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DEVICE AND METHOD FOR MEASURING THE RESISTANCE OF THE SENSOR BASED ON NANOSTRUCTURED SEMICONDUCTOR OXIDES IN THE RANGE OF MICROWATTS

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Scopul:

Development of the method and devices for measuring the parameters of sensors based on nanostructured semiconductor metal oxides.

Patent no.:
MD 1269
din 31.07.2018

Soluție:

The method consists in measuring the voltage of the reference source, measuring the voltage drop on the reference resistor, calculating the voltage drop on the nanostructured oxide-based sensor. Next, it is calculated the value of the electrical current passing through the nanostructure, as well as the power applied to the nanostructure. Then, it is set the value of the reference voltage in such a way that the power does not exceed the maximum allowed value.

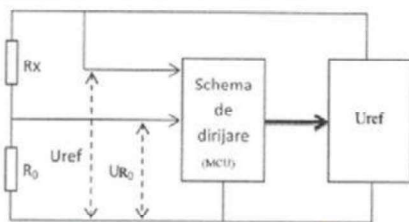
The device includes an adjustable reference voltage source connected to the output of a microcontroller and connected in series with the investigated sensor and with a reference resistor, then its connection point with the studied sensor is connected to the input of the microcontroller.

Avantaje:

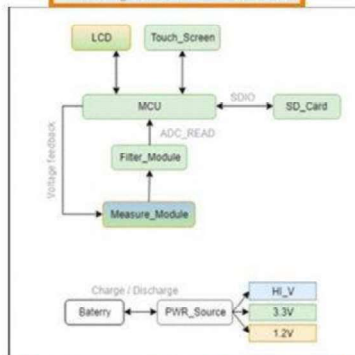
Eliminate the risk of nanostructure deterioration due to exceeding the maximum allowable value of the electrical power applied to the nanostructure-based sensor.

Stadiul:

Experimental samples of devices were developed in our lab.



Principle of measurements



Bloc-circuit of developed device



The devices developed based on this patent

