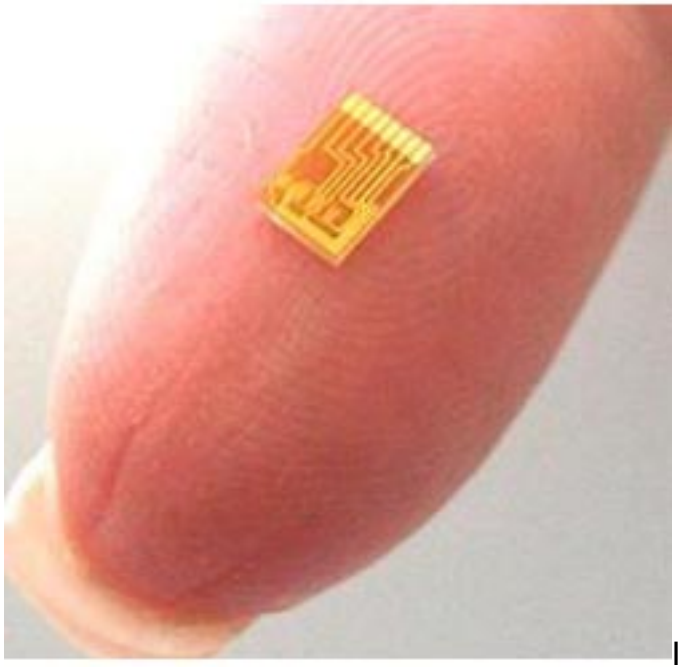
IST’s New Micro Flow Sensor for Ultra Low Gas-Flow Applications



Innovative Sensor Technology has developed a new MFS02 micro flow sensor that utilizes thin film technology to layer platinum micro heaters and temperature sensors on an ultra sensitive polymer membrane. The MFS02 is capable of measuring the thermal mass flow of gases in a range from 0.001 to 2m/s (up to 50m/s), and has a chip temperature range of -40 to +150°C.

Polymer Membrane Construction
Using the same thin-film construction philosophy as IST’s FS series flow sensors, the MFS02 employs a special glass substrate with an ultra thin polymer membrane to achieve extreme sensitivity. A high performance material, the polymer is characterized by outstanding thermal, mechanical and chemical behaviors. Reduced thermal conductivity of the polymer membrane leads to better thermal contrast and thus better sensitivity. Additionally, the sensor’s glass substrate allows for a much higher operating temperature, making the measurement of larger flow rates possible.

Custom Sensor Applications
IST’s development of the micro flow sensor allows customers to specify dimensions and resistor layouts to fit their own applications. The MFS02 features a rugged design that is well-suited for soldering, conductive gluing, or wire bonding. The sensor element can be mounted as an assembly on an electronic PCB or other carrier, and is ideal for mounting in a bypass flow assembly for differential pressure applications. An EVA Kit is available through IST for performance evaluation of the MFS02 micro flow sensor.

Innovative Sensor Technology is an international manufacturer of thin-film sensing devices; RTD temperature sensors, capacitive relative humidity sensors, and thermal mass flow sensors. Established in 1991, IST is an ISO 9001 certified company and is headquartered in Wattwil, Switzerland, with offices in the Czech Republic and USA.

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