

## Generating application modules

The power generating modules are aimed to convert heat source directly into electricity. Such modules can be used for making miniature and reliable electric power generators applicable in remote and secluded places.

The power generating modules produced by SCTB NORD (TMG-series) are based on Bi-Sb-Te-Se thermoelectric materials and capable to work continuously at temperatures around +180° C. Maximum short-time processing temperature is +210°C. Thermoelectric module can generate DC electric power as long as temperature difference between its hot and cold sides takes place. Also you can always connect modules in series or use DC-DC converter to get different output voltage.

Our manufacturing technologies provide module cycling stability in wide temperature and time intervals. For example, fig.1 shows relative change of internal resistance  $R_{in}$  of TMG-127-1.0-1.3 module vs. number (N) of cycles of the module hot side temperature  $T_h$  change between 50° C and 175° C. Periodicity of cycles is less than 1 minute; during the test the module cold side temperature  $T_c = 50^\circ$  C. As the illustration of operation stability of NORD's TMG modules, fig.2 shows time dependence of output voltage of TMG-127-1.0-1.3 module under the following test conditions:  $T_h = 175^\circ$  C,  $T_c = 50^\circ$  C, load resistance =7 Ohm.

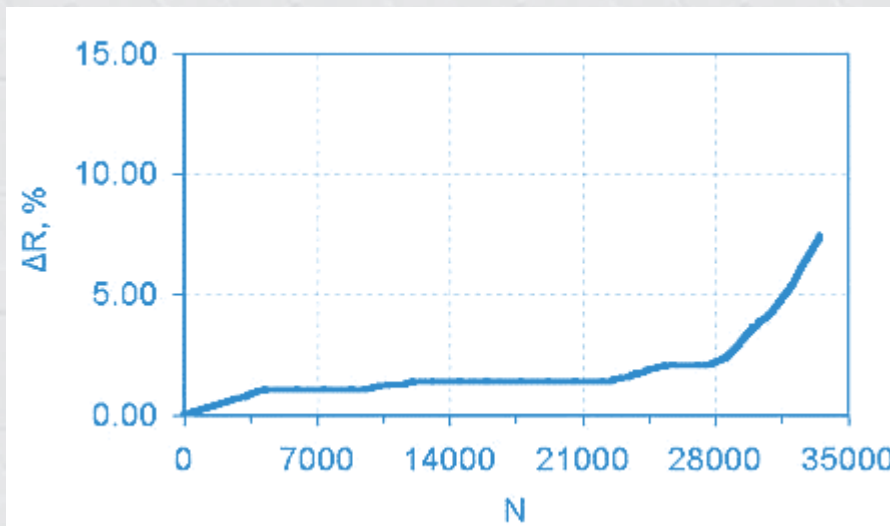


Fig. 1. Example of cycling stability of NORD's TMG modules.

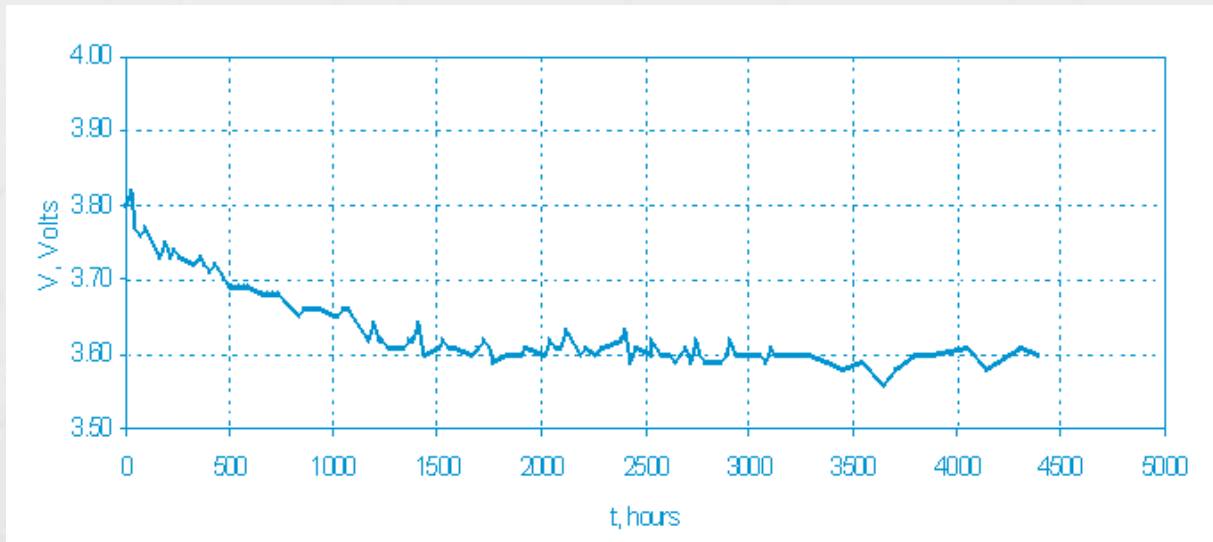


Fig. 2. Examples of operation stability of NORD's TMG modules.