DISPLAY PANEL BACKLIGHTING

When manufacturers want their products to stand out among the competition, backlit display panels provide a contemporary yet functional design element. As a result, the demand for backlighting is growing across markets. For medical devices and equipment to commercial and recreational vehicles, automotive interiors, connected-home devices, commercial electronics and more, Molex offers cutting-edge backlighting techniques and effects with proven switches and printed circuit assemblies.

INDUSTRY-LEADING BACKLIGHTING SOLUTIONS

EXPERTISE: Through decades of experience, Molex leverages extensive capabilities to provide illuminated displays for a wide range of products and applications.

SWITCH OPTIONS: Molex provides high-quality backlighting for a variety of switches. For example, along with capacitive switches, our engineers also design tactile membrane switches with backlighting on buttons and for rubber keypads.

QUALITY: Molex engineers are continually innovating to overcome common design challenges and deliver pristine illumination.

1. Light uniformity — Our designs can evenly illuminate a button or icon, eliminating hotspots. Our in-house instrumentation also measures and ensures lighting uniformity.

2. Light-bleed elimination — Molex has the experience and technical know-how to contain light precisely within designated graphics. Our solutions overcome the challenges of space-constrained applications and provide crisp, precise lighting even when buttons and other illuminated elements are close together.

3. Smooth lines — For more esthetically pleasing graphics, Molex employs techniques to provide even, uninterrupted lines, avoiding pixilation.

To support design strategies for high-tech esthetics in end products, Molex offers the expertise to implement innovative lighting effects:

- Dead front overlays — icons/graphics are concealed until illuminated
- Light-guide and light-guide film constructions for backlight touch keys
- Embedded lights combined with in-mold decorated plastics for illuminated branding
- Light-pipe effects with smooth, even lighting

Integrated, Transparent Touch Films
Molex development of PEDOT technology enables integration of capacitive touch capabilities and lighting within a single circuit, delivering a simple, elegant switch that also takes up less real estate. Additionally, PEDOT-printed circuits facilitate design flexibility, making it possible to provide a backlit capacitive switch on a curved surface.

APPLICATIONS

Automotive
Safety and driver assist
Comfort and infotainment
Body electronics

Home Appliances
Major appliances
Smart connected appliances

Medical
Monitoring
Diagnostic
Therapeutic

Connected Home
Smart appliances
Home automation
Energy and utilities

Commercial Vehicles
Comfort and infotainment

Medical Monitoring

Comfort and Smart Appliances

Smart Connected Appliances

The Molex Advantage

Molex takes a collaborative approach to each project, assigning a lead engineer who works closely with the customer to develop solutions specifically targeted for their application. We analyze each customer's specifications and respond with detailed recommendations. Design and production steps follow, and we employ in-house instrumentation to test and fine-tune our lighting designs. Our methods lead to greater flexibility and customization to meet the precise goals of each project.

www.molex.com/capabilities/backlight.html

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