INSTITUTE
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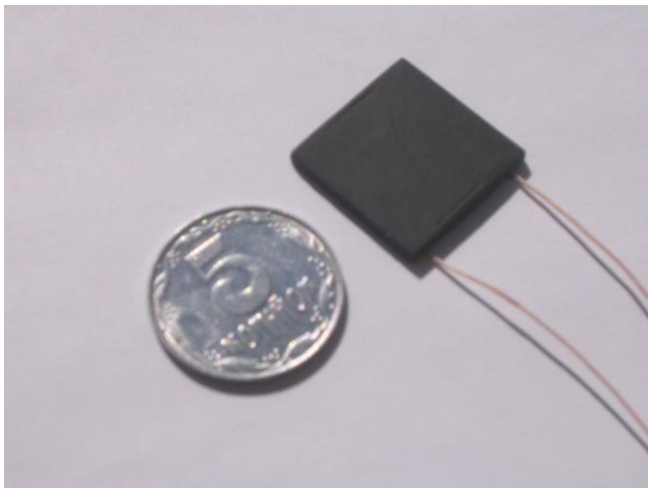
• UKRAINE •

MEASURING POWER CONVERTER OF LASER RADIATION

• Highly sensitive measuring power converter of laser radiation is designed to determine power parameters of laser radiation in measuring devices for metrological and technological applications.

• Thermoelectric converter operates using power conversion of laser radiation into equivalent electrical signal generated by the thermopile.

Physical configuration of the measuring converter



• Sensing element is represented by densely packed thermopile made of highly-effective semiconductor materials. Packing density of the thermopile amounts to 2500 pics/cm^2. The technology developed for thermopile manufacture can guarantee conversion coefficient which is by 1 – 1.5 orders of magnitude higher than corresponding parameter of existing counterparts.

• The receiver of aluminum foil coated with black optical paint guarantees uniform absorption factor in the wavelength range 0.4 – 11 μm.

Parameters of the measuring power converter of laser radiation

No.	Parameter, units of measurement	Value
1	Measured power range, W	10^{-5}-10^{-3}
2	Spectral range, μm	0.4 – 11
3	Conversion coefficient, V/W	4.5
4	Time constant, not higher than, s	2.5
5	Thermopile resistance, Ohm	4000
6	Effective area, mm^2	20×20
7	Height, mm	2.5

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