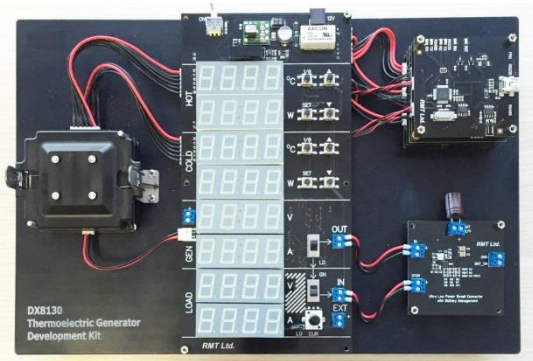


THERMOELECTRIC GENERATOR DEVELOPMENT KIT DX8130



Thermoelectric Generator Development Kit DX8130 – it is a tabletop complex laboratory for investigation of thermoelectric generators (TEGs) operations, testing of their operating parameters, optimizing design of thermoelectric energy harvesting devises, modeling of operations in real conditions.

The tabletop laboratory is useful and powerful tool for developments of thermoelectric energy harvesting constructions as well as for laboratory scientific investigations and education courses.

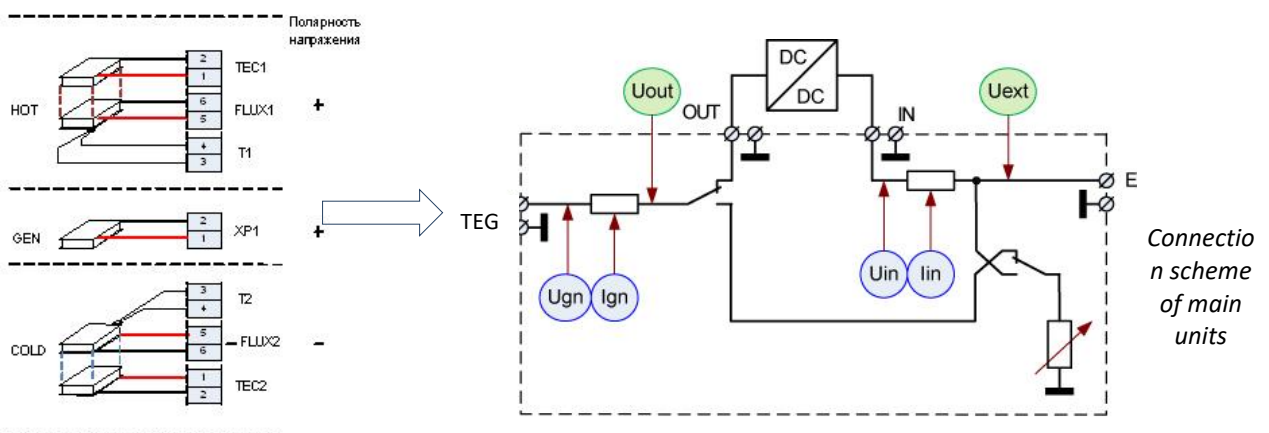
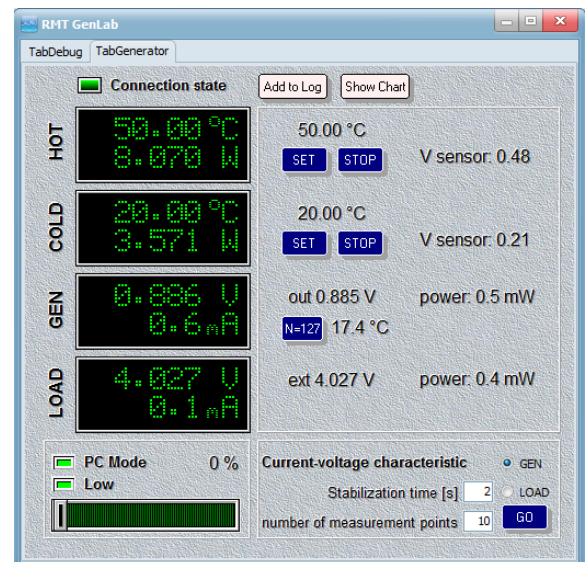
- ✓ **Thermoelectric Generator Development Kit DX8130 – unique equipment has no analogues.**
- ✓ **It is powerful assistant for designers, experienced users and researchers in a field of thermoelectric energy harvesting**

Thermoelectric Generator Development Kit DX8130 has open construction concept with abilities to construct “on the table” prototypes of thermoelectric energy harvesting constructions.

The Kit consists of modules, including thermoelectric microgenerators, controller and measurement units, DC-DC convertor and emulation of electric load.

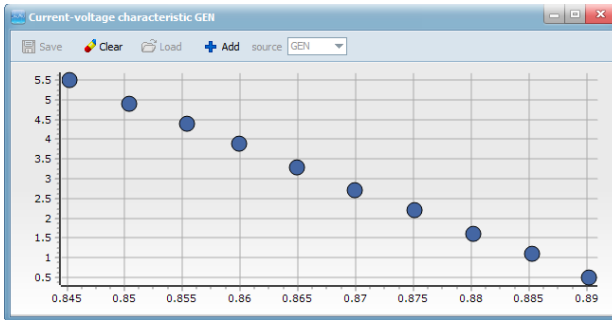
A set of high performance thermoelectric microgenerators is included into the Kit. Users also can order PL Engineering other standard or optional TEGs, as well as apply thermoelectric generators of other manufacturers.

Simple interconnections the units by wires, the same as for children electronic snap circuits, allow building complete schemes of thermoelectric harvesting devise.

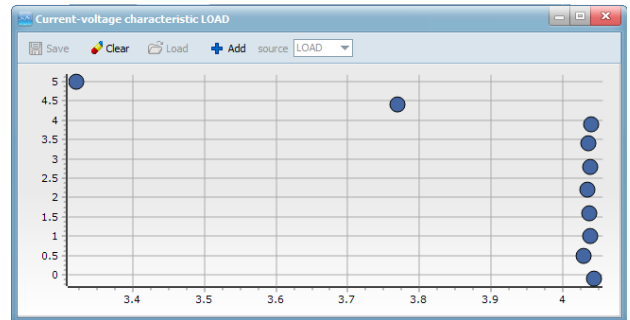


Controller modules, fine measurement electronics and precise programmable heat sources, computer remote control and data logging provide modeling of operation of assembled thermoelectric energy harvesting device prototypes in wide range of operational conditions.

Measurement electronics provides data logging of acquired test data. Software TEGLab provides data processing, allows investigating standard performance parameters and plots, like as volt-ampere characteristics, temperature dependences of performance parameters and others.



Volt-ampere characteristics of thermoelectric generator



Volt-ampere plot of thermoelectric generator with DC-DC converter on output

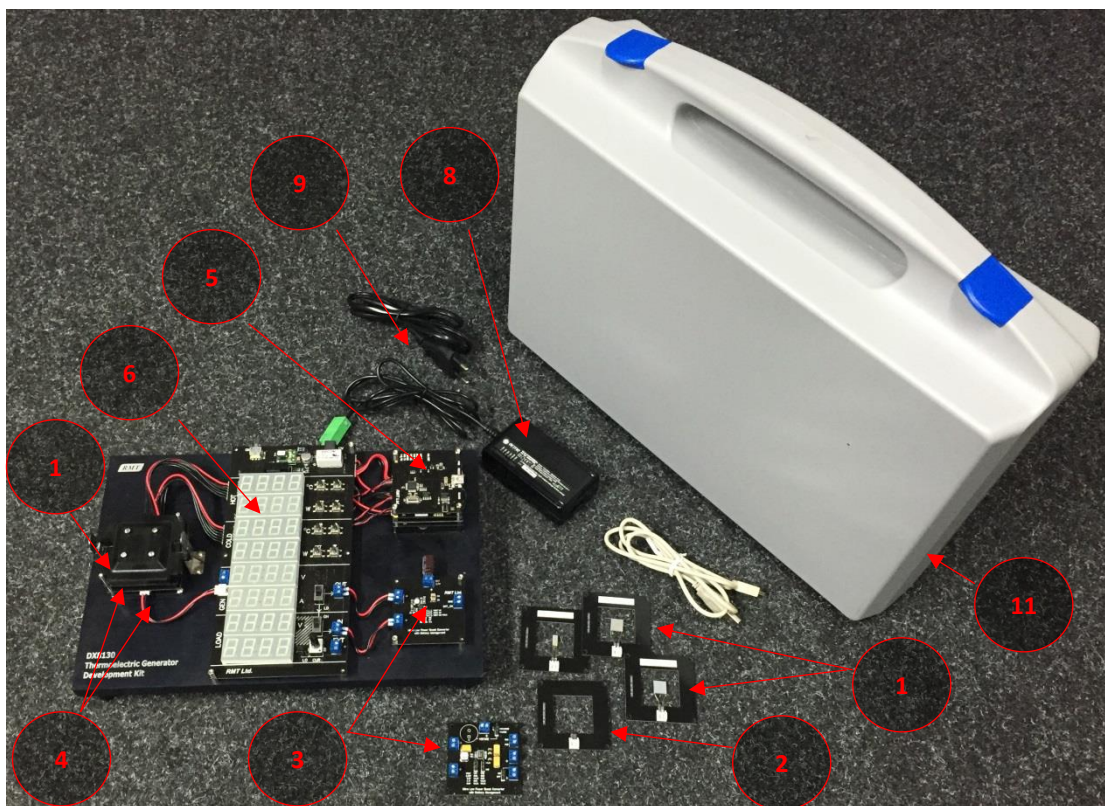
SPECIFICATIONS

#	Parameter	Units	value
1	Temperature range of stabilizing of every programmable heat loads (two units in the Kit)	°C	+10 ... +100
2	Maximal temperature difference between hot and cold sides	°C	50
3	Output voltage range of TEG	V	0 ... 9.999
4	Electric current range of the TEG	A	0 ... 1.000
5	Heat flux range	W	0 ... 9.999
6	Output voltage of DC-DC converter	V	0 ... 9.999
7	Load current		
7.1	High current mode	A	0 ... 0.100
7.2	Low current mode	mA	0 ... 5.0
8	Computer interface		USB
9	Dimensions of TEGs, min...max		
9.1	A x B	mm ²	2x2 ... 30x30
9.2	H	mm	0.5 ... 5.0
10	Power Supply of the Kit	V	110 ... 240
11	Maximal power consumption	W	60
12	Overall dimensions of Kit AxBxH, max	mm ³	200x300x80
13	Weight	Kg	3.0
14	Dimensions of main modules		
14.1	Mounting table	mm ³	200x300x20
14.2	Electronic plate	mm ³	100x200x25
14.3	Controller unit	mm ³	55x55x35
14.4	Programmable heat flux unit	mm ³	55x55x8
14.5	DC/DC converter unit	mm ³	55x55x10

DELIVERY KIT

#	Item	Q-ty
1	Set of standard thermoelectric microgenerators of PL Engineering (one unit each)*: <ul style="list-style-type: none"> - 1MD06-127-08TEG (13x13x1.9 mm - 5.9 Ohm – 50 mV/K) - 1MD04-127-08TEG (9.8x9.8x1.9 mm – 16.3 Ohm – 50 mV/K) - 1MD06-071-05TEG (9.8x9.8x1.9 mm - 2.1 Ohm – 28 mV/K) - 1MD03-060-05TEG (4.0x7.5x1.1 mm - 6.8 Ohm – 24 mV/K) 	1 set
2	Standard mounting frame (for mounting of optional TEG)	1 pc
3	Set of DC-DC converter boards with standard DC-DC circuits (one unit each): <ul style="list-style-type: none"> - BQ25504RGT (Texas Instruments) - LTC3108EGN (Linear Technology) 	1 set
4	Programmable precise heat flux unit	2 pc
5	OEM controller DX5100 to manage by heat flux units	1 set
6	Control electronic and indication board	1 pc
7	Software TEGLab (flesh disk)	1 set
8	Power supply	1 pc
9	Set of cables	1 set
10	User Guide (flesh disk)	1 pc
11	Plastic safety bag	1 pc

* - detailed specifications on the TEGs are available at PL Engineering website - <http://promln.ru/products/te-generators/>.





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