

NEWS RELEASE

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ALPS Develops Magnetic Sensor Switching Output-Type Connector Connection Model*Industry's Smallest* Connector Connection Realized*

Duesseldorf, Germany, February 19, 2009 – ALPS ELECTRIC has developed the industry's smallest* magnetic sensor, the HGDFPA Series, which will serve as a connector connection for all types of devices.

As devices become thinner and more compact, non-contact detection mechanisms using magnetic sensors are becoming more common to determine whether the covers of small devices such as mobile phones are open or closed and in position. Thanks to their characteristically long operating lives and high reliability, utilization of magnetic sensors is spreading to lid and door detection applications on home appliances, such as refrigerators, washing machines and dishwashers. Magnetic sensors are also being fitted in amusement devices such as game consoles as well as all types of industrial devices.

Rather than mounting magnetic sensors on circuit boards of the type used in smaller devices, in cases where they are fitted to large devices, such as consumer electronics and industrial devices, there are calls for products in which the mounting is simplified by the use of cable connectors.

The HGDFPA Series is a switching output-type magnetic sensor in which the cable connections can be made by a connector. Dispensing with the need to solder connections onto circuit boards, connector connection enables simpler fitting of the magnetic sensor to all types of devices. Furthermore, the HGDFPA Series makes use of the technologies Alps Electric has cultivated in thin-walled mold processing, high-density mounting

technology and simulation engineering techniques to realize a thinner and more compact connector connection-type magnetic sensor 14.0mm wide, 9.0mm deep and 5.0mm high.

Utilizing Alps Electric's high-precision magnetic sensor in a single package, the HGDFPA Series makes it possible to accurately detect magnetic fields over wider ranges than other magnetic sensors. This allows for greater engineering freedom in set product design.

In addition, the installation of magnetic sensors in set products necessitates checks to ensure that they are correctly positioned as the detection distance changes depending on their direction when installed. Processing the HGDFPA Series to have a chamfered corner on a part of its chassis makes the positioning direction easily identifiable and prevents errors during mounting.

Features

Development of switching output-type magnetic sensor that has realized the industry's smallest connector connection model

1. Simplified mounting thanks to connector connection.
2. High-precision Alps Electric's magnetic sensor detects magnetic fields over a wide range. Improves engineering freedom.
3. Chamfering process makes positioning direction easily identifiable and prevents errors during mounting.

Principal Applications

Determining whether the covers or doors of home appliances, amusement devices, industrial devices, etc. are open or closed and in position

* World's smallest magnetic sensor with connector, according to studies conducted by Alps Electric (February 2, 2009)

Specifications

Product name	HGDFPA Series
Dimensions (W x D x H)	14.0mm x 9.0mm x 5.0mm
Operating voltage	Typ. 5V (4.5V min.–5.5V max.)
Current consumption	Typ. 1.7mA
Output saturation voltage	Max. 0.4V (output current injection 10mA)
Output current leakage	Max. 1 μ A (sensor OUT “HI”)
Output	Open collector output
Reference detection distance(L) (mm) (Magnet measuring 20 x 20 x 10mm with flux surface of 430mT.)	Vertical: 80–98mm Horizontal: 60–78mm



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, 2008 amounted to YEN 693 billion.

ALPS ELECTRIC EUROPE 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 EUROPE GmbH, is based in Sweden and services the Scandinavian market.

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