“TD-16op” OPTICAL POLARIZATION STRAIN-GAUGE SENSOR

Description
The sensor is designed for measurement of static and dynamic strains of metal, reinforced concrete, and concrete structures. The sensor can operate as an element of force-measurement, weight, and dosage devices.

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base of the strain-gauge sensor, mm</td>
<td>15.5x16.5</td>
</tr>
<tr>
<td>Measurement range of relative strain</td>
<td>0.5x10^{-3}</td>
</tr>
<tr>
<td>Sensitivity to changes in relative strain</td>
<td>1x10^{-7}</td>
</tr>
<tr>
<td>Temperature instability, degrees</td>
<td>4x10^{-7}</td>
</tr>
<tr>
<td>Range of the linear characteristic of the output signal</td>
<td>10^{3}</td>
</tr>
<tr>
<td>Supply power, V</td>
<td>6</td>
</tr>
<tr>
<td>Power consumption, W</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Technical appraisal and economic benefits
Higher (by an order of magnitude) sensitivity as compared to similar probes.
Small size and simplicity of mounting onto an object.
Simplicity of exploitation.

Application areas
- Civil engineering and production of construction materials;
- Mineral resource and processing industries;
- metallurgy;
- machine building;
- security systems.

Development stage
The sensors are manufactured by the Institute of Applied Microelectronics of the Siberian Branch of the Russian Academy of Sciences and are supplied by small lots to KuzNIIshakhtstroi (Kemerovo).

Patent situation
An application has been submitted.
**Commercial offers**  
Procurement of small lots, search for partners for batch production.

**Estimated cost**  
For procurement contracts, the cost is 25,000 rubles.

**Contacts**  
Cand.Sc. Eduard A. Dem’yanov, Scientific Secretary  
Technological Design Institute of Applied Microelectronics, Siberian Branch of the Russian Academy of Sciences  
8, Nikolaeva St., Novosibirsk, 630090, Russia  
Phone: (383) 330-82-67  
Fax: (383) 339-17-26  
E-mail: ktipm@amel.nsc.ru