PRODUCT DATA SHEET

“KB ELECTROMETRY”

MULTI-ELECTRODE ELECTRICAL RESISTIVITY & INDUCED POLARIZATION IMAGING INSTRUMENTS

MODEL: “SibER 48K12”

СК.48К12.02ПС

PRODUCT DATA SHEET

1. Purpose and scope

Multielectrode electrical exploration equipment "SibER 48K12" is designed for conducting electrical exploration by methods of resistance and induced polarization (IP) in various geological conditions to search for mineral deposits and to survey geological and hydrogeological subsurface strata (hereinafter – the equipment).

2. Product specifications and consumable resources

The power supply voltage of the equipment is 12 V DC (from the external battery).

Current and power consumption, max: 22 A, 270 W.

Characteristics of the purchased components, components and elements must meet the applicable regulatory documents.

General

Electrodes: 2 x 24 + 2 remote
External power supply: 12V
Backup power: 12V, 2.3 Ah
Interface: Wi - Fi, Ethernet
Degree of protection: IP67 (transport), IP54 (operation)
Operating temperature: -20 ... +50 °C
Dimensions: 464 x 366 x 176 mm
Weight: 12 kg

Source

Type: voltage source
Output voltage: 1 ... 500V
Output current: up to 2A
Output power: up to 220W
The shape of the output pulses: rectangular alternating polarity
Output pulse duration: up to 10 s
The duration of the intervals between output pulses: 20 ms
Output short circuit protection: Yes

Multi-channel meter

Number of channels: 12
Input impedance: 10 MOhm
Number of counts: 1 ... 500
Sample rate: 50, 60Hz
ADC bit rate: 24 bit
Input voltage: -20 ... 20V
Resolution: 1 μv
Industrial frequency interference suppression: at least 90 dB
Overvoltage protection: up to 1kV
Power module
Protection against reverse polarity at the entrance: Yes
Supply voltage range: 10.5 ... 15V
Indication of lack of power: sound, LED

3. Supplied Equipment

Core set of multielectrode electrical exploration equipment «SibER 48K12»	
Equipment "SibER 48K12" including:	1 unit
- a set of software programs	1 set
- supply cable	2
- battery backup charger	1
- the passport of the product	1
- operator manual	1
Possible additional equipment, one supplied with the equipment	
Geophysical cable K-24-1 (2 pieces)	1 set
Geophysical cable K-24-2 (2 pieces)	1 set
Geophysical cable K-24-3 (2 pieces)	1 set
Geophysical cable K-24-5 (2 pieces)	1 set
Geophysical cable K-24-10-4 (2 pieces)	1 set
Geophysical cable K-24-15-6 (2 pieces)	1 set
Geophysical cable K-24-20-8 (2 pieces)	1 set
Stainless steel electrodes (35 cm) complete with two carrying bags (66 pieces)	1 set
Cable carrying reel (2 pieces)	1 set
Electrode connector (clip) (66 pieces)	1 set

4. Operating instructions

4.1. Equipment multi-electrode electrical "SibER 48K12" must be operated in accordance with the requirements of this passport and manual.

4.2. Climatic conditions under which the equipment is suitable for operation-HL climate according to GOST 15150 / GOST 15543.1 placement category 1, at ambient temperature from minus 20 to plus 40 °C and relative humidity up to 90% at plus 30°C, atmospheric pressure from 460 to 800 mm Hg.

4.3. The equipment is suitable for use in all areas according to GOST 16350.

4.4. According to the operating conditions and resistance to external factors, the equipment can be conditionally referred to the groups MS1 and KS3 GOST 26116, or to the groups D1 and L2 GOST R 52931.

4.5. The environment when using the equipment is non-radioactive, does not contain aerosols and suspensions, does not destroy the materials of the probe and cable.

4.6. Type of atmosphere on the content of corrosive agents-II.

4.7. Permissible deviations under the influence of external factors according to GOST 26.205 (magnetic field, supply voltage deviation, ambient temperature deviation) - no more than 0.5 of the basic error.

4.8. Instability of readings for 8 hours of operation: 0.25 percent of the basic error.

4.9. Pay special attention to the timely charging of the acid sealed batteries enclosed in the equipment.

4.10. During the operation, it is not allowed to expose the equipment to sudden temperature changes and direct sunlight. Do not subject the equipment to sharp shocks and other mechanical influences. Do not allow water and foreign objects inside the generator housing.

4.11. The equipment should not be operated during thunderstorms. To avoid damage to the generator by lightning, the load (grounded line or loop) in a thunderstorm must be disconnected from the generator during the thunderstorm.

5. Quality control

5.1. According to the technical regulations in force at the time of the release, multi-electrode electrical exploration equipment "SibER 48K12" is not subject to mandatory certification. Conformity of the production to the requirements of the specifications is certified by the manufacturer according to GOST R in a voluntary manner.

5.2. The equipment is subject to Declaration according to TR CU 020/2011 "electromagnetic compatibility of technical means".

5.3. According to the state regulations in most countries, there are no mandatory metrological requirements for measurements obtained when performing geophysical work. Therefore, this equipment is not subject to mandatory metrological certification. It is recommended to calibrate equipment according to the manufacturer's method at the location of the service center in case of aberrant data.

6. Storage conditions

6.1. Storage of the equipment is carried out in the packaging of the manufacturer in the conditions of warehouses excluding the direct impact of precipitation, the possibility of exposure to sunlight, moisture, sudden temperature fluctuations, in conditions 2 (C) according to GOST15150-69:

1) at ambient temperature from + 5 to + 35°C;

2) relative humidity at a temperature of plus 25°C - no more than 80%.

6.2. Storage of the equipment together with evaporating liquids, acids and other substances which can cause corrosion of the metal and violation of isolation is not prohibited.

7. Transportation conditions

7.1. Equipment can be transported by any type of land, air and sea vehicle, in accordance with the rules applicable to each type of transportation.

7.2. When transported by air, the equipment must be placed in a sealed compartment.

7.3. Transportation of the equipment must be carried out in compliance with the following requirements:

- the equipment must be securely fastened inside the box;
- when loading and unloading do not throw and turn the boxes;
- when transporting the boxes (and products in the boxes) must be secured from movement.
- devices must be protected from moisture, dirt, corrosive media and corrosive agents.

7.4. Before unpacking of the boxes after transportation at negative temperatures allow the content to equilibrate to the normal exploitation temperature for at least 24 hours.

7.5. Transportation of the products into the far north and equatorial areas must be prepared according to GOST 15846.

7.6. Conditions for transportation to minimize the impact of climatic factors must comply with group 5 (OZH4) GOST 15150 for transportation by land, or 6 (OZH2) - for sea and river transport (ambient temperatures from minus 30 to plus 50°C and relative humidity of not more than 95% at a temperature of 25°C).

7.7. To minimize mechanical impacts, the conditions must comply with the categories according to GOST 23170: medium (C) - for transportation by any means (except by sea);

7.8. During loading and unloading, precautions must be taken to avoid mechanical damage to the products. Loading and unloading operations should be carried out according to GOST 12.3.009.

8. Utilization

8.1. The equipment does not contain harmful substances or components which are hazardous to the health or the environment during operation, after the service life, and during the disposal, except for the internal battery 12V 2.2 Ah.

8.2. Equipment contains electronic components and are subject to the disposal methods that are used for the products of this type. Dispose them according to the technology adopted by the company operating the device. The built-in battery should be transferred for disposal to a specialized organization.

8.3. The equipment does not contain non-ferrous and precious metals or precious stones.

8.4. Mark about payment of the utilization fee: not applicable.

9. Operation period

9.1. Failure of the equipment is a violation of its working condition associated with the failure of any component, which resulted in a deviation of the parameters beyond the limits established for these technical conditions.

9.2. Established trouble-free operating time - not less than 840 hours.

9.3. The standard service life of the device is 5 years.

9.4 The standard operating life of geophysical cable and electrode connectors is 2 years (in case of measuring activity).

10. Manufacturer's warranty

10.1. The manufacturer guarantees that the quality of the equipment meets the requirements of technical specifications No. TU 26.51.12-002-60849411-2018 subject to the consumer's compliance with the rules of use, transportation, storage, installation and operation.

10.2. Established warranty period - 12 months from the date of delivery.

10.3. During the warranty period, the manufacturer carries out free repair (replacement) of the products and their components, except for cases when the failure is caused by a violation of the requirements of the operating instructions.

10.4. The costs associated with the transportation of the defective product during the warranty period are not reimbursed to the Buyer. In case of unfounded claims, the costs of diagnosis and examination of the product are paid by the Buyer.

10.5. Complaints are presented during the warranty period, provided that the consumer complies with the requirements of the operating instructions, with the preparation of the complaint act.

10.6. Organization that produces warranty repairs and non-warranty service:

"KB Electrometry" Ltd. The address of the location of production facilities and service center: 630055, Novosibirsk, ul. Boulevard of Molodezhi, 36B. The manufacturer could not guarantee the possibility of the equipment and accessories repairing with an expired warranty.

10.7. The warranty does not apply to the purchased finished products not of own production supplied with the equipment (f.e. battery chargers, etc).

10.8. The warranty does not cover defects caused by:

- dismantling of the equipment by the consumer or third parties, the presence of traces of external interference in the design of the product;
- violations of passport instructions for storage, installation, testing, operation and maintenance of the product;
- improper transportation and material handling;
- presence of traces of exposure to substances aggressive to the materials of the product;
- the presence of damage caused by fire, the elements, force majeure;
- damage caused by improper actions of the consumer;

10.9. The manufacturer reserves the right to make changes to the design that improve the quality of the product while maintaining the basic performance characteristics.

10.10. The manufacturer is not responsible for the defects in operation resulting from the connection to the equipment of other manufacturer, unless recommended and endorsed by “KB Electrometry”, Ltd..

11. Marking and packaging

11.1. Marking is applied in accordance with GOST 26828. The marking of the case shall be applied by indelible paint, engraving, impact or other suitable method, the marking on the packaging shall be applied by typographic method. The marking of the case contains: the symbol of the product, - the serial number of the product according to the numbering system of the manufacturer.

11.2. Font imprint should provide a clear image after coloring.

11.3. The equipment is delivered packed in a plastic box or wooden box according to GOST 2991. Additional equipment is supplied packed in polyethylene film according to GOST 10354.

11.4. The packaging should protect the devices from atmospheric fallout, mechanical damage and external influences during transportation and storage.

11.5. Packing category-KU-4 according to GOST 23170 / GOST 23216.

ACCEPTANCE CERTIFICATE

Multielectrode electrical equipment "SibER 48K12" № _____ made and adopted in accordance with the design documentation, the requirements of TU26.51.12-002-60849411-2018 and declared serviceable.

The head of quality Department

_____

"___"_____ 20 ___ y.

day, month, year