Nord-West Ltd.

ASTRA-100

GEOELECTRIC PROSPECTING TRANSMITTER

PORTABILITY

HIGH RELIABILITY

MULTI FUNCTIONALITY

SIMPLICITY IN USE

Application: The geoelectric prospecting transmitter ASTRA-100 can be used in geophysical researches by methods of direct current, induced polarization, frequency sounding, impedance frequency sounding, electrical transient and other methods.

Solved tasks. The transmitter can provide transmission distance from the first meters up to first hundred meters. With the help of the transmitter can be solved:

- tasks of searching and exploration of mineral deposits (oil-and-gas, ore, coal, diamonds, uranium,etc.) or allied structures;
- tasks of structural and mapping geology (determination of environmental geological structure and lithological composition of rocks);
- engineering-geological problems (research of the ground condition, studying of the karst development areas, landslip areas, etc.);
- hydro-geological problems (detection of underground waters, including thermal, estimation of the rocks water saturation and the fluid mineralization);
- cryosolic and glaciological tasks (mapping and locating the permafrost depth, studying of freezing and thawing dynamics. etc.);
- ecological problems (research of the underground waters, pollution areas, detection of fracture zones. etc.);
- geotechnical tasks (studying of the construction bases and pipelines condition, research of underground communications and other industrial objects).

Additional features: with use of the transmitter information about the geoelectric structure of the cross-section top part can be received, useful at interpretation of deep regional, explorative and other researches with use of artificial and natural fields.

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Technical Characteristics	
Maximal power output, not less	100 W
Maximal output voltage, not less	400V
Output current form	“meander” (rectangular heteropolar impulses without pause)
Working frequencies The first line of frequencies (Russian set, values are specified approximately) The second line of frequencies (Canadian №1 set, values are specified approximately) The third line of frequencies (Canadian №2 set, values are specified approximately)	46 frequencies total 0.076, 0.153, 0.305, 0.610, 1.22, 2.44, 4.88, 9.77, 19.5, 39.1, 78.1, 156, 313, 625, 1250, 2500 Hz 0.063, 0.125, 0.250, 0.500, 1.00, 2.00, 4.00, 8.00, 16.0, 32.0, 64.0, 128, 256, 512, 1024, 2048 Hz 0.083, 0.167, 0.333, 0.667, 1.33, 2.67, 5.33, 10.7, 21.3, 42.7, 85.3, 171 341, 638 Hz
Efficiency	Up to 80%
Imprecision of factory adjustment of output currents at room temperature and capacity of 50% from maximal	0.1%
Instability of output currents at change of voltage from 10.5 V up to 14.5 V, maximum	0,05%
Instability of output currents at change of capacity from 2 up to 99% from maximal, maximum for currents: 141 mA - 100 mA 14.1 mA - 100 mA 1 mA - 10 mA	 0,05% 0,1% 0,5%
Drift of output currents in range of working temperatures concerning values at +20 C, maximum	±0,5%
Fractional accuracy of frequency formation, including drift in the range of working temperatures and ageing for the first year of operation, maximum	$5*10^{-6}$
Duration of front on active capacity 1 kOm, maximum	2 microseconds
Range of working temperatures	from -20^{O}C up to +50^{O}C, without condensation
Operating mode	long-duration, afield, but without direct action of atmospheric condensation
Power supply voltage	12.6 V (min. 10.5 V, max. 14.8 V)
Weight (without accumulator)	~ 2 kg
Size	200 x 173 x 113 mm
Sealed case	Standard IP-65

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