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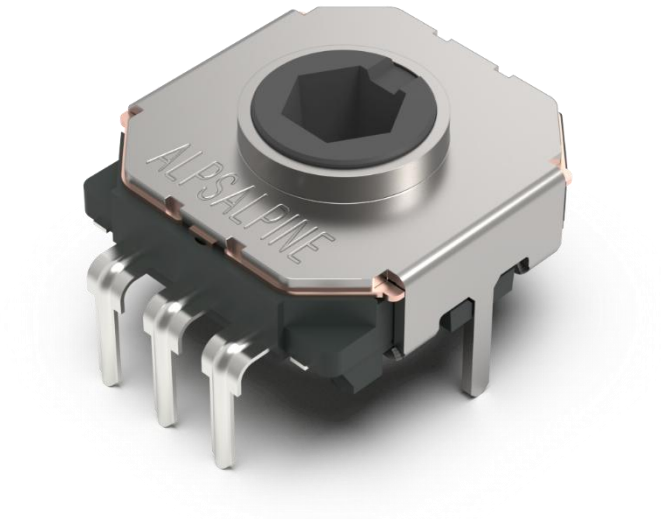
Press Release

November 25, 2026
Alps Alpine Co., Ltd

Rotary Encoder “EC10C Series” Developed for Distinct Tactile Feel in Automotive and Consumer Devices

- Supports Automated Mounting to Help Improve Productivity -

Alps Alpine Co., Ltd. (Headquartered in Tokyo; President & CEO: Hideo Izumi; hereinafter “Alps Alpine”) has developed the EC10C Series, a rotary encoder for use in controllers for automotive and consumer devices. The product increases the rotational torque that gives users a tactile response when turning a controller to approximately 1.7 times that of Alps Alpine’s conventional model. This makes each click easier to feel at the fingertip, helping users recognize how far they have turned the controller and whether the operation was performed correctly, even in situations where it is difficult to look at the controls, such as while driving. The series is also compatible with automated mounting, contributing to labor savings and higher productivity in manufacturing processes.



Background

Controllers for automotive and consumer devices are sometimes fitted with large-diameter knobs, depending on the application and design. While large knobs are easy to grip and operate, the resistance felt at the fingertip with each click can seem weak, which can make it difficult to recognize the position of each click. In addition, as needs for automation and labor savings grow at manufacturing sites, the conventional model requires manual component insertion, making compatibility with automated mounting a challenge.

To address these challenges, Alps Alpine has developed the EC10C Series, which increases rotational torque while retaining a compact through-shaft structure and supports automated mounting. The distinct tactile feel and compatibility with automated mounting contribute to improved operability and more efficient manufacturing processes.

Features

1. Reliable Click Feel Even with Large Knobs

Rotational torque is increased from a maximum of 6 mN·m on the conventional EC10E Series to 10 mN·m. This torque, approximately 1.7 times that of the conventional model, makes it easier to recognize the position of each click and stop at the intended position even with large knobs, delivering a distinct tactile feel.

2. Compatible with Automated Mounting for More Efficient Manufacturing

Adoption of the PIP (Pin in Paste) method enables reflow mounting and eliminates the manual component insertion step previously required. In addition to improving productivity and reducing mounting costs through automated mounting, the series helps stabilize mounting quality by preventing components from floating due to manual work.

3. Single-Sided Mounting Improves Board Design Flexibility and Reduces Environmental Impact

Single-sided mounting makes effective use of limited board space and increases board design flexibility. In addition to reducing costs through a simpler board configuration, it reduces the amount of liquid flux used, helping to lessen the burden of processing waste and cleaning wastewater.

[Product Information]

Product Name	EC10C Series
Product Type	10 mm Size Through Shaft Type
Mounting Method	Reflow mounting by PIP method
Rating	5V DC, 10mA (1mA Min.)
Detent Torque	Initial: 11±5mN·m / After reflow: 10 +2/-4mN·m
Number of Detents, Number of Pulses	30 detents/360°, 15 pulses/360° (each phase)
Step Angle	12°±3°
Total Rotation Angle	360° (endless)
Operating Life	100,000 cycles
Operating Temperature Range	−40°C to +85°C

Future Outlook

Alps Alpine will propose the EC10C Series for applications that require a reliable tactile feel with large knobs, starting with automotive equipment such as car steering switches, as well as controllers for a wide range of consumer devices, aiming to expand adoption.

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