keetronics®
(India) Pvt. Ltd.
कीट्रॉनिक्स् (इंडिया) प्रा. लि.

WHAT ARE CAPACITIVE SWITCHES ?

A capacitive switch detects the presence or absence of a conductive object, such as a finger, by measuring changes in capacitance. This means there are no mechanical components within the switch – eliminating any potential mechanical failure and offering excellent durability in even the harshest environments.

Our capacitive switches possess a self-contained system that gives flexibility to the design of your product. We are able to incorporate these switches with many different features including backlighting, touchpads, touchscreens, proximity sensors and more to create a product exclusive to your application. Common applications for capacitive switches include automobiles, computers, cell phones, consumer electronics, and industrial machinery.

CAPACITIVE SWITCH CONSTRUCTION

A capacitive switch consists of three main sections: the graphic overlay, circuit, and backer. The overlay displays your graphics and can also include windows, embossing, coatings, adhesives, and selective texturing.
The switch will either be a Flexible Printed Circuit (FPC) or a Printed Circuit Board (PCB). The backer is the final part of your capacitive switch, and may or may not include an adhesive that must bond to your specific substrate.

CAPACITIVE SWITCH MATERIALS

The most common materials used for overlays are plastic, acrylic, and glass due to their durability and versatility. Any adhesives that are used on the overlay must make good mechanical contact, as air gaps reduce the dielectric constant and sensing uniformity. The adhesive must also be non-conductive. A commonly used acceptable adhesive is the 3M 200MP series acrylic adhesive (3M467, 3M468).

COLOR MATCHING

Keetronics most commonly uses the Pantone Matching System or CMYK color model to match custom colors. We can match to a specified or provided color. If you wish to submit a sample, we prefer that it be 2 x 2" in size.

BACKLIGHTING YOUR CAPACITIVE SWITCH

If you would like to backlight your application, the capacitive switch construction would incorporate either light guides or LEDs for uniform lighting. Depending on the requirements of your application such as thickness preference, shape, environmental exposure, and other unique specifications, the backlighting options would vary and be selected specifically to fit the function of your device. Using the latest LED powered lighting can reduce cost and reduce power used by a device. Since many devices today are portable, this backlighting solution is more relevant than ever.

A variety of applications that use backlighting solutions are: remote controls, laboratory equipment, airplane dashboards, medical devices in dimly lit operating rooms, consumer appliances, such as coffee makers and microwaves, laptop keyboards, and many other applications that we all come in contact with daily or sporadically.

We have various backlighting samples that you can evaluate and consider for your application. Please feel free to submit a sample request and we'll send you a variety of useful samples and tools you can experiment with for your application.

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