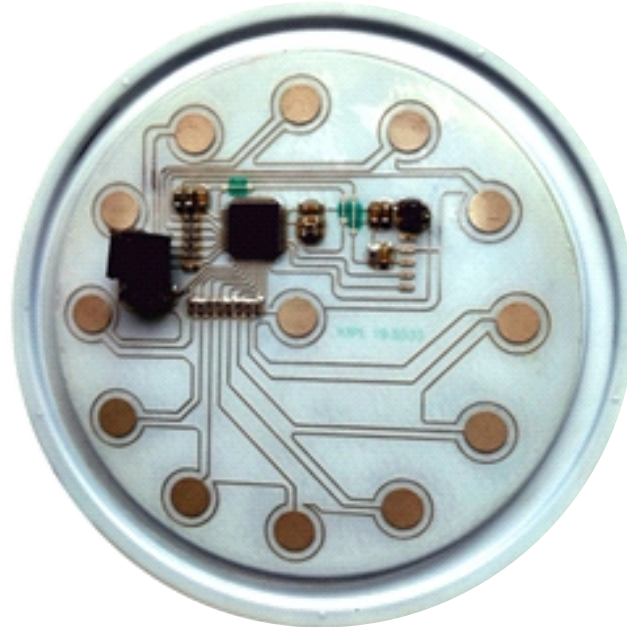




In-Mold Electronics (IME) Integrated 3D Smart Surface Technology

Smart, Contoured Surfaces With Touch Switches, Lighting, And Sensors Integrated Into Molded Parts.

In-Mold Electronics (IME) combines In-Mold Decoration (IMD) with Printed Electronics to create seamless, functional, and aesthetically advanced electronic surfaces.

This process integrates decorative and electronic features directly into molded plastic components, resulting in lightweight, durable, and cost-effective alternatives to traditional mechanical interfaces.

Keetronics' IME technology enables designers and manufacturers to build 3D smart surfaces with integrated touch control, lighting, and sensing—eliminating separate buttons, overlays, and assemblies.

The result is a modern, sleek design ideal for next-generation automotive interiors, appliances, consumer electronics, and medical devices.

SPECIFICATIONS :

- Technology Type: Integration of Printed Electronics with In-Mold Decoration
- Material Base: Polycarbonate (PC) or Polyester (PET) films
- Functional Layers: Conductive, dielectric, and decorative inks
- Conductive Material: Silver-based IME inks with high 3D formability
- Curing Options: Thermally curable and UV-curable formulations
- Adhesion Promoters: Available for PC, PC/ABS, PVC, PP, PE, and co-polyesters
- Integration Capability: Compatible with surface-mount LEDs and connectors
- Forming Process: Thermoforming and injection molding
- Final Product: Rigid plastic component with integrated electrical functionality

Key Features :

- Combines printing, forming, and molding into a single integrated process
- Enables creation of 3D contoured, functional surfaces
- Lightweight, durable, and aesthetically enhanced components
- Supports integration of touch switches, LEDs, and sensors
- Conductive IME silver inks offer high performance and flexibility
- Compatible with polycarbonate, PC/ABS, PVC, PP, and co-polyester resins
- Excellent adhesion, electrical stability, and formability
- Available with UV-curable or thermally curable dielectric inks

Advantages :

- Combines beauty and function: Decorative and electronic layers in one step
- Lightweight and compact: Reduces components and assembly complexity
- Enhanced durability: No exposed circuits or mechanical wear points
- Cost-efficient: Fewer materials, faster assembly, and lower tooling costs
- Design freedom: Enables curved, illuminated, and touch-sensitive surfaces
- Scalable production: Compatible with large-scale molding operations
- Proven reliability: Stable performance under molding temperatures and pressures

Application :

- Automotive: Interior controls, backlit panels, seat heaters, and de-icing systems
- Appliances: Touch control interfaces, display panels, and smart housings
- Consumer Electronics: Wearables, smart remotes, and portable devices
- Medical Devices: Diagnostic instruments and control surfaces
- Industrial Equipment: Control dashboards and user interfaces

Technical Specifications :

Model Number	PE In-Mold Electronics
Category	Functional Printed Electronics