

CAPACITIVE OPERATING
COMPONENTS AND
SYSTEMS

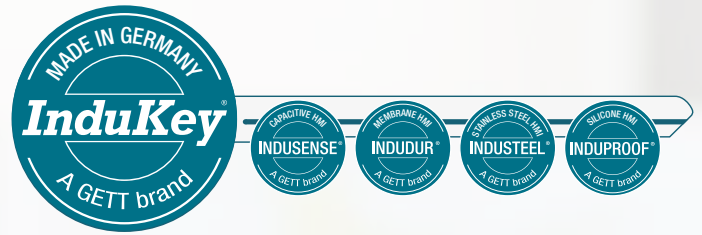


CAPACITIVE COMPONENTS AND SUBASSEMBLIES

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 to 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.

OUR TECHNOLOGY BRANDS












InduSense® is our technology brand for capacitive operating solutions. It forms part of the InduKey quality brand family. We develop and produce the so-called touch components and systems at our company headquarters in Treuen.

AS A MANUFACTURER, WE CAN OFFER YOU A BROAD RANGE OF PRODUCTS, SOLUTIONS AND SERVICES

- Glass printing in line with current colour schemes (e.g. RAL, Pantone)
- Use of and integration with sensor films (projected capacitive touch screens) and surfaces (touch-pads)
- Various integration processes (e.g. optical bonding or OCA lamination)
- Developing and producing capacitive keyboards with a full key layout
- Developing and producing individual capacitive buttons and key panels
- Combining individual buttons to form jog dials, slide controls etc.
- Integrating different ports (e.g. I²C, USB)
- Integrating illuminating functions
- Integrating feedback elements (acoustic, touch)
- Producing complete systems with an integrated frame

YOU ENJOY THESE BENEFITS AS OUR CUSTOMER OR PARTNER

 <p>A high degree of reliability</p>	 <p>Customised solutions</p>	 <p>A company that can master all the data input technologies</p>
 <p>A high degree of security</p>	 <p>24/5 Extensive advice and support</p>	 <p>Rapid implementation and deliveries</p>
 <p>Made in Germany High levels of quality: Made in Germany</p>	 <p>Certificates and standards</p>	 <p>A variety of technical features like explosion protection or illumination</p>

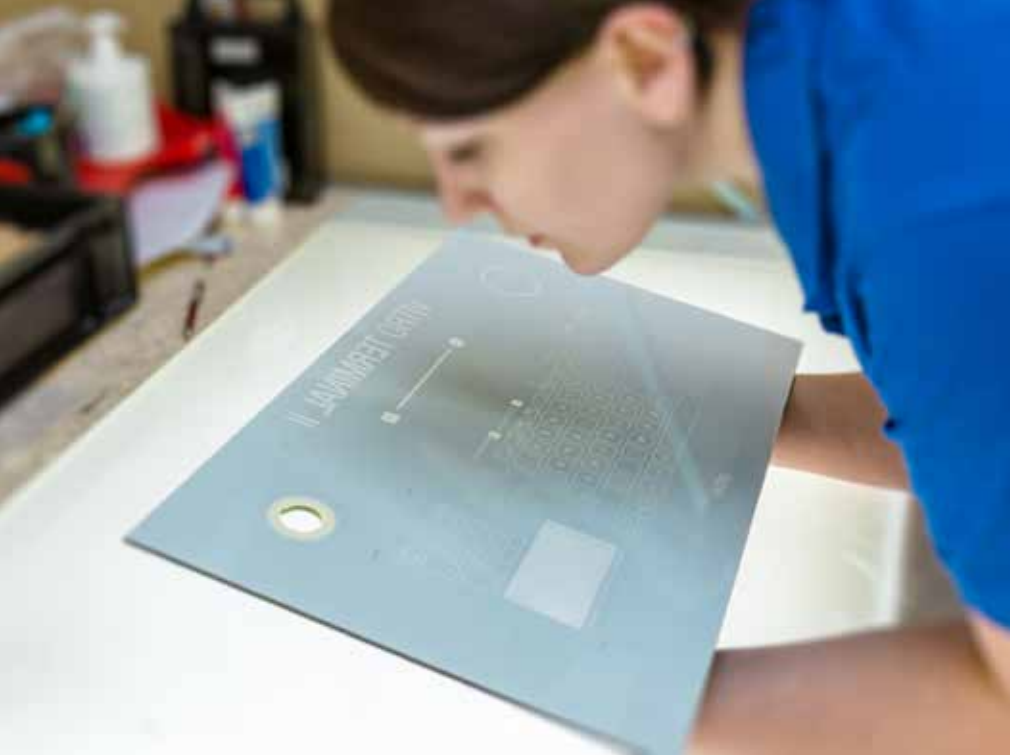


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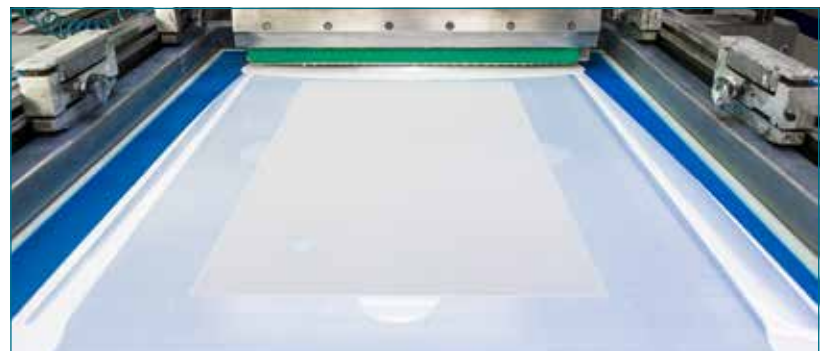
OPERATING SURFACE



The choice of surface material 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.



BENEFITS

- ✓ Common glass thicknesses ranging from 0.8 to 3 mm
- ✓ Individual dimensions
- ✓ Complete abrasion resistance through printing on the rear side
- ✓ Edge and haptic polished design creations possible
- ✓ Additional glass processing available - e.g. an anti-dazzle effect or improved anti-friction properties
- ✓ Using alternative materials like acrylic glass or artificial stone

OUR SERVICES

- ✓ Printing different types of glass up to a size of 500 x 600 mm
- ✓ Using standardised colour schemes like RAL or Pantone
- ✓ Production available, even for small quantities
- ✓ Purchasing, finishing and processing all the relevant surface materials
- ✓ Integration in frames



TOUCH SCREENS



Capacitive touch screens are so-called sensor areas, which enable multiple recognition of touch movements (multi-touch) and sliding movements (gesture recognition). These surfaces can be designed, for example, as PET film or as a glass panel. They are normally applied to the rear side of an operating surface made of glass by means of highly transparent, impurity-free lamination. A monitor is finally mounted behind this design to cover the whole area; the touch screen therefore takes over the mouse function with extended options.

The basis for this technology involves adapting the sensor surface to the controller software and the front material. We handle the adaptation and integration of projected capacitive touch screens ranging from individual sub-assemblies to frame solutions.



TECHNOLOGY BENEFITS

- ☑ Large operating choice through multi-touch and gesture recognition
- ☑ Protected by integration on the rear side; therefore subject to almost no wear at all
- ☑ High degree of resistance to mechanical and chemical influences
- ☑ Outstanding transparency and high degree of optical brilliance

OUR SERVICES

- ☑ Laminating sensor films with glass or sensor glass with glass (including optical bonding)
- ☑ Complete mechanical system integration, e.g. glass front in a metal frame
- ☑ Manufacturing projected capacitive touch screens in all the common inch sizes
- ☑ Combining touch screens with front supports, displays and frames



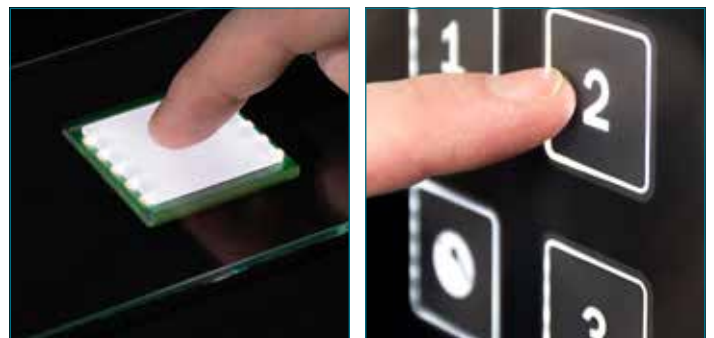
CAPACITIVE KEYBOARDS AND BUTTONS



Capacitive keyboards and buttons use individual sensors, which develop electrical fields and act like a capacitor plate. This field penetrates a large number of materials; the most commonly used is glass (see page 4). If the user touches the field, the capacity changes and triggers a signal. It is possible to integrate a capacitive touch-pad, in addition to the pure buttons.



In contrast to touch screen systems, where the operating elements are mapped graphically via the monitor, this technology involves distinct, physically present buttons. We develop and produce the electronics and adapt them to each requirement – ranging from backlit individual buttons to keyboards with complete alphanumeric sets of keys behind glass.



TECHNOLOGY BENEFITS

- ☑ Production as an individual button, key panel or keyboard with a full layout
- ☑ Additional features like lighting or operating feedback as an acoustic signal or local vibration
- ☑ Protection provided by integration on the rear side; therefore subject to almost no wear at all
- ☑ Various ports ranging from I/O to USB

OUR SERVICES

- ☑ Design and layout development
- ☑ Electronic development and production
- ☑ Mechanical application and combination, e.g. individual button as an additional operating component for touch screen systems
- ☑ Range of standardised sub-assemblies and products



KEYBOARDS READY FOR USE



We offer a range of standard keyboards in addition to individual production in the field of capacitive operating solutions. You can purchase them ready for use from our stores. Generally, we distinguish between flat keyboards for integration in systems and devices and keyboards in a frame for use on a desk.

Our devices have a variety of functions and a high degree of design value. Manufactured at our business site, the keyboards are subjected to a strict quality process. The products are used in a wide variety of applications and have a large number of benefits: elegance, resistance, a long serviceable life and user-friendliness.



OUR RANGE, YOUR BENEFITS

- ✓ Capacitive keyboards as flat and frame versions
- ✓ Complete alphanumeric keyboard layouts
- ✓ High-quality production
- ✓ Variety of functions like stand-by mode, sensitivity controls or acoustic feedback signals
- ✓ Private label production and individual designs
- ✓ Various country versions available

OUR KEYBOARD BRANDS

Our in-house brand for capacitive operations is **INDUSENSE®**. We develop, manufacture and market keyboards using this brand.

Alongside this, we offer a high-quality, design-oriented high-end series of keyboards using the **CLEANKEYS®** premium brand; we manufacture them exclusively under licence and market them around the globe.

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