

July 30, 2026

Alps Alpine Co., Ltd

New Automotive Encoder Enables Automated Assembly and Reduces Environmental Impact

-Achieves 30% Higher Signal Detection Performance Than Conventional Models-

Alps Alpine Co., Ltd. (Headquartered in Ota-ku, Tokyo; President & CEO: Hideo Izumi; hereinafter “Alps Alpine”) today announced the development of the EC11P Series, 11 mm SMD-Type Automotive Encoder, designed for use in automotive control panels and other applications. Mass production is scheduled to begin in November 2026.

By adopting surface-mount device (SMD) technology, the new encoder enables compatibility with automated assembly processes, addressing a longstanding challenge in automotive encoders that traditionally required manual insertion during manufacturing. The product contributes to greater automation of customers’ production lines while also helping reduce environmental impact by reducing waste and wastewater generated during the assembly process. In addition, the EC11P Series delivers 30% higher signal detection performance compared with Alps Alpine’s conventional products.



Background

In recent years, the automotive industry has experienced growing demand for manufacturing automation and labor-saving solutions in response to labor shortages and the need to improve production efficiency.

However, encoders used in applications such as automotive air-conditioning control panels have traditionally employed the DIP (Dual In-line Package) mounting method, in which terminals are inserted into a printed circuit board and soldered on the reverse side. Because this process requires manual component insertion, it presents limitations for fully automated assembly lines.

To address this challenge, Alps Alpine developed the EC11P Series, a surface-mount automotive encoder designed for compatibility with automated production systems.

Product Features

1. Contributes to Manufacturing Efficiency Through Surface-Mount Compatibility

The EC11P Series replaces the conventional DIP mounting method with an SMD configuration, enabling use on automated assembly lines. This helps reduce manual insertion work while improving productivity and lowering mounting costs.

2. Supports Greater Design Flexibility and Space-Saving PCB Layouts

Because surface mounting eliminates the need for through-hole processing on printed circuit boards, PCB layout restrictions are significantly reduced. In addition, single-side mounting enables more compact board designs and helps reduce costs through simplified PCB configurations.

3. Enhanced Signal Detection Performance for Reliable User Operation

The EC11P Series improves signal detection performance by 30% compared with Alps Alpine's conventional products. This enhancement enables stable signal detection even after extended use when internal component wear progresses. It also helps reduce the risk of erroneous signal detection, ensuring highly reliable user operation.

4. Reduced Environmental Impact

Conventional DIP mounting processes typically require the use of liquid flux to assist soldering, resulting in waste materials and cleaning wastewater.

By adopting a surface-mount design, the EC11P Series reduces flux consumption, thereby lowering the burden associated with waste and wastewater treatment and contributing to environmental sustainability.

【Product Specifications】

Product Name	EC11P1525402
Mounting Method	SMD
Detent Torque	10 ± 4 mN·m
Number of Detents / Pulses	30 detents, 15 pulses
Switch Operating Force	4±2 N
Switch Travel	1.5±0.5 mm
Dimensions (W × D × H)	11.7×15.3×24.5 mm
Rating	DC5V/10mA
Rotational Life	100,000 cycles
Switch Operating Life	100,000 operations
Operating Temperature Range	-40°C to +85°C

【Major Applications】

- Automotive air-conditioning controls • Projectors • Microwave ovens • Washing machines
- Various control interfaces

Future Outlook

Mass production of the EC11P Series is scheduled to begin in **November 2026**. To allow customers sufficient time for product design and evaluation, Alps Alpine has already started promotional activities and plans to expand adoption in **automotive HMI (Human Machine Interface) applications**.

Going forward, Alps Alpine will continue developing products that help solve challenges faced by manufacturing sites in the HMI field while contributing to environmental preservation and the realization of a comfortable and sustainable mobility society.

End

<Contact>

Alps Alpine Co., Ltd Corporate Communication Department
E-Mail: alpsalpine-pr@alpsalpine.com