



WHAT ARE INTELLIGENT TOUCH BUTTONS™?

They are touch sensitive buttons with brains. Just like a computer touchscreen, a touch sensitive button senses a person's finger. Then it can control devices like an MP3/Video player, speaker switching, or control a product by sending infrared commands. Most applications use one, four or eight buttons, but – theoretically – there is no limit to the amount of touch sensitive buttons that can be in one device.

Why use Intelligent Touch Buttons™? There are several good reasons:

- Low cost
- Easy to install
- Fewer wires to connect
- High reliability
- Touch points are highly configurable
- Easily integrate LEDs to attract attention and indicate status
- Data collection
- Enhanced customer engagement

LOW COST

Even though Intelligent Touch Buttons™ are smarter than conventional mechanical buttons, they are often less expensive, especially when indicator lights are required. Intelligent Touch Buttons™ also have a lower per unit cost than multiple mechanical switches and cost-effectiveness is compounded by their ease of installation and durability.

EASY TO INSTALL

Intelligent Touch Buttons™ are easily installed, usually with high-bond double-stick tape. They can also be positioned under the graphic panel and held in place with a bracket or snap-in holder, to allow the graphic panel to be updated.

FEWER WIRES TO CONNECT

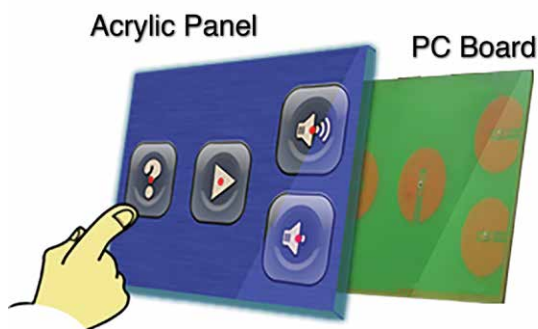
Conventional display designs use switches that require two to four wires between each switch and the controlling electronics. With Intelligent Touch Buttons™, the controlling electronics are usually built into the switch panel. Often there is only one cable to connect. Individual wires, wire stripping, and soldering are never required.

HIGH RELIABILITY

Fewer wires mean fewer problems during manufacturing and in the field. Intelligent Touch Buttons™ have no moving parts to wear out. They are easily integrated into systems that need to be impervious to dust and liquids such as cleaning materials which can ruin conventional switches.

TOUCH POINTS ARE HIGHLY CONFIGURABLE

The shape or sensitivity area of a touch sensitive button is not limited to round or square like a mechanical button. It can be sized to encompass a logo, picture or graphic. This makes them perfect for displays that must change options from time to time.





EASILY INTEGRATE LEDs TO ATTRACT ATTENTION AND INDICATE STATUS

With Intelligent Touch Buttons™, LEDs can be used to attract attention, to indicate what features are currently available, and to confirm which program is currently playing. For displays without video, this is a very effective way to add light and motion to an otherwise static display. Battery operated displays can benefit by having attention-getting lights with very low power consumption.

ENHANCED CUSTOMER ENGAGEMENT

Because they have brains, Intelligent Touch Buttons™ improve usability. Their LEDs can guide the user by directing the customer's attention to the next step in the engagement. This improves communications, dwell time, and - ultimately - sales.

HOW DO INTELLIGENT TOUCH BUTTONS™ FUNCTION?

The touch sensitive button works by sensing capacitance. Using a proprietary algorithm, they accurately sense the touch of a person's finger. Then, the "touch" is passed to a processor for analysis. The processor can discriminate between a single touch, a multiple touch, and how long each button was touched. This information can be used to simplify the customer engagement or to enable more sophisticated processes for expert users. For example, an audio player can have a function that when two buttons are touched for longer than 3 seconds the system announces how many times it was played.

MECHANICAL DESIGN CONSIDERATIONS

Intelligent Touch Buttons™ sense the capacitance of the user's finger when it is near the electrical plate of the touch-sensitive switch. However, these plates are not intended to be touched directly. For the process to work dependably there must be a non-conductive material between the electric plate on the PC board and the user. Most designers use an acrylic panel with a thickness between .100 inches and .250 inches. Other materials like wood can be made to work as well. Generally, if a material has good insulation qualities (does not conduct electricity), it can be made to work. They will not work through metal panels and they need to be at least 3/4 inch away from metal supports.

GRAPHIC PANEL DESIGN CONSIDERATIONS

No longer is the designer limited to the conventional round or square switch. With Intelligent Touch Buttons™, designers are able to make the touch area in any shape. A touch sensitive switch panel may have pictures of products, company logos, or virtually any graphic design which declares to the user: touch me.

A popular way to design the graphic panel is to back-screen a graphic on a clear acrylic panel holding back all paint for any LEDs. This creates a one-piece protective shield over the touch sensitive switches and allows the LEDs to shine through at their greatest intensity. Often, the designer simply integrates the switch panels into the lower or bottom acrylic panel of the display or vacuum-formed base.

AVAILABILITY

Conventional switches can be hard to get in large quantities. Many industrial suppliers don't stock enough switches for your projects and lead times can exceed eight weeks. Intelligent Touch Buttons™ are custom made for your project. They are generally always available in four to six weeks, sometimes sooner.