

Precision Haptics-LRA Vibration Motors

INEED Motors' Compact Linear Resonant Actuators with Customizable Options



INEED Motors designs and manufactures high-performance Linear Resonant Actuators (LRA vibration motors) for applications requiring precise, reliable, and efficient haptic feedback. Unlike traditional ERM vibration motors, LRA motors utilize a magnetic voice coil and spring-mass system to produce controlled vibrations along a single axis (typically Z-direction), resulting in faster response, lower power consumption, and longer operational life. These LRA vibration motors are particularly suited to advanced consumer, medical, and industrial devices where haptic quality and durability are critical.

With a compact form factor—as small as [6mm diameter and 2.5mm thickness](#)- INEED's LRA motors can be integrated into space-constrained designs such as wearables, touchpads, and VR controllers.

The [LRA2024A-1088F](#) has effective bandwidth of 30Hz - 500Hz, 1.2Grms vibration, 140mW low power. Perfect for VR/gaming controllers with 55ms Max rise time and 1M+ cycle lifetime. Ideal for immersive haptic feedback.

INEED Motors supports customization of electrical and mechanical interfaces to match specific project requirements, including lead type, connector options, and mounting configurations.

6 Key Advantages of INEED LRA Vibration Motors

Fast Response Time and falling time

Rise time 50 msec max, falling time 80 msec Max

Long Service Lifespan

No brushes reduce wear, springs designed for non-fatigue operation.

Low Power Consumption

Energy-efficient resonance operation extends battery lifetime.

Wide Operating Voltage

Supports low-voltage applications from 0.7 to 1.8 VRMS.

Compact and Thin Design

The 6mm Dia LRA motor, ideal for slim and small devices.

Typical Applications

Smartwatches and fitness trackers

Touchpads and user interface panels

Mobile phones and communication devices

AR/VR controllers and gaming accessories

Medical alert systems and handheld instruments

Why Choose INEED LRA Vibration Motors?

The company's LRAs are designed using finite element analysis to ensure mechanical reliability and are tested to comply with international quality and environmental standards, including RoHS and REACH. Engineers and buyers seeking enhanced haptic performance with improved mean time to failure (MTTF) over brushed ERM motors will find these actuators to be a cost-effective solution for mid- to high-volume applications.

For more technical details, please send email to inquiry@ineedelectronics.hk or call us at [\(+86\) 769 2289 1073](tel:+8676922891073).