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INDIVIDUAL BUTTONS & SWITCHES - OUR HMI SOLUTIONS

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Categories

foil-covered buttons | silicone-covered buttons | capacitive HMI solutions | stainless steel buttons

Foil-covered buttons

Foil-covered keyboards are the most widely used input elements in device and apparatus construction. Whether they have a narrow operating area with two keys or are a complete user interface with a large number of keys and additional elements, their robust design, flat insertion depth and the large degree of freedom in terms of their shape continue to make them customers' first choice.

Special technologies refine your membrane keyboard

The almost unlimited flexibility in design is one of the major advantages of foil-covered keyboards. As a result, the design engineer can freely set the number of keys, their position and their shape on the device. Then there is the equally wide selection of graphical designs for the user interface. Foil-covered keyboards as mechanical switching elements firstly offer thin metal dome switches. Secondly, the switching mechanism works when the foil surface contacts the switching film below. Foil-covered keyboards are normally glued into place without a great deal of effort to integrate them within systems.

Membrane buttons in colourful variety

Technology:

- A flat height
- Robust, malleable foil surface
- can be activated more than 1 million times
- High degree of resistance to wear
- Insertion through adhesive layer on rear
- Various key embossing designs
- Attractive additional features

Benefits:

- Absolutely individual design
- Cleaning and desinfecting
- Flat insertion depth
- Space-saving, compact control panels available
- Easily perceptile key feedback

Fields of application:

  - Device and apparatus construction for all applications
  - Aerospace
  - Industry
  - Medicine
  - Embedded Systems

>> Learn more about membrane switches here

Silicone-covered buttons

Silicone mats are particularly cheap for mass production purposes in comparison to other keyboard technologies. They are stable and reliable and offer almost unlimited opportunities for designs.

The colours and shapes of key caps can be freely defined. Silicone mats are made from highly elastic, toxin-free silicone rubber. The mats are created by moulding them from the basic materials that are fused together at a defined temperature and pressure. A special tool is necessary for each model. There is usually a conductive carbon pill for each key on the bottom side. The lower contact part is normally formed by meander-shaped conductors on a film or printed circuit board base.

silicone keypad

>> Learn more about silicone-covered buttons here

Technology:

- Almost unlimited design possibilities
- Surface coating possible
- optionally available with plastic caps
- Fitting housings available
- Additional attractive features possible: Illumination or multicolour
- Price value for series production
- Secure contact on the printed circuit board

Benefits:

- Excellent chemical resistance
- impermeable to dirt and water
- Good haptics for the individual keys
- Coating on the silicone possible

Fields of Application

- Device and apparatus engineering for all applications
- Aerospace
- Industry & Production facilities
- medicine
- Embedded Systems

Capacitive HMI Solutions

Capacitive components & assemblies form the basis for developing what are known as “touch solutions”. They involve smooth, sealed surfaces that the user can operate by touch. The technology enables a flat design and it can be produced using glass, plastic or any other non-conductive surface. There are almost no limits on the creative design of the graphical interface either. These units are highly beneficial because they resist chemicals and dirt, the electronics are subject to low levels of wear and tear and it is possible to integrate the units and make them waterproof and dust-proof.

The surface material used forms an important component in capacitive systems. Although various non-conductive materials are available, glass has virtually become the standard product. Features like its resistance to chemicals, ease of cleaning, robustness or high design value make glass the first choice in this field. The printing operation is the essential criterion for the design of the operating surface. We have a broad, complete range of services in this area to enable us to create sophisticated user interfaces. In addition to producing capacitive operating solutions, we can offer our skills in glass printing as a production service.

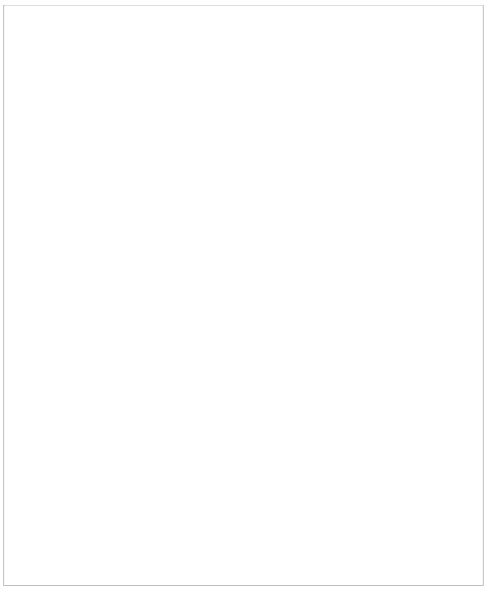
Technology:

- Surface coating possible
- Conversion as single button, keypad or keyboard in full layout
- Additional features such as illumination or operating feedback as acoustic signal or local vibration
- Additional attractive features possible: Illumination or multicolour
- Protected by integration on the back and therefore virtually wear-free

Benefits:

- Excellent resistance to water & dust
- Good haptics for the individual keys
- Almost unlimited design possibilities

Fields of application:



- Device and apparatus engineering for all applications
- Aerospace
- Industry & Production facilities
- medicine
- Embedded Systems

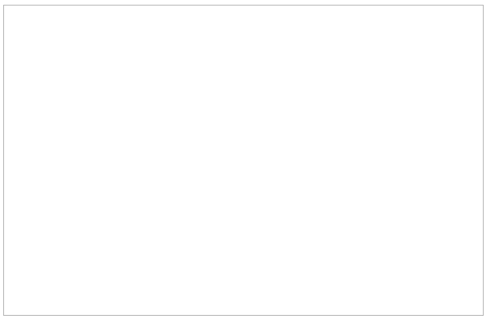
>> Learn more about capacitive control solutions here

Stainless steel buttons

Stainless steel keyboards are the first choice if you require robust input components and systems. With an impact resistance level of up to IK10, they withstand the toughest operating conditions. Stainless steel is also very attractive as a material. Despite the material's robustness, there are hardly any restrictions on individual designs.

Stainless steel, for example, is used in areas where consumers encounter keyboards. It is ideally suitable at information terminals, vending machines and ATMs or self-service systems because it offers protection against vandalism. Stainless steel keyboards also have extra value in terms of their aesthetics and functions. Key lighting, the use of an integrated touchpad or an individual key layout are just some of the many options available. Special stainless steel keyboards, which have a silicone keypad as the key element, are suitable in this area. This provides a pleasant touch feeling, which is almost the same as on a traditional PC keyboard.

Stainless steel keyboards are very suitable for use in difficult environments because they are able to withstand jolts, liquids, dust, chemicals and changes in climatic conditions. Stainless steel keyboards are even used outdoors in polar regions, for example; this is possible because a heating system is included in the keys. The option of having stainless steel keyboards with an enclosed surface and an individual design is ideal for environments that require high levels of hygiene.



Technology:

- different sizes, designs, key shapes and switching technologies
- High degrees of protection (up to IP69k)
- Individual marking by laser or engraving
- Surface treatments such as high polishing, matt grinding or dark colourings
- Button and element illumination
- Integration of various additional operating elements such as buttons, cursor controls or displays

Benefits:

- Highest resistance
- Vandal resistant properties
- Fine, optical design
- realization of both small control panels and large-format panels

Fields of application:

  - Heavy industry
  - Food production
  - Extreme outdoor applications
  - Self-service and vending machines

>>Learn more about stainless steel buttons

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