



## MEMS microphone

### Solution and its benefits

Device for converting mechanical energy to electricity in a more efficient manner than in prior art. The invention is based on the idea that the same piezo which produces the measurement data also generates the energy for the operation of the measurement unit. There are a number of devices in which a small scale energy production is needed because it may be impossible or at least very difficult to provide energy sources like batteries for such devices. The device is robust enough to be applied in paper-making process, for example.

### Competitive advantage

Provides arrangement for producing energy in more efficient manner, without using batteries or other energy sources. The detector block examines the electric energy produced by a piezoelement and stores the produced electric energy in capacitors, for providing the electric energy for the operation of controller block which outputs measurement data.

### Technical description

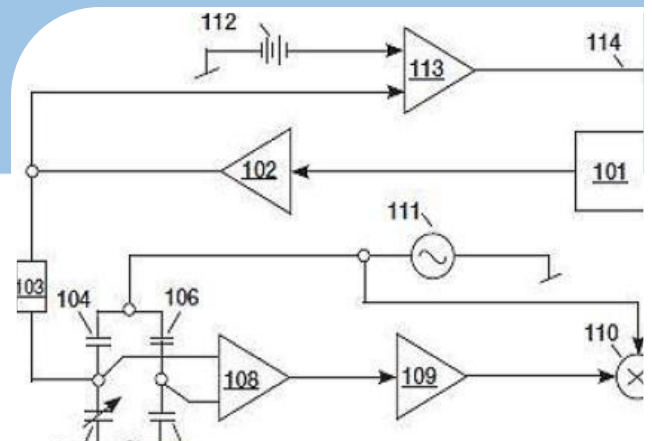
The invention relates to a device (1) for producing electric energy comprising a first element (2) converting mechanical energy into electric energy, the level of the electric energy being variable according to the variations of the mechanical energy, and a controller block (4) connected to the first element (2) for providing measurement data on the basis of the electric energy produced by the first element (2). The controller block (4) comprises a detector block (4.2) to examine the electric energy produced by the first element (2) to form the measurement data, and a first energy storage unit (C1, C2) for storing electric energy produced by the first element (2) and for providing the electric energy for the operation of the controller block (4). The invention also relates to a system, a tyre and a method.

### Intellectual property rights

HUOVILA H; KULMALA V: A PIEZOELECTRIC GENERATOR SYSTEM THAT INCLUDES AN ENERGY STORAGE

- Priority date: 20040521
- WO 2005114826 A1, FI 2004005190 A, FI 117364 B1, EP 1751844 A1
- IPC RECLASSIF.: B60C0023-00 [I,C]; B60C0023-02 [I,C]; B60C0023-04 [I,A]; B60C0023-20 [I,A]; H02N [I,S]; H02N0002-18 [I,A]; H02N0002-18 [I,C]

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### Additional information

VTT Technical Research Centre of Finland  
 Timo Joutsenoja  
 Business Development Manager  
 Tel: +358 20 722 3009  
 timo.joutsenoja@vtt.fi  
 P.O. Box 1300, FI-33101 Tampere, Finland