NEWS RELEASE

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The SPVQ4 Series of Water-proof Type Detector Switches

ALPS develops high-contact-reliability detector switch with long stroke

Duesseldorf, Germany, April 29, 2005 – With the SPVQ4 Series ALPS Electric Europa GmbH offers water-proof, high-contact-reliability detector switches that have a long stroke and can withstand severe conditions.

Today, with the increase in onboard devices intended to increase the comfort, convenience, and safety of automobiles, the shift to electronic control systems is advancing rapidly. Devices and components installed in automobiles are exposed to water, dust, and other adverse conditions, but in the interests of maximizing safety, such components must be highly reliable and offer ease of use.

The SPVQ4 Series are versatile sensors that can be used to detect the position of automobile doors and trunk lids, door locks, and mechanisms on consumer electronics and other devices used around water.

Using its proprietary high-precision processing technology, Alps used fixed_contact points on both the left and right sides of the switch to achieve a clip type, two-sided sliding contact-point structure. This structure is resistant to particles and dust, vibration, and impact, which makes the SPVQ4 series highly reliable. Earlier detection switches used a bat contact point structure. When breaking contact, these switches required a certain minimum voltage to tear the film of oxidation and fouling that forms on the contact surface. Because of the self-cleaning

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properties of the sliding contact structure, the SPVQ4 Series is not subject to that problem. Any film on the contacts is easily torn, and the switches function reliably, even at low voltage. In addition, the entire upper portion of the switch is clad in rubber, including the knob, which guards against moisture seeping into this highly-water-resistant switch.

These switches have a total stroke[1] of 2.7mm and an overstroke[2] of 2.0mm. This is about 1.5 times the stroke of earlier bat contact point detector switches, which contributes to ease of use and improved design of drive mechanisms, in which the operating position are easily subject to substantial cumulative error.

[1] Total stroke is the distance between the position of the switch knob in the off position and its position when fully depressed.
[2] Overstroke is the distance between the switch knob in the on position and its position when fully depressed.

Features

Alps used its unique precision machining technology to develop a high-contact-reliability water-proof type detector switch with a long stroke for ease of use.
1. Proprietary clip-type, two-sided, sliding contact-point structure ensures higher contact reliability and allows the use of minute electric currents.
2. Long stroke results in superior usability.
3. Water resistance satisfies the requirements of the IEC standard IP67.
4. Makes no sound when operating.

Principal Applications

1. Detects movement of onboard automotive mechanisms (opening and closing of doors, trunk lids, and hatchbacks; position of closers, etc.)
2. Detection of mechanism movement of consumer electronics devices that are used around water.

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Specifications

Product number	**SPVQ4 Series**	
Ratings (max) (resistance load)	0.1A@12V DC	
Dimensions (W × L × H)	5.4mm × 14.7mm × 7.6mm	
Total Stroke	2.7mm	
Overstroke	2.0mm	
Terminal type	Printed circuit board terminal	
Mounting boss	Left side	Right side
Operating force	1N	
Operating temperature range	-40°C to +85°C	
Operating life	300,000 cycles	

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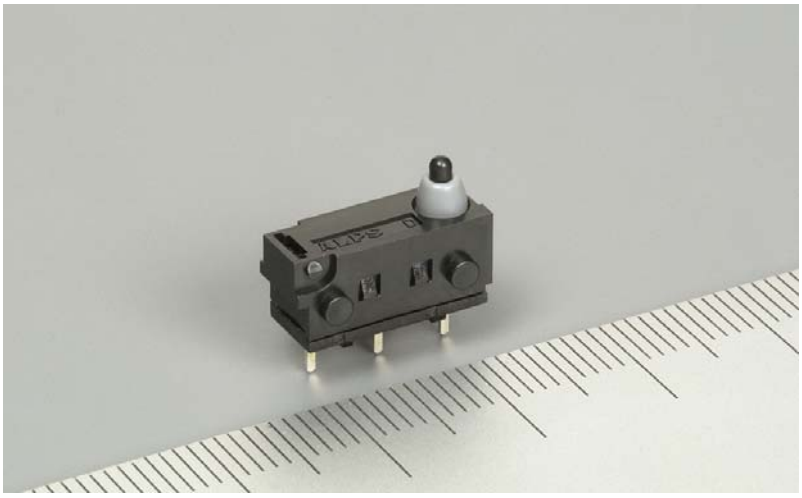

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ALPS Electric Co., Ltd.
Since its establishment in 1948 ALPS has grown as a comprehensive manufacturer of electronic components. At present ALPS is creating innovative high-value-added products in its main business segments – Components, Magnetic Devices, 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 23 production bases in 8 countries as well as 60 sales bases in 13 countries. Consolidated net sales in the year ended March 31, 2003 amounted to YEN 602 billion.

ALPS Electric Europa GmbH, a subsidiary of ALPS Electric Co., Ltd., was established in 1979. Since 1989 the European Head Office is located in Düsseldorf. A team of specialists is working here in Sales, Marketing, and Product Engineering. From Düsseldorf the activities of our branch offices in Munich, Paris, Milton Keynes and the European distribution are co-ordinated. ALPS Nordic AB, a 100 percent subsidiary of ALPS Electric Europa GmbH, located in Sweden, is servicing the Scandinavian market.

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