



Notified Body 2549

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EN ISO/IEC 17065  
S1-499

## (1) EU-TYPE EXAMINATION CERTIFICATE

### (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU

(3) EU-Type Examination Certificate Number: **ICQC 19 ATEX 0426** **Issue: 1**

(4) Equipment: **Electronic Measuring Device EMD**

(5) Manufacturer: **DEZEGA SP GÜVENLİK ÜRÜNLERİ SAN. VE TİC. A.Ş**

(6) Address: **Zafer Sb Mahallesi Nilüfer Sok. No:30 Ege Serbest Bölgesi ESBAŞ 35410  
Gaziemir/İzmir - Turkey**

(7) This equipment and any acceptable variations, also documents which are specified in the schedule to this certificate.

(8) The certification body ICQC, Notified body No. 2549 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this equipment 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 No. **426-01/2023/04/ATEX**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN IEC60079-0:2018, EN 60079-11:2012**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture and supply of this equipment. These are not covered by the certificate

(12) The marking of the equipment or protective system shall include the following:



**I M1 Ex ia I Ma**  
**-20°C ≤ Ta ≤ +60°C**

Head of Certification Body:



Sergey Kovalev

Date of issue: 03 May 2023  
Jurmala, Latvia

(13) **SCHEDULE**

(14) **to EU-TYPE EXAMINATION CERTIFICATE: ICQC 19 ATEX 0426 X**

**Issue: 1**

(15) **Description of Equipment:**

The electronic measuring device (hereinafter referred to as the EMD) is intended for monitoring the parameters of the P-70 respirator, visual and audible indication of the measured and calculated parameters, as well as other information, and the formation of an event log.

The EMD is intended for use in underground coal mines, including hazardous gas and dust.

The EMD consists of the following parts:

- control unit (CU);
- sensor unit (SU);
- high pressure sensor (HP sensor);
- low pressure sensor (LP sensor);
- RFID Tag.

The CU is connected to the SU via a cable plug-in connection. The cable, which is part of the CU, is rigidly attached to the body of the SCBA P-70. The CU has an ambient temperature sensor, an accelerometer to determine the user's immobility, Bluetooth module and a piezo emitter. The CU has a housing made of impact-resistant plastic and a protective rubber case.

The SU is located under the protective cover of the P - 70 respirator and mechanically fixed to the body of the P - 70 with the detachable connection. The HP sensor, LP sensor and CU are connected to the SU via connectors. Directly in the SU enclosure are located LP Mini sensor for atmospheric pressure measurement and the main battery.

LP and LP Mini sensors are used to calculate differential pressure in the breathing line. The CU has a housing made of impact-resistant plastic.

The HP sensor is installed in the oxygen cylinder valve using a threaded connection and LP sensor is integrated in the breathing line. They provide reliable and unambiguous detachable connection with SU, rigid mechanical fixation at the attachment point, protection of the sensor components from impact and access to the sensitive element for measuring the corresponding parameters. HP and LP sensors is controlled from the CU via the I2C interface through a repeater installed in the SU. The enclosures are made of impact-resistant plastic and steel.

The RFID tag is used to identify the user. It installed in the slot located on the upper part of the back of the CU device. During operation with the P-70 the RFID Tag resides in the CU. The RFID Tag is designed to be securely attached to the CU. RFID Tag housing made of plastic. The EMD is powered by one battery installed in the SU.

**Technical characteristics:**

Parameter	Value
Degree of protection of enclosure (IP)	IP 67
Nominal supply voltage (from battery), V	5...9
Power consumption, no more, VA	2
Continuous operation time in POWER_ON and POWER_WORK mode (after standby mode), at least, h	6
Weight, kg	0,8

Parameter	Value
<b>Control Unit</b>	
Temperature measurement range, °C	-55...+125
Error of temperature measurement, °C	±1
Ranges of measurements of accelerations along the axes (X, Y, Z), g	±2/±4/±8/±16
Accuracy of measuring accelerations along the axes (X, Y, Z), LSB/g	512 (for ±16g)
Bluetooth RN4020 range, GHz	2,402...2,480
Bluetooth sensitivity in reception mode, dBm	-92,5
Battery type	ML-621S/DN
Overall dimensions, no more, mm	934x82x45
<b>Sensor Unit</b>	
Pressure measuring range, kPa	30...120
Pressure measurement error, kPa	±0,2
Temperature measurement range, °C	-20...+85
Error of temperature measurement, °C	±2
Battery type (9V, 6LP3146)	VARTA4122 and Duracell MN1604
Overall dimensions, no more, mm	79x64 x 56,7
<b>HP sensor</b>	
Pressure measuring range, MPa	0...30
Pressure measurement error, %	±1
Temperature measurement range, °C	-40...+110
Error of temperature measurement, °C	±2
Overall dimensions, no more, mm (with a cable)	271xø22,2
<b>LP sensor</b>	
Pressure measuring range, kPa	30...120
Pressure measurement error, kPa	±0,2
Temperature measurement range, °C	-20...+85
Error of temperature measurement, °C	±2
Overall dimensions, no more, mm (with a cable)	644xø20,2
<b>RFID Tag</b>	
Overall dimensions, mm	26x45x4

**Variation 1 - This variation introduced the following changes:**

Minor changes in the electrical circuits of CU, SU, as well as in the design of CU, SU, HP, LP sensors. These changes do not affect the intrinsic safety of the Electronic Measuring Device EMD.

**(16) Descriptive Documents:**

SKTB.01.P70.19.00.010 User Manual EMD P70 (edition 2023)

The drawings are listed in Evaluation report No: 426-01/2023/04/ATEX

**Certificate History:**

Issue/Date	Evaluation report	Comment
Issue 0 from 16.10.2019	426/2019/08/ATEX	The release of the prime certificate.
Issue 1 from 03.05.2023	426-01/2023/04/ATEX	The introduction of Variation 1. Updating to the current version of EN IEC60079-0:2018

**(17) Specific conditions of use:**

1. Only batteries VARTA4122 and Duracell MN1604 (9V, 6LP3146) with  $U_0=9.9V$  and  $I_0=5.1A$  can be used for main power.
2. Replacing the battery is allowed only in non-hazardous environment present.

**(18) Essential Health and Safety Requirements:**

Met by compliance with the standards mentioned in clause (9).