



# ALTERNATOR

## LWD SYSTEM ALTERNATOR MODULE

THE ALTERNATOR MODULE PROVIDES THE LWD SYSTEM WITH ELECTRIC ENERGY WITH POWER UP TO 100 W.

The module provides an MWD/LWD system with electric energy with power up to 100 W. In operation, the alternator provides control and stabilization of the output voltage. Programming of the module allows the setting of the voltage level the range from 20 to 38 V. The alternator electronic circuit outputs a defined stabilized voltage over a wide range of drilling fluid flow rates.

### GENERAL CHARACTERISTIC

The alternator does not require interaction with the telemetry system via the communication bus, which enables its compatibility with different MWD/LWD systems. A small excess of voltage relative to the battery module allows the priority of current consumption from the alternator.

The built-in non-volatile memory for logging the measured parameters and service data is automatically freed and does not require manual actions.

The design of the alternator does not require its fastening in a particular installation sub of the MWD/LWD system assembly.

### DESIGN CHARACTERISTICS

The alternator ensures the required shaft rotation speed using a gearbox explicitly designed for use while drilling.

The alternator turbine is made of high-strength wear-resistant polymer.

The built-in energy storage device provides electricity to downhole tools with pulsed consumption. Therefore at the moment of a pulse increase in power consumption, the power line has no voltage drop.



Turbines are 3D printed from a special polymer that reduces manufacturing costs to turbines made of hard alloys.



Parameter	Value / Range
Sub O.D.	121 mm, 172 mm
Length	1.3 m
Module O.D.	48 mm
Maximum Temperature	+120°C (+150°C as per request)
Maximum Pressure	80 MPa (100 MPa as per request)
Sand Content	
- Recommended	< 1%
- Maximum Allowed	3%
Output Voltage (Nominal)	38 V
Maximum Power Output	100 W

