

NEWS RELEASE

PR1610E

ALPS Develops “SPVQ9 Series” Sliding Contact Micro Switch*Industry’s First Two-Circuit Sliding Contact Micro Switch*

Duesseldorf, Germany, July 19, 2010 – ALPS ELECTRIC EUROPE GmbH announced its new “SPVQ9 Series” Sliding Contact Micro Switch. The switch features high reliability using the industry’s first two-circuit sliding contact structure, making it suitable for emergency devices or for detecting mechanism movement in automotive and consumer electronic devices. Sample shipments will begin in July 2010.

Micro switches are switches that turn On/Off instantly by means of an internal contact snap action (*1). They are widely used within operating switch units for operation detection, such as in automobile Electrical Parking Brakes (EPB). Redundancy is commonly achieved in these mechanisms using such methods as a duplex circuit fail-safe (*2) to ensure safety.

Conventionally, two micro switches were used in EPBs to provide redundancy. However, there were defects with this type of structure, such as when the timing of the On/Off synchronization in each switch would not match during low speed operation. This resulted in demand for micro switches with a reliable circuit, secure synchronization and stable contact in various operation speeds.

ALPS developed the industry’s first two-circuit sliding contact micro switch as a “clip type” product, adopting a two-sided sliding contact structure which clips the fixed contacts from both sides. The structure is resistant to particles, dust, vibration, and impact, ensuring reliable contact.

The variable contact points in the sliding contact structure clip the fixed contact points. Therefore, pressure at the contact points is constantly maintained in any range of operation, including where the switch is pressed, On/Off switching and the switch's fully depressed point. Combined with the snap action structure, stable contact is constantly maintained regardless of the operating position and speed, making the "SPVQ9 Series" highly reliable as an operation switch.

The switching timing between the two circuits is below 15ms at any operation speed. This enables design of a fail-safe system with only one switch, which contributes to cost reduction and saves design space.

This micro switch is water proof, and dust and water resistance is compliant with IP67 (*3).

*1 A mechanism that adopts a spring and operates immediately when a certain amount of force is applied.

*2 A feature which assumes failure caused by miss-operation or design defect, and in the event of failure, responds with the minimum harm possible.

*3 IP67 is an International Protection (IP) regulation which indicates the amount of protection against the ingress of solid foreign objects and water. IP67 indicates dust tightness and resistance against regulated pressure for a certain amount of time in water.

Features

Development of a micro switch that makes synchronous switching of two circuits possible

1. Two-sided sliding contact structure ensures resistance to particles, dust, and vibration, making the switch highly reliable
2. Combination of snap action and two-sided sliding contact structures provides stable contact at any operating position
3. Switching timing between the two circuits is below 15ms
4. IP67-compliant dust and water resistance

Principal Applications

Automotive operational switches such as EPB

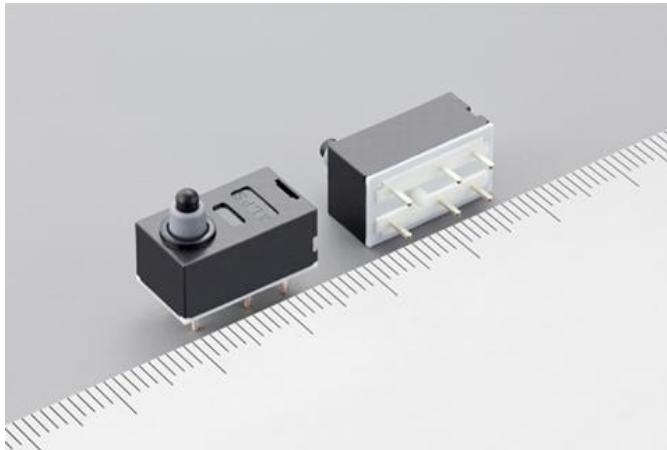
Emergency buttons and safety devices for industrial instruments

Detection of mechanism movement of automotive and consumer electronic devices

Specifications

Product name	SPVQ9 Series
Dimensions (W × D × H)	15.4mm × 8.4mm × 12.2mm
Max. Rating	50mA 26V DC
Min. Rating	50μA 5V DC
Contact resistance (initial)	75mΩ max.
Contact resistance (after lifetime)	200mΩ max.
Operating life (without load)	300,000 cycles
Operating life (with load)	300,000 cycles (11.2mA 14V DC)
Two circuit synchronous timing	15ms max.

For more information on the new product please visit
http://www.alps.com/products/e/npv_product/100709_SPVQ9/SPVQ9_E.PDF



ALPS Electric Co., Ltd.

ALPS Electric (Tokyo: 6770) is a leading global manufacturer of high-quality electronic components for mobile devices, home electronics, vehicles and industrial equipment. With the philosophy of "Perfecting the Art of Electronics" ALPS Electric supplies over 40,000 different components to about 2,000 companies all over the world. For more information, visit www.alps.com.

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, Milton Keynes, Stockholm, Gothenburg, and our sales office in Milan are coordinated from Düsseldorf.

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