters of intrinsically safe circuits:

Detection line (Terminals - and +):

| | |
|------------------------|---------------------------------|
| $U_i = 28 \text{ V}$ | $C_i - \text{negligibly small}$ |
| $I_i = 99 \text{ mA}$ | $L_i - \text{negligibly small}$ |
| $P_i = 0,66 \text{ W}$ | |

The line connecting the detector with the detection indicator (Terminals - and WZ):

| |
|------------------------|
| $U_o = 28 \text{ V}$ |
| $I_o = 99 \text{ mA}$ |
| $P_o = 0,66 \text{ W}$ |

| |
|---|
| $C_o = 83 \text{ nF} - C_k$ |
| $C_k - \text{cable capacity of detection line}$ |
| $L_o = 2,5 \text{ mH} - L_k$ |
| $L_k - \text{cable inductance of detection line}$ |

[13] **Special conditions for safe use:**

Without changes