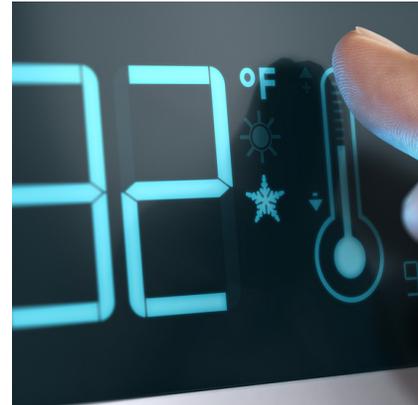


CAPACITIVE SWITCH DESIGN FROM MOLEX

Capacitive switches are the behind-the-scenes systems that give modern user interfaces their cutting-edge aesthetics. Because they deliver longer life spans and better endurance in harsh environments due to their lack of mechanical components, capacitive switches are often preferred over other types. An early provider of capacitive switch design and production, Molex is an industry-leader in this technology and offers top-performing solutions.



OUR COLLABORATIVE APPROACH

Consumer device icons that use proximity sensing to illuminate upon approach? Medical devices with backlit touch-slider controls? Industrial equipment with scroll wheels? Top-of-the-line home appliances with all these capabilities? Molex has experience with a broad range of markets and end products. We assign our customers an experienced lead engineer, who works collaboratively with them to ascertain specifications and successfully implement even the most ambitious capacitive goals.

Whether customers require a whole system design or the production of an optimally performing circuit, Molex applies its expertise to deliver innovative solutions. Because we view every capacitive switch project as unique, the Molex engineer's first step is to assess the customer's requirements: The number of touch keys, the function of each key, lighting needs and electromagnetic interference (EMI) requirements are just some of the considerations. The engineer follows up information gathering with analysis and detailed recommendations. Design and production are then implemented, as needed:

Selection of the appropriate microchip

Full electrical layout design & production

Firmware and software programming

Prototyping and testing

Fine-tuning

Mass production



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CAPACITIVE SWITCH DESIGN FROM MOLEX

With full design and development centers in both the US and China, Molex provides its capacitive switch capabilities on a global level. Regardless of the project's scope — from system design to circuit production — Molex leverages in-depth experience to produce robust switches. The goal of our holistic approach: to ensure the best possible performance of the entire switch:

Wide-ranging capacitive experience. Molex can implement different types of capacitive sensing, including mutual or self-capacitive, proximity, sliders, wheels and gesture — whatever works best to meet your end product's specifications.

Comprehensive recommendations. We design graphics, backlighting, substrate materials and inks — innovative solutions that work best with each unique project.

Signal integrity. Molex engineers employ strategies with circuitry designs and shielding to minimize electrostatic discharge (ESD) and EMI and ensure signal integrity.

Firmware. We develop our own firmware and have extensive experience in a wide range of protocols, such as I2C, USB SPI, UART and CAN bus.

Chip sets. Our engineering team has experience with a variety of microchip vendors, such as Cypress, TI, Microchip and Atmel. We provide chip selection based on the needs of your system, as well as full system design and layout. And Molex engineers customize the entire electrical architecture to work optimally within the customer's system.

Functional performance. Our engineers take the extra steps, such as tuning each key individually, that ensure end users experience a top-performing capacitive switch.

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 Diagnostic and Monitoring



Smart and Connected Appliances



Wide-ranging Capacitive Experience

THE MOLEX ADVANTAGE

Through our collaborative process, Molex engineers use their expertise to implement every technical advantage available to deliver a capacitive switch capable of optimal performance. Contact us to learn more about how Molex can meet your capacitive switch requirements, while optimizing performance and exceeding your expectations.

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www.molex.com/capabilities/capswitch.html

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