PE163/5 **EU DECLARATION OF CONFORMITY**

Issuer: Pyropress Engineering
Address: Bell Close, Plympton, Plymouth, Devon, England, PL7 4JH

The Manufacturer hereby declares that the flameproof products types:-

PYRP-2000ALWD, PYRP-2000ALWD Ex Safety	Pressure Transmitter
PYRD-2000ALWD, PYRD-2000ALWD Ex Safety	Differential Pressure Transmitter
PYRD-2000GALWD, PYRD-2000GALWD Ex Safety	Differential Pressure Transmitter
PYRD-2200ALWD	Differential Pressure Transmitter
PYRL-2000YALWD	Level Transmitter

As being in compliance with the requirements of EU Directive 2014/34/EU, for the use in potentially explosive atmospheres:

I M2 Ex db ia I Mb (316 housing version only)
II 1/2G Ex ia/db IIC T6/T5 Ga/Gb
II 1/2D Ex ia/tb IIIC T85°C/T100°C Da/Db

Or

I M2 Ex db ia I Mb (316 housing version only)
II 2G Ex ia/db IIC T6/T5 Ga/Gb
II 2D Ex ia/tb IIIC T85°C/T100°C Db

When used within the limitations & conditions of the product specifications, working instructions &
EC Type Examination Certificate Number: KDB 12ATEX0009X
IECEx Type Examination Certificate Number: IECEx KDB 17.0002X

Harmonised standards applied:
EN 60079-0:2012 + A11:2013, EN 60079-1:2014, EN 60079-11:2012, EN 60079-26:2015, EN 60079-31:2014

Other Directives applied:
EMC – 2014/30/EU,
Conformity assessment procedure: module A. Standard applied EN61326-1:2013Pressure Equipment 2014/68/EU(UE), modules, H1D + H1 (category IV).

Other standards applied:
IEC 60079-0:2011, IEC 60079-1:2014-06, IEC 60079-11:2011, IEC 60079-26:2006, IEC 60079-31:2013, EN61326-1:2009

Notified Body responsible for EC & IECEx Type Examination Certificates:
Glowny Instytut Gornictwa, 40-166 Katowice, Plac Grarkow 1, Poland.
Notified body No 1453.

Notified Body responsible for Quality Assurance:
Intertek Testing & Certification Ltd, Intertek House, Cleeve Road, Leatherhead, Surrey, England KT22 7SB. Notified body No 0359.

Notified Body responsible for PED assessment:
Bureau Veritas S.A., Newtime – 52 Boulevard du Parc – Lle de la Jatte, 92200, Neuilly Sur Seine, France. Notified body No 0062.

Equipment Specification: Product specifications are listed in the Technical file TCF 1061

This Declaration may only be used in its entirety & without change.
Modification of this equipment / product without prior approval from Pyropress Engineering will render this declaration null & void.

Stephen Burns, General Manager, On Behalf of Pyropress Engineering

Signed.....Dated...27th October 2017.

EU-TYPE EXAMINATION CERTIFICATE

[1]

[2] Equipment and protective systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU

[3] EU – type examination certificate (module B):

KDB 12ATEX0009X issue 1

[4] Equipment:

Smart Pressure Transmitter type PYRP-2000ALWD, PYRP-2000ALWD Ex Safety
Smart Differential Pressure Transmitter type PYRD-2000ALWD,PYRD-2200ALWD,
PYRD-2000ALWD Ex Safety, PYRD-2000GALWD, PYRD-2000GALWD Ex Safety
Smart Level Probe type PYRL-2000YALWD

[5] Manufacturer:

Pyropress Engineering

[6] Address:

Bell Close, Plympton, Plymouth, Devon PL7 4JH
United Kingdom

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate.

[8] Główny Instytut Górnictwa, Notified Body number 1453 in accordance with Directive 2014/34/EU of 26 February 2014, certifies that this equipment or 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 2014/34/EU. The examination and test results are recorded in confidential report **KDB Nr 12.010-2 [T-6847]**

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

EN 60079-0:2012 + A11:2013; EN 60079-1:2014;
EN 60079-11:2012; EN 60079-26:2015; EN 60079-31:2014

[10] In case if the sign „X" is placed after the certificate number, it indicates special conditions for safe use, specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the construction, evaluation and tests of product accordance with Directive 2014/34/EU. The certificate does not include other requirements of the Directive relating to manufacturing process and putting into the market of the equipment or protective device.

[12] Marking of the equipment shall include:

I M2 Ex db ia I Mb
II 1/2G Ex ia/db IIC T6/T5 Ga/Gb
II 1/2D Ex ia/tb IIIC T85°C/T100°C Da/Db

or

II 1/2G Ex ia/db IIC T6/T5 Ga/Gb
II 1/2D Ex ia/tb IIIC T85°C/T100°C Da/Db

or

I M2 Ex db ia I Mb
II 2G Ex ia/db IIC T6/T5 Gb
II 2D Ex ia/tb IIIC T85°C/T100°C Db

or

II 2G Ex ia/db IIC T6/T5 Gb
II 2D Ex ia/tb IIIC T85°C/T100°C Db

mgr inż. Piotr Madej
ATEX Certification Specialist

Główny Instytut Górnictwa w Katowicach
Jednostka Certyfikująca
Zespół Certyfikacji Wyrobów KD „Barbara" Mikołów

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

Date of issue: **31.01.2017 r.**

Główny Instytut Górnictwa, 40-166 Katowice, Plac Gwarków 1, POLAND, www.gig.eu
(Certification Body-Certification Team-Kopalnia Doświadczalna "Barbara" Mikołów)
Certification Body accredited by PCA, Nr AC038

[15] Description:

Pressure transmitters type PYRP-2000ALWD, PYRP-2000ALWD Ex Safety and differential pressure transmitters type PYRD-2000ALWD,PYRD-2200ALWD, PYRD-2000GALWD, PYRD-2000ALWD Ex Safety, PYRD-2000GALWD Ex Safety and level probes type PYRL-2000YALWD work by converting proportional to the measured pressure resistance changes of piezoresistive bridge, located in the single crystal of silicon diaphragm, into a standard current signal 4 ÷ 20 mA with HART communications signal.

The basic units of the transmitter and probe is a measuring head (Ex i) with a silicon diaphragm sensor. Measuring head can be equipped with different pressure connections. Inside the head there is the "pressure chamber" filled with manometer liquid. On the side of measured medium it is limited by a diaphragm welded tightly to the head's body (differential pressure transmitters have two separated diaphragms for the inputs: "+" and "-"). The measuring head is mounted in the housing and secured with two screws.

In the heads to measure differential pressure and absolute pressure the tight bushings are applied. For overpressure measurements at a pressure range head to 7MPa, bushings are used with the opening from which a tube connecting the rear side of the measuring diaphragm to the atmosphere is pulled out; there are cylindrical flameproof joints used additionally in this case and in some versions of pressure difference heads. The transmitters with the head versions described above have category 1/2G, 1/2D.

In the versions pressure transmitters PYRP... and differential pressure transmitters PYRD... of category 2G and 2D (measured in zone 1 or 21) all pressure heads are allowed, including those without additional flame-proof joints.

Enclosures of transmitters are made of die-cast aluminium alloy or stainless steel. Enclosure consists of a body and two screwed covers (display and electrical connection). The cable line is introduced into the enclosure by flameproof cable gland with thread M20x1,5 or 1/2NPT depending on the version of the housing body. In the non-used opening the explosion-proof plug (cap) prod. Pyropress Engineering is mounted.

The transmitters may be fitted with diaphragm seals, which enable them to be used in a variety of conditions such as thick or highly reactive media, high and low temperatures. Elements of the diaphragm seals can be coated with Teflon.

Główny Instytut Górnictwa w Katowicach Jednostka Certyfikująca Zespół Certyfikacji Wyrobów KD „Barbara" Mikołów

Marking:

version with steel enclosure:

I M2 Ex db ia I Mb
II 1/2G Ex ia/db IIC T6/T5 Ga/Gb
II 1/2D Ex ia/tb IIIC T85°C/T100°C Da/Db

or

I M2 Ex db ia I Mb
II 2G Ex ia/db IIC T6/T5 Gb
II 2D Ex ia/tb IIIC T85°C/T100°C Db

version with aluminium alloy enclosure:

II 1/2G Ex ia/db IIC T6/T5 Ga/Gb
II 1/2D Ex ia/tb IIIC T85°C/T100°C Da/Db

or

II 2G Ex ia/db IIC T6/T5 Gb
II 2D Ex ia/tb IIIC T85°C/T100°C Db

Technical parameters:

Range of the measured pressure:
-100kPa ÷ 100MPa (PYRP-2000ALWD, PYRP-2000ALWD Ex Safety)
-160kPa ÷ 7MPa (PYRD-2000ALWD, PYRD-2200ALWD, PYRD-2000ALWD Ex Safety)
-10 kPa ÷ 10 kPa (PYRD-2000GALWD, PYRD-2000GALWD Ex Safety)

Range of the measured liquid level:
0 ÷ 10mH_2O (PYRL-2000YALWD)

Output signal:
4÷20mA in a two-wire system + HART

Supply voltage:
13,5V ÷ 55V- standard version
16V ÷ 45V- safety version

Ingress protection:
IP66 / IP67

Ambient temperature:
-40 °C ÷ 45°C/75°C (depending on the temperature class)

Główny Instytut Górnictwa w Katowicach
Jednostka Certyfikująca
Zespół Certyfikacji Wyrobów KD „Barbara" Mikołów

[16] Test report:

„Sprawozdanie z oceny ATEX" KDB Nr 12.010-2

[17] Special conditions for safe use:

- Only those elements can be used as replacing ones which are specified in the descriptive documentation;

- Some of the permitted gaps in the flameproof joints are smaller and the lengths of the flameproof joints are greater than the ones specified in table 1 EN 60079-1. The relevant information for the user is included in the manual;

- In areas where there is a risk of dust explosion, transmitters in aluminium alloy casing covered with lacquer and transmitters with plastic rating plates or with diaphragm seals covered by Teflon should be installed in a way to prevent electrostatic charging according to the operation manual.

[18] Essential health and safety requirements:

Met by compliance with standards listed below:
EN 60079-0:2012 + A11:2013; EN 60079-1:2014;
EN 60079-11:2012; EN 60079-26:2015; EN 60079-31:2014
(PN-EN 60079-0:2013-03 + A11:2014-03; PN-EN 60079-1:2014-12;
PN-EN 60079-11:2012; PN-EN 60079-26:2015-04; PN-EN 60079-31:2014-10)

Document's history:

- EC-Type Examination Certificate KDB 12ATEX0009X of 25.01.2012 with all supplements, initial certification (issue 0).
- EU-Type Examination Certificate KDB 12ATEX0009X issue 1, **this document**, there is a modification in the construction of the pressure transmitters type PYRP-2000ALWD, differential pressure transmitters type PYRD-2000ALWD, PYRD-2200ALWD, and level probes type PYRL-2000YALWD. Pressure transmitters and differential pressure transmitters of category 2 have been introduced. The new performances of the pressure transmitters and differential pressure transmitters PYRD-2000ALWD Ex Safety, PYRP-2000ALWD Ex Safety, PYRD-2000GALWD, PYRD-2000GALWD Ex Safety have been introduced. The changes in the parameters of power supply to 55V have been introduced.

Główny Instytut Górnictwa w Katowicach
Jednostka Certyfikująca
Zespół Certyfikacji Wyrobów KD „Barbara" Mikołów

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx KDB 17.0002X	Issue No: 0	Certificate history: Issue No. 0 (2017-01-31)
Status:	**Current**	Page 1 of 4	
Date of Issue:	**2017-01-31**		

Applicant: **Pyropress Engineering**
Bell Close, Plympton, Plymouth, Devon PL7 4JH
United Kingdom

Equipment: **Smart Pressure Transmitter type PYRP-2000ALWD, PYRP-2000ALWD Ex Safety; Smart Differential Pressure Transmitter type PYRD-2000ALWD, PYRD-2200ALWD, PYRD-2000ALWD Ex Safety, PYRD-2000GALWD, PYRD-2000GALWD Ex Safety; Smart Level Probe type PYRL-2000YALWD**

Optional accessory:

Type of Protection: **Flameproof enclosure "d", Dust protection by enclosure "t", Intrinsic safety "i"**

Marking:

version with steel enclosure:
Ex db ia I Mb, Ex ia/db IIC T6/T5 Ga/Gb, Ex ia/tb IIIC T85°C/T100°C Da/Db or
Ex db ia I Mb, Ex ia/db IIC T6/T5 Gb, Ex ia/tb IIIC T85°C/T100°C Db
version with aluminium alloy enclosure:
Ex ia/db IIC T6/T5 Ga/Gb, Ex ia/tb IIIC T85°C/T100°C Da/Db or
Ex ia/db IIC T6/T5 Gb, Ex ia/tb IIIC T85°C/T100°C Db

Approved for issue on behalf of the IECEx Certification Body: mgr inż. Ksawery Graboś

Position: Head of ExCB

Signature:
(for printed version)

Date: 31.01.2017

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Główny Instytut Górnictwa, Kopalnia Doświadczalna "BARBARA"
(Central Mining Institute Experimental Mine "Barbara")
ul. Podleska 72
43-190 Mikołów
Poland

IECEx Certificate of Conformity

Certificate No: IECEx KDB 17.0002X Issue No: 0

Date of Issue: **2017-01-31**

Manufacturer: **Pyropress Engineering**
Bell Close, Plympton, Plymouth, Devon PL7 4JH
United Kingdom

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

PL/KDB/ExTR17.0002/00

Quality Assessment Report:

GB/ITS/QAR11.0004/04

IECEx Certificate of Conformity

Certificate No:	IECEx KDB 17.0002X	Issue No: 0
Date of Issue:	**2017-01-31**	Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Pressure transmitters type PYRP-2000ALWD, PYRP-2000ALWD Ex Safety and differential pressure transmitters type PYRD-2000ALWD, PYRD-2200ALWD, PYRD-2000GALWD, PYRD-2000ALWD Ex Safety, PYRD-2000GALWD Ex Safety and level probes type PYRL-2000YALWD work by converting proportional to the measured pressure resistance changes of piezoresistive bridge, located in the single crystal of silicon diaphragm, into a standard current signal 4 ÷ 20 mA with HART communications signal. The basic units of the transmitter and probe is a measuring head (Ex i) with a silicon diaphragm sensor. Measuring head can be equipped with different pressure connections. Inside the head there is the "pressure chamber" filled with manometer liquid. On the side of measured medium it is limited by a diaphragm welded tightly to the head's body (differential pressure transmitters have two separated diaphragms for the inputs: "+" and "-"). The measuring head is mounted in the housing and secured with two screws. In the heads to measure differential pressure and absolute pressure the tight bushings are applied. For overpressure measurements at a pressure range head to 7MPa, bushings are used with the opening from which a tube connecting the rear side of the measuring diaphragm to the atmosphere is pulled out; there are cylindrical flameproof joints used additionally in this case and in some versions of pressure difference heads. The transmitters with the head versions described above have EPL Ga/Gb and Da/Db.

CONDITIONS OF CERTIFICATION: YES as shown below:

- Only those elements can be used as replacing ones which are specified in the descriptive documentation;
- Some of the permitted gaps in the flameproof joints are smaller and the lengths of the flameproof joints are greater than the ones specified in table 1 IEC 60079-1. The relevant information for the user is included in the manual;
- In areas where there is a risk of dust explosion, transmitters in aluminium alloy casing covered with lacquer and transmitters with plastic rating plates or with diaphragm seals covered by Teflon should be installed in a way to prevent electrostatic charging according to the operation manual.

IECEx Certificate of Conformity

EQUIPMENT (continued):

In the versions pressure transmitters PYRP... and differential pressure transmitters PYRD... of EPL Gb and Db (measured in zone 1 or 21) all pressure heads are allowed, including those without additional flame-proof joints. Enclosures of transmitters are made of die-cast aluminium alloy or stainless steel. Enclosure consists of a body and two screwed covers (display and electrical connection). The cable line is introduced into the enclosure by flameproof cable gland with thread M20x1,5 or 1/2NPT depending on the version of the housing body. In the non-used opening the explosion-proof plug (cap) prod. Pyropress Engineering is mounted. The transmitters may be fitted with diaphragm seals, which enable them to be used in a variety of conditions such as thick or highly reactive media, high and low temperatures. Elements of the diaphragm seals can be coated with Teflon.

Technical parameters:

Range of the measured pressure:
-100kPa ÷ 100MPa (PYRP-2000ALW, PYRP-2000ALW Ex Safety)
-160kPa ÷ 7MPa (PYRD–2000ALW, PYRD–2200ALW, PYRD-2000ALW Ex Safety)
-10 kPa ÷ 10 kPa (PYRD-2000GALW, PYRD-2000GALW Ex Safety)

Range of the measured liquid level:
0 ÷ 10mH2O (PYRL–2000YALWD)

Output signal:
4÷20mA in a two-wire system + HART

Supply voltage:
13,5V ÷ 55V- standard version
16V ÷ 45V- safety version

Ingress protection:
IP66 / IP67

Ambient temperature:
–40 °C ÷ 45°C/75°C (depending on the temperature class)