NEWS RELEASE

PR1807E

ALPS Offers Piezoresistive Type Pressure Sensor to Detect Absolute and Gauge Pressure

HSPP Series – Industry's Smallest and Thinnest Class Sensor

Duesseldorf, Germany, October 12, 2007 – ALPS ELECTRIC EUROPA GmbH has completed development of a small and compact, high-resolution, piezoresistive type pressure sensor (HSPP Series) for detecting absolute pressure(Note 1) and gauge pressure(Note 2). The sensor can be used to detect, for example, barometric and air pressures. Sample shipments are to commence in November of this year.

Portable Navigation Devices (PNDs) – including compact portable car navigation systems and GPS navigation systems that display maps for use in hiking and cycling – are not only becoming smaller but their navigation functions are becoming more accurate by the addition of the previously unavailable capability to detect differences in road elevation. As a result, PND substrates have become smaller and the number of parts contained in navigation systems has increased. The reduction in mounting space has necessitated the miniaturization of individual parts.

Through the use of its proprietary thin-film process, micro fabrication and packaging technologies developed over many years, Alps Electric has developed a sensor incorporating a piezoresistive element(Note 3) which is the industry's smallest and thinnest class of sensor (absolute pressure detection: 4.5mm wide x 4.5mm deep x 1.0mm high; gauge pressure detection: 7.0mm wide x 7.0mm deep x 8.0mm high). In the case of gauge pressure detection, the sensor has a variety of applications, and combines a pressure feed port and terminals.

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The sensor detects pressure by reading the electrical signals that result from changes in electrical resistance generated when external pressure causes the diaphragm(Note 4) to flex and distorts the piezoresistive element formed on the diaphragm.

In addition, optimizing the digital circuit and temperature correction circuit has enabled the sensor, although compact and slim, to perform high-resolution detection at pressure intervals of 0.01kPa (Altitude conversion: equivalent to 1m; water level conversion: equivalent to 1mm). In the PND, the sensor minutely detects changes in barometric pressure and assists in the detection of high and low road elevations and differences in altitude when climbing mountains.

In applications closer to home, to conserve water, the pressure sensor ensures the optimal water level needed when washing clothes in washing machines. The product can be used in a wide range of products, including portable devices and large home appliances (refrigerators, washing machines, etc.) that require high-resolution pressure detection.

Note 1 Absolute pressure detection: Detects barometric and other types of pressure based on a vacuum state (zero point)
Note 2 Gauge pressure detection: Detects air pressure based on barometric pressure
Note 3 Piezoresistive element: An element capable of generating voltage with the application of power and generating power with electrical current
Note 4 Diaphragm: Thin elastic separating membrane (partition plate)

Features

Development of Industry's Smallest and Thinnest Class Piezoresistive Type Pressure Sensors

1. Industry's smallest and thinnest class
2. High resolution of 0.01kPa

Principal Applications

Detects barometric and air pressures in PNDs, washing machines, dishwashers and other devices

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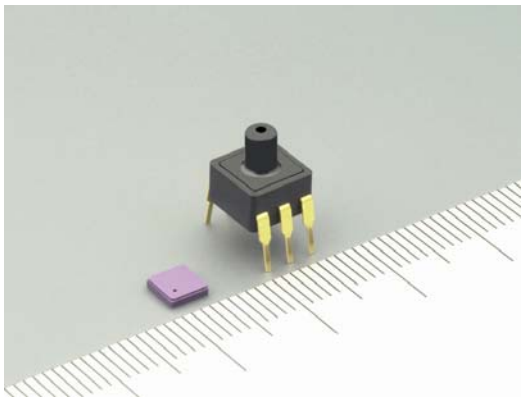
Specifications

Product name	HSPP Series	
Type of pressure	Absolute pressure	Gauge pressure
Dimensions (W x D x H)	4.5mm x 4.5mm x 1.0mm	7.0mm x 7.0mm x 8.0mm
Operating temperature	-4.0 to 85 degrees C	
Supply voltage	2.7 to 5.5V	
Output voltage	0 to 5.0V (at supply voltage of 5V)	
Measurable pressure range	60kPa-110kPa (Altitude conversion capability: 4000m to-700m)	±5kPa
Resolution	0.01kPa	

This news release and a press photo are available electronically at http://www.presseagentur.com/alps/en/



ALPS Electric Co., Ltd.
Since its establishment in 1948 ALPS has grown as a comprehensive manufacturer of electronic components. At present ALPS is creating innovative high-value-added products in its main business segments – Components, Magnetic Devices, Communications, Peripheral Products, and Automotive Electronics – which are contributing to the advance of a digital society. ALPS is a global company that carries out its operations with 23 production bases in 9 countries as well as 57 sales bases in 14 countries. Consolidated net sales in the year ended March 31, 2007 amounted to YEN 708 billion.

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ALPS ELECTRIC EUROPA GmbH, a subsidiary of ALPS Electric Co., Ltd., was established in 1979. Since 1989, the European Head Office has been located in Düsseldorf, where a team of specialists works in Sales, Marketing, and Product Engineering. The activities of our branch offices in Munich, Paris and Milton Keynes, our sales office in Milan and our European distribution work are co-ordinated from Düsseldorf. ALPS Nordic AB, a 100 percent subsidiary of ALPS ELECTRIC EUROPA GmbH, is based in Sweden and services the Scandinavian market.

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