

5 Reasons Membrane Keypads are Perfect for the Medical Sector

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MEMBRANE KEYPADS

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Whenever you enter hospitals, clinics and even local surgery's, we are sure you have noticed the many different devices and equipment they employ to serve the patient's needs. You may have also noticed that these devices are looking more and more futuristic all the time. Devices now resemble something from the sci-fi series of Star Trek rather than what you remember from growing up. Do you even recall the last time a doctor used a mercury solution thermometer to check your temperature? These advancements in technology are there to provide a safer and more accurate appraisal of patient's conditions. The medical profession is clearly a leading innovator of human-machine interfacing and technical advancement in scientific equipment. Therefore, it is needless to say that the medical profession is also driving fast advancement in membrane keypads and membrane switches

used in these interfaces. [Membrane Keypads](#) are perfect for the [Medical Sector!](#)

When it comes to the design of new medical equipment, it may be useful to recall 5 reasons that make a membrane keypad an ideal solution to your design needs. As we explain these benefits, we will also suggest a few different benefits* that will take your design to the next level.

1. Hygiene:

One of the most important benefits of membrane keypad construction is sealing a component to protect against liquid ingress. Providing you have designed an overlay that has adequate space a perimeter seal may be achieved. This means that the device is protected versus the possible chance of chemical and microbial contamination. Any bacterial contamination can therefore only sit on the external surface and not penetrate the interior. This makes the unit easy to keep medically sterile. Furthermore, this makes the device safe versus robust cleaning regimes that may damage other types of equipment.

*. Take this protection to an even higher level using the antimicrobial film surface created by the manufacturer MacDermid that inhibits bacterial growth – [Read More](#)

2. Low profile:

A standard function of a membrane keypads construction is that a one-piece graphic overlay naturally aids the hygiene safety of a device. If you consider that conventional switches have sharp angles and component gaps that could hide contaminants, a low-profile control without gaps will make a huge difference. Encapsulating all the connectors and metal domes safely behind a low profile graphic overlay shields the device.

3. Tactile Response:

When designing a control panel and the integral graphic overlay that sits within it, there is the option to make it more tactile for the operator. The haptic sensation of a button that reacts to its operator gives the user reassurance that a function has been selected. Embossed edges and raised buttons also help the user's sense of touch. This sensation can not be achieved through a capacitive touchscreen, which is also far more expensive. By using different finishes, metal domes and embossing techniques a device has no end of possibilities.



4. Visibility:

When working in a fast-paced environment it is important to indicate a patient's ongoing status clearly. Doctors may be working some distance from the equipment, and all vital signs must be well illuminated. Backlit membrane technology supplies this type of bright, easy to read display. Touchscreens seldom offer the same level of contrast and definition. Screen reflections and narrow angles make them more difficult to define.

*. Implementing LED Backlighting into your medical equipment can greatly improve the operational possibilities. For example, the backlighting could change the whole unit's colour as a warning alongside all the normal functions. An instant alert to the change in the patient's wellbeing. Therefore, a surgeon concentrating on a difficult procedure could be alerted to any changes through peripheral vision. Gaining this insight, even a second earlier may save a life?

5. Compliance:

Many types of medical devices and components are quickly heading toward compulsory regulations like RoHS (Restriction of hazardous substances). This is where a membrane keypad can really benefit a medical device. They can easily be designed to contain no restricted materials. The polyester, adhesive and inks are free from these restrictions. The only possible area of concern would be the lead or copper in the solder and circuitry. With good project management, these issues are easy to overcome by sourcing RoHS compliant component materials.