

**EAC**

**CERTIFICATE OF CONFORMITY**

No. TC **RU C-RU.MIII06.B.00180**

Series RU No. **0319717**

**CERTIFYING BODY** Certifying body for mining equipment Non-Profit Independent Research Organisation "Certification Centre of Explosion Protected and Mine Equipment" (NANIO CCVE), Address: 115230, Moscow, 1 Elektrolitny proezd, bldg. 4, room No. 9 (legal add.); Russia, 140004, Moscow region, Lyubertsy, VUGI microdistrict, OAO EKOMASH Plant (business address), phone: +7 (495) 5541257, 9716830, fax: +7 (495) 5541257, 9716830, e-mail: solntsev@ccve.ru. Certificate (Reg. No. POCC RU.0001.11MIII06) issued 17.10.2011 by the Federal Agency on Technical Regulation and Metrology. Statement of Accreditation No. 3028 dated 23.08.2012 from the Federal Accreditation Service.

**APPLICANT** Engels Instrument Manufacturing Association Signal Limited Liability Company (Signal LLC), the Russian Federation, 413119, Saratov region, Engels -19. OGRN code: 1026401974972. Phone: +7 (8453) 75-04-18; Fax: +7 (8453) 75-17-00. E-mail: office@eposignal.ru

**MANUFACTURER** Engels Instrument Manufacturing Association Signal Limited Liability Company (Signal LLC), the Russian Federation, 413119, Saratov region, Engels-19

**PRODUCT** ULTRAMAG gas metering systems (СЯМИ. 407229-671 ТУ) with Ex-marking 1Ex ib PB T4 Gb X (see Appendix, forms No. 0249071, 0249072). Serial production.

**CUSTOMS TARIFF No.** 9028 10 000 0

**CONFORMS TO THE REQUIREMENTS OF** the Technical Regulation of Customs Union TR CU 012/2011 "On Safety of Equipment Intended for Use in Explosive Atmospheres".

**CERTIFICATE ISSUED BASED UPON** Design Assessment Record and Test Report No. 160.2015-T dd. 07.09.2015 of Testing Laboratory for Technical Equipment of Independent Noncommercial Organization "National Test and Scientific Research Institute of Equipment for Ex Areas" IL YekhTU (Certificate No. POCC RU.0001.21MIII19, period of validity from 28.10.2011 to 28.10.2016); Act on the results of analysis of the production status No. 52-A/15 dd. 20.03.2015 of NANIO CCVE/ Certification Body of Mining Equipment (CB GShO) (Certificate No. POCC RU.0001.11M11106, expiration date 17.10.2016).

**ADDITIONAL INFORMATION**  
Certificate valid with appendix on 2 sheets.  
Storage conditions, service life are mentioned in the operating instructions.

**VALID FROM** 10.12.2015 **TO** 10.12.2020 **INCLUSIVE**

(Seal): / Non-Profit Independent Research Organisation "Certification Centre of Explosion Protected and Mine Equipment"\*NANIO CCVE\* For Certificates \* EAC Ex/

Certifying Body Director (Authorized Representative)

(signature)

V.B. Solntsev (initials, surname)

Expert (Expert Auditor) (Experts (Expert Auditors))

(signature)

O.B. Malkovich (initials, surname)

**APPENDIX**

TO CERTIFICATE OF CONFORMITY No. TC

**RU C- RU.MII06.B.00180 Sheet 1**

Series RU No. **0249071**

**1. PURPOSE AND SCOPE OF APPLICATION**

ULTRAMAG gas metering systems (hereinafter “the Systems”) are designed to measure the actual volume of natural gas and automatically bring the measured volume to standard conditions, depending on the pressure, temperature and gas compressibility factor.

Scope of application- Ex-zones of premises and outdoor units, according to Ex-marking and GOST R MEK60079-14-2008.

**2. BASIC TECHNICAL DATA**

2.1. Ex marks:		1Ex ib IIB T4 GbX	
2.2. Ingress protection acc. to GOST 14254-96:		IP66	
2.3. Ambient temperature range, °C:		-40 to + 60	
2.4 Power supply of the Systems: - self-contained power supply consisting of primary lithium cells of ER34615H3,6 V D or SL-2780/T Tadiran type with the voltage, V - external supply with direct voltage, B		3.9	6.8
2.5 Electric intrinsically safe parameters:	XP501 (Low frequency-output)	XP22, RS-232 XP23, RS-485	XP8 supply
- Maximum input voltage, U <sub>i</sub> , V	28	9,45	6.8
- Maximum input current, I <sub>i</sub> , mA	92	127	680

The values of internal capacitance C<sub>i</sub> and inductance L<sub>i</sub> are negligible.

**3. DESCRIPTION OF DESIGN AND EXPLOSION PROTECTION METHODS**

The Systems are consisting of measuring and computing unit (the MCU) and ultrasound transducers of actual flow (the USTF).

Measuring and computing unit consists of the case and cover produced of aluminium alloy (Mg + Ti + Zr < 7,5 %). There are sight port, IR port window and keyboard installed on the cover. The FAL1KB cable glands are installed at the side-wall of the case in order to connect external circuits and grounding terminal.

The MCU case has inside a digital screen, printed boards with radio electronics elements, independent power source.

The Ultrasound transducer of actual flow is a metallic round case, inside of which rectifying elements of gas flow, two ultrasound transducers, pressure and temperature transducers are installed.

**Explosion protection** of the Systems is provided by meeting the requirements of:

GOST R MEK 60079-11-2010 Explosive atmospheres. Part 11. Intrinsically safe circuit “i”;

GOST R MEK 60079-0-2011 Explosive atmospheres. Part 0. Equipment. General requirements.

**4. MARKING**

**Marking** on the Systems cases includes the following data:

- trademark or manufacturer name;
- product type;
- product serial number and year of production;
- Ex marks;
- special explosion-proof mark;
- Ambient temperature range;
- certifying body name and number of the certificate of conformity;
- Warning inscription: “Do not open in Ex premises (areas)”;

and other data required by regulatory and technical documentation, which the manufacturer must indicate in the marking.

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Organisation “Certification  
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Certifying Body Director  
(Authorized Representative)  
Expert (Expert Auditor)  
(Experts (Expert Auditors))

(signature)  
*[Signature]*  
(signature)  
*[Signature]*

**V.B. Soltsev**  
(initials, surname)  
**O.B. Malkovich**  
(initials, surname)

**APPENDIX**

TO CERTIFICATE OF CONFORMITY No. TC

**RU C- RU.MIII06.B.00180 Sheet 2**

Series RU

No. **0249072**

**5. SPECIAL CONDITIONS FOR USE**

The **X** mark after the explosion protection marking means that the following special conditions must be followed during operation of the Systems:

- it is forbidden to replace an independent power source in the explosive-hazard areas;
- the sight port should be wiped with anti-static cloth only;
- it is forbidden to use an IR port in the explosive-hazard areas;
- the external power supply and external devices (low frequency output, RS-232, RS-485) should be connected using certified IS barriers that have certificates of conformance with TR CU 012/2011 and using intrinsically safe parameters acc. to the cl. 2.5.

The special conditions for use marked with the **X** sign should be reflected in the accompanying documents, which are to be delivered in set with each System.

Changes may be made to the System design only with the consent of Non-Profit Independent Research Organisation “Certification Centre of Explosion Protected and Mine Equipment”.

Inspection checkups – 2016, 2017, 2018, 2019.

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