[1] # EU TYPE EXAMINATION CERTIFICATE

[2] Protective equipment and systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817)

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

KDB 18ATEX0035 **1 edition**

[4] Equipment:

M1 Base

[5] Manufacturer:

2RHP Sp. z o.o.

[6] Address:

ul. Chorzowska 37, 41-709 Ruda Śląska, Poland

[7] The protective equipment or system and any acceptable variations thereto are specified in the schedule to this certificate.

[8] Central Mining Institute, Notified Body no 1453 according to Directive 2014/34/EU of February 26, 2014, approves that the protective equipment or system specified in this certificate has been found to comply with the essential health and safety requirements for the design and construction of protective equipment and systems intended for use in potentially explosive atmosphere given in Annex II to Directive 2014/34 /EU (Załącznik nr 2 Rozporządzenia Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The results of the assessment and examinations as well as the list of agreed documentation are recorded in the confidential Report **KDB No 18.041-1 [T-7535/1]**

[9] The essential health and safety requirements have been met by compliance with the requirements of the following standards:

EN IEC 60079-0:2018; EN 60079-11:2012;
EN 50303:2000;

[10] If sign "X" is placed after the certificate number, this means the specific conditions of use set out in the schedule to this certificate.

[11] This EU type examination certificate relates only to the construction, assessment and testing of the specified product in accordance with Directive 2014/34 /EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The certificate shall not cover the remaining requirements of the Directive regarding the manufacturing process and placing the protective equipment or system on the market.

[12] The marking of the equipment include the following:

I M1 Ex ia I Ma

mgr inż. Piotr Madej
ATEX Certification Expert

Główny Instytut Górnictwa
Jednostka Oceny Zgodności
p.o. KIEROWNIKA
dr inż. Dariusz Stefaniak

Date of issue: **18.08.2021**

Główny Instytut Górnictwa, 40-166 Katowice, Plac Gwarków 1, Polska, www.gig.eu
Jednostka Oceny Zgodności, 43-190 Mikołów, ul. Podleska 72, www.gigcert.com
Certification Body accredited by PCA *[Polish Centre for Accreditation]*, **No AC038.**

[15] Description:

The M1 Base is a radio device supporting the management of rescue operation in underground mining works used for wireless voice communication between the leader of an underground rescue operation and mine rescue team, as well as for wired communication with staff on the surface.

The M1 base also allows for wireless data reception in telemetry mode from any team members equipped with a 2.4 GHz radio and all devices connected to repeaters.

Connection is also possible between the Base M1 and a computer / tablet with a Wi-Fi module and a dedicated Resys application installed. This allows visualization of data provided by the M1 Base, e.g. the location of team members on the mine plan, condition of system devices, alarm conditions, etc.

The M1 base is equipped with the following hardware:

1. Loudspeakers
2. Microphone
3. Keyboard
4. Graphic display
5. Antennas
6. The following sockets:
   - MC1 - for connecting the MC1.0 Mediaconverter
   - MC2 - for connecting additional MC1.0 Mediaconverter
   - Microphone
   - Headphone
   - Battery power supply
   - Antenna (ANT1, ANT2)

Technical parameters:

Ambient temperature: 0°C ÷ 50°C
Degree of protection: IP 54

Parameters of intrinsically safe circuits:

Parameters of conectors MC1 / MC2 :

Uo = 4,2V Lo = 0
Io = 5,3A Co = 5µF

Parameters of conector MIC:

Uo = 4,2V Lo = 0
Io = 360mA Co = 30µF

Parameters of headphones connectors:

Uo = 4,2V Lo = 12mH
Io = 100mA Co = 1µF

[16] Test Report:

"ATEX assessment report" KDB No 18.041-1

[17] Special conditions of use:

- Not applicable.

[18] Essential health and safety requirements:

Met by fulfilling the requirements of the following standards:

EN IEC 60079-0:2018 (PN-EN IEC 60079-0:2018-09);
EN 60079-11:2012 (PN-EN 60079-11:2012);
EN 50303:2000 (PN-EN 50303:2004);

Document history:

- EU type examination certificate KDB 18ATEX0035, 0 edition of 30.03.2018, initial certification.
- EU type examination certificate KDB 18ATEX0035, 1st edition of 18.08.2021, supersedes the certificate KDB 18ATEX0035, 0 edition of 30.03.2018.

  Changes were made in construction of the device. Marking of the device has been changed.