

Product Update

Optimized Solution Adds to TGR Reaction Wheel Assembly Motor Kits

First of its kind addition of Hall effect sensors for development work serves as a demonstration of the flexibility of the TGR Series architecture and ThinGap's ability to effectively modify standard products.



Camarillo, CA (September 30, 2025) ThinGap, Inc. is pleased to announce the successful delivery of a Modified Off-the-Shelf (“MOTS”) variant of the TGR 89-26 motor kit. This marks the first integration of Hall effect sensors within the TGR Series, ThinGap’s clean-sheet motor line designed specifically for Reaction Wheel Assemblies (RWA). While the Hall effect assembly was not designed for use in space, customers often have the need for integrated sensors to help with development efforts and to prove out design functionality.

The integration of Hall effect sensors into the TGR 89-26 part set required modifications to both the rotor and stator. This was accomplished with the addition of a secondary PCB, added across the stator for accurate mounting of the Hall effect sensors, as well as the removal of the outside shield on the rotor. Fundamentally, the TGR architecture includes a rotor magnet shield which serves to block leakage flux that otherwise risked inducing eddy currents in the metal stator mounting ring, whereby reducing performance.

Analytical modeling tools enabled the company to address these challenges, which provided the foundation to add new sensing functionality without compromising efficiency or precision.

With a distinguished spaceflight heritage and more than two decades of experience in the design and production of slotless motor kits, including for NASA, ThinGap can leverage proven designs and analytical modeling that results in highly accurate transitions from predicted performance to real-world operation. Furthermore, the process steps needed to produce motors of all sizes are highly scalable, with the company shipping motors ranging between 25 mm up to 600 mm in diameter.

For additional information on custom motor development, please contact the company at info@thingap.com or visit www.thingap.com.

About ThinGap

For over twenty years, ThinGap has been a world leader in the design and manufacturing of USA-made, high performance frameless electric motor and generator kits. In May 2022, ThinGap became part of Allied Motion’s global organization, and remains a standalone business unit.