

NEWS RELEASE

PR1207E

ALPS Developed Highly Reliable Magnetic Sensor for Minute Angle Rotation Detection

Duesseldorf, Germany, July 11, 2007 – ALPS ELECTRIC EUROPA GmbH has completed the development of the Highly Reliable Magnetic Sensor Analog Linear Output Type HGAR Series for angle detection of internal device rotation mechanisms.

Demand for devices able to more precisely detect even minute angle changes has increased owing to recent advancements in internal device rotation mechanisms that feature smooth, accurate movement as well as to the need for accurate transmittance of information to devices, such as human operation. For example, angle detection is necessary in the arm and leg joints of robots, production machinery, and various paper feeding controls of copy machines. To this end, minute angle detection helps users to precisely achieve subtleness and smoothness in device operation.

The HGAR series is a compact (2.00mm x 1.50mm x 0.75mm) highly reliable analog linear output type magnetic sensor that detects magnetic angle rotation.

Angle detection within set products and other mechanisms is accomplished by sensor readings. Sensors detect changes in the line of magnetic force to their upper surface when magnets positioned oppositely and in parallel (south/north) rotate or move.

The HGAR series, applied with a highly reliable magnetic element, contributes to product engineering to create an angle detection system that finely distinguishes angle gradation. In addition, through the use of non-contact sensors, output disturbance from the sliding noise of conventional resistance

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sensors has been eliminated. As such, the product realizes an improved and nearly straight-line output with high S/N ratio. Furthermore, while resistance sensor systems normally comprise approximately 8-bit (256) angle resolution, the HGAR series system realizes four times this measure with 10-bit (1024) angle resolution.

In addition to these features, the HGAR series has a low current consumption and, owing to the application of a non-contact sensor rather than a resistance sensor, is more resistant to decay, thereby contributing to a longer operating life.

Features

Development of Highly Reliable Magnetic Sensor Analog Linear Output Type HGAR series enables minute angle detection.

1. Contributes to achieving a high resolution angle detection system with high S/N ratio
2. Non-contact sensor contributes to improved resistance against decay and to a long operating life
3. Realizes enhanced compactness, thinness and low current drain

Principal Applications

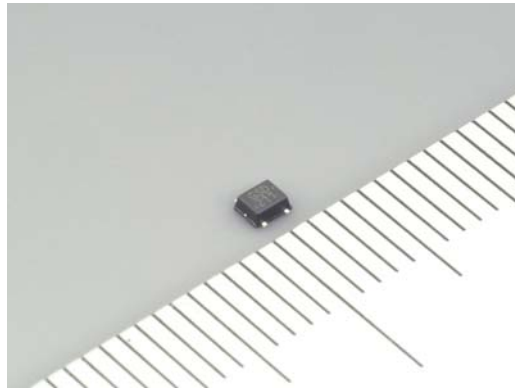
Angle detection of internal device rotation mechanisms

Specifications

Product name	HGAR series
Dimensions (W x D x H)	2.00mm x 1.50mm x 0.75mm
Operating voltage	1.5 to 5.5V
Output voltage	Typ. $\pm 75\text{mV}$ (3V applied voltage; Angle of rotation $\pm 30^\circ$)
Average Current consumption	0.3mA (3V applied voltage; Duty 100%)
Guaranteed operating temperature	-40 to +85 degrees C

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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 22 production bases in 9 countries as well as 57 sales bases in 14 countries. Consolidated net sales in the year ended March 31, 2005 amounted to YEN 644 billion.

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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