

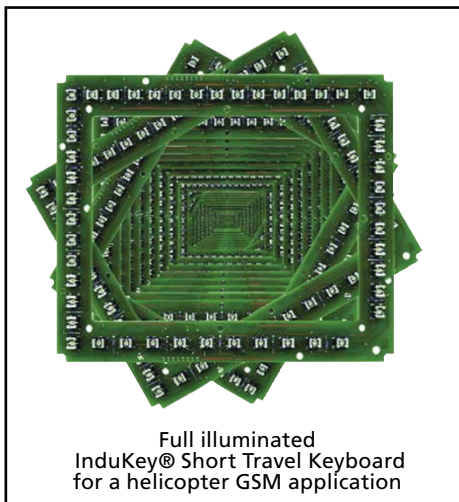


Räätälöidyt näppäimistöt Custom keyboards

Custom Keyboards, with their specific requirements, demand the most exacting standards of design and manufacture. InduKey® has the expertise and experience to meet these standards and guarantee technical excellence every step of the way. We guarantee that the keyboards we design and produce for you are manufactured exactly according to your specs. Scanmagnetics Oy on valmis vastaamaan kysymyksiinne.

Sections and departments:

- Custom Short Travel Keyboards
- Custom Gold-on-Gold Dome Keyboards
- Custom Flexible Membrane Keyboards
- Custom Design Foils and Metal Plates
- Custom Silicone Keyboards
- Custom Long Travel Keyboards
- Custom Enclosures and Devices
- Custom Development and Production
- Custom Resistive Touchscreens



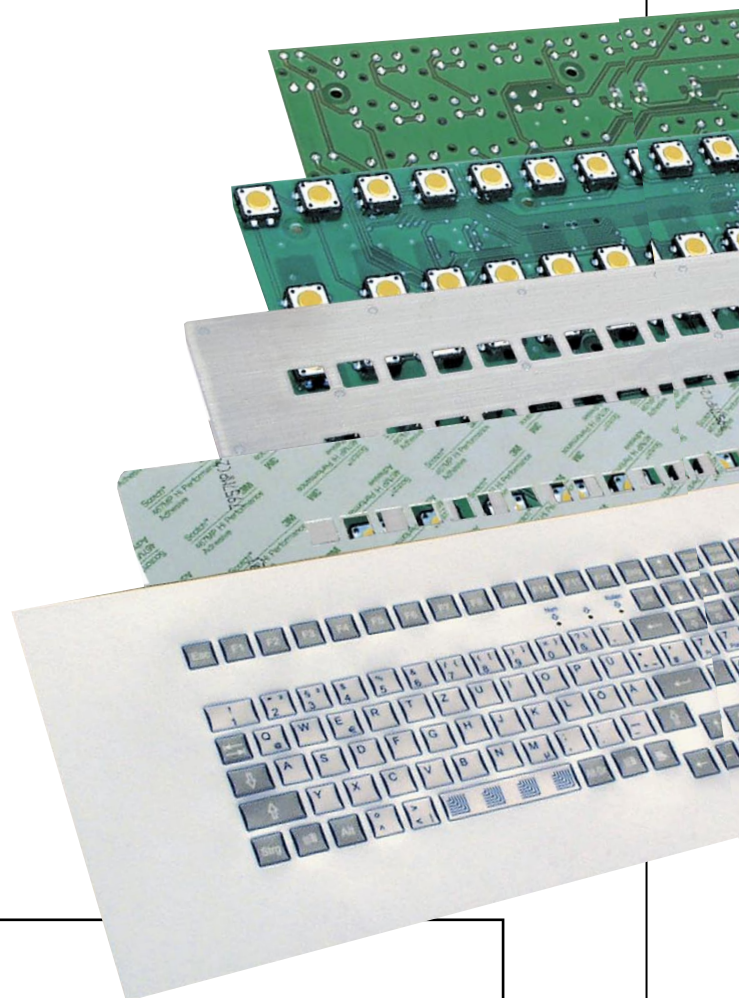
Full illuminated
InduKey® Short Travel Keyboard
for a helicopter GSM application



Discreet electromechanical Short Travel Key

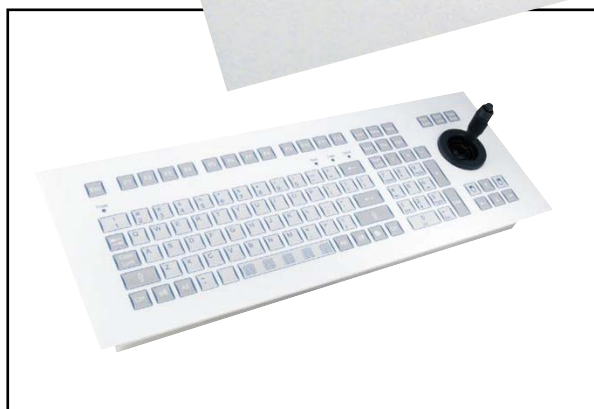
Excellent features

- Resistant against dust and splash water
- Suitable for a rough environments
- Different lighting versions of keys as functional lighting and levels of lighting available
- Good tactile feedback through short-travel keys
- Integration of display windows possible
- Integration of additional electronic elements and functions on the PCB
- Different heights and sizes available on request
- Custom front foils and legends available on request



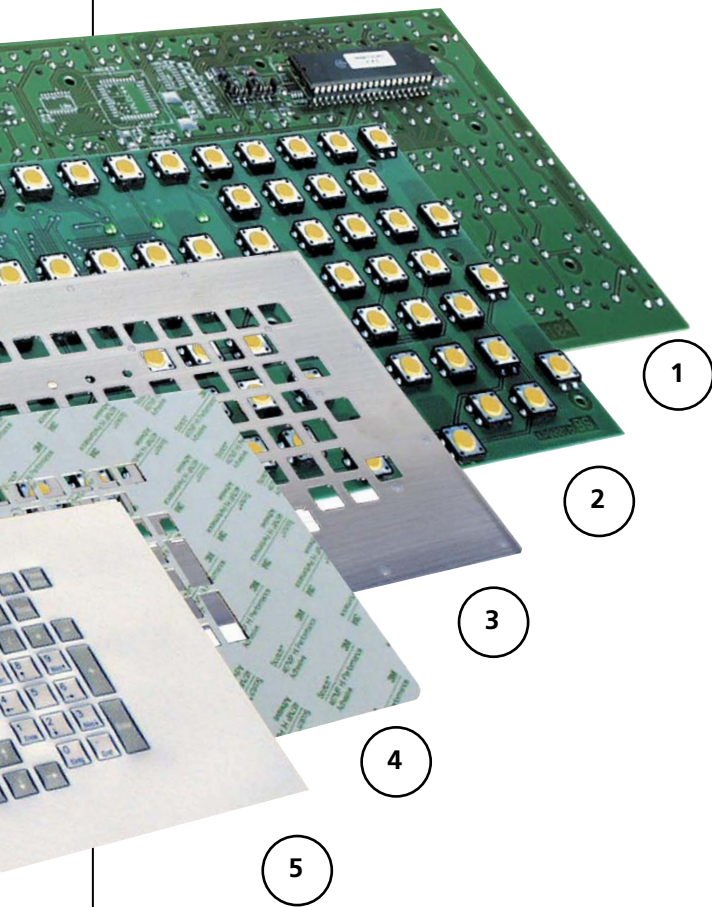
Foil covered Short Travel Keyboards

These keyboards are equipped with high-quality short travel keys behind a metal front panel. Custom front foils and legends available on request. The front panel is covered with a protective and printed polyester-foil. When mounted correctly the front is sealed to IP65 standards. The short travel keys offer a good tactile feedback for the user. Short travel keys have a very long life time. They are available in different sizes and actuation forces and key travel is normally around 0,3 mm.



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Layer system of a Short Travel Keyboard

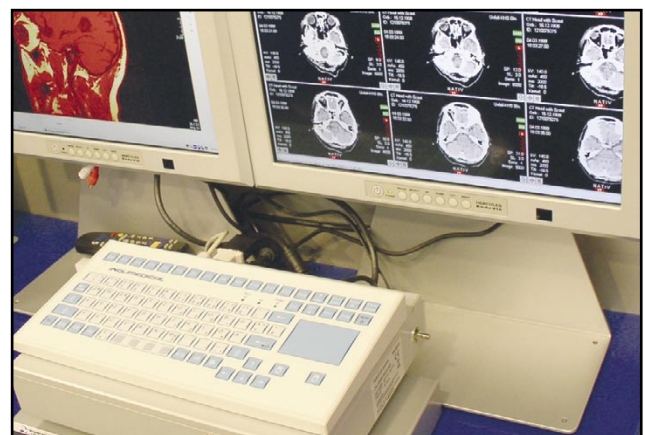
1. PCB (view on rear side)
2. PCB (view on key side)
3. Front panel (carrier plate)
4. Adhesive sheet
5. Design foil



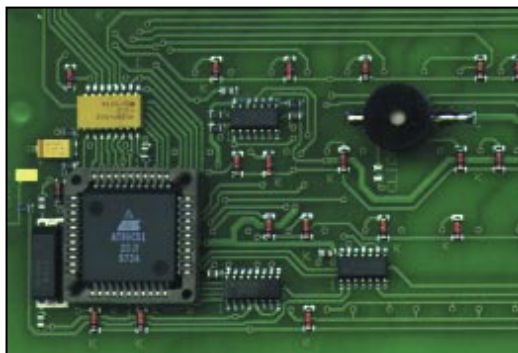
A Custom InduKey® Short Travel Keyboard, build into a Swedish High Speed Trains

Key advantages of the InduKey® products

- Exactly manufactured to your custom requirements
- Custom layout and color design available on request
- Variable height of short travel keys
- Very robust, aluminium front panel
- All development and layout designs done by our in-house R&D
- We use state-of-the-art CNC machines for all metal production
- Production of the design foils on our own silk screen printing systems
- Customer involvement throughout all stages of design and production
- In-house PCB production for prototypes



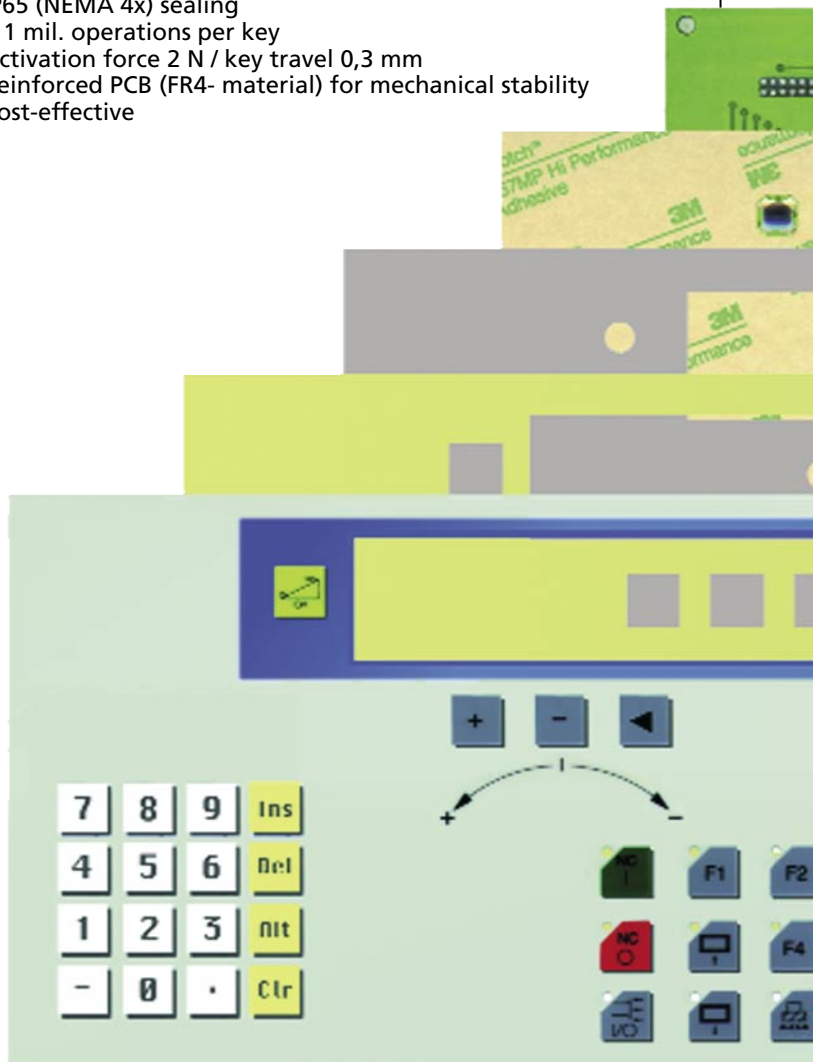
The Indumedical integrated in a x-ray-display-system



Rearside Controller Integration by InduKey®

Excellent features

- Gold-on-gold keys consisting of a gold metal dome on gold PCB-contact
- Positive tactile feedback and key embossing
- Rugged construction for reliable functionality
- Chemical, abrasion and scratch resistant frontsheet
- IP65 (NEMA 4x) sealing
- > 1 mil. operations per key
- Activation force 2 N / key travel 0,3 mm
- Reinforced PCB (FR4- material) for mechanical stability
- Cost-effective

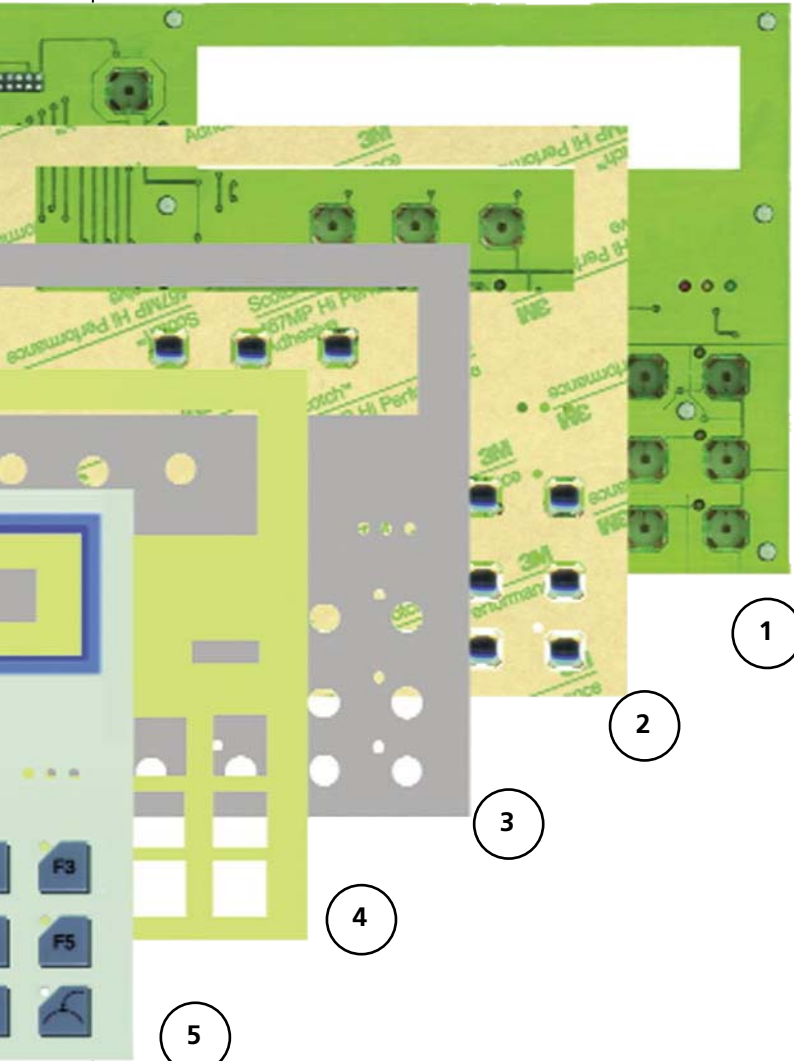


Automatic cutting machine

Dome Switch Keyboards

Our Dome-Switch Keyboards are a low-cost alternative to the Short Travel Keyboards. They use a high quality gold-on-gold membrane key-switch technology where a gold metal dome is placed over a gold contact on a reinforced PCB. The keys are protected by a 150 µm thick wear and tear resistant Autotex polyester frontsheet. The frontsheet is resistant to most industrial chemicals because of the „reverse printing technology“. They are available in desktop, 19 inch rack-mount or panel mount versions. Our Membrane Keyboards are sealed to IP65 and are available with trackball or capacitive touchpad. Interfaces available: PS/2 or USB. We offer semi or full customisation on all Membrane Keyboards.

Custom Gold-on-Gold Dome Keyboards



Night design with Backlit metal dome keyboards

- The latest technology FiberLight
- Specially suited for operation in low light environments
- For industrial, defense and medical applications
- Fully illuminated flat foil keyboards
- No loss of brightness during lifetime
- Suited for high humidity environments
- No additional power supply or inverter necessary
- Low power consumption
- Power supplied directly from the keyboard port
- Brightness adjustable via key combination

Layer-system of a Flat Input Device

1. Solid PCB with gold contact
2. Position foil with metal domes
3. Fix foil for the metal domes
4. Distance foil with adhesive sheet
5. Design foil with printings

Key advantages of the InduKey® products

- In-house R&D and production
- Possible integration of additional electronics using SMD technology.
- Custom layout and color design upon request
- Fine structured special polyester front foil available with good chemical resistance
- Several key embossing options available
- Exchangeable key legends available
- Compact design requires minimum space
- Every metal dome is fixed in position to ensure a long lifetime
- Protection against dust and water (IP65)
- Good tactile feedback through gold plated stainless steel domes



Automatic membrane cutting



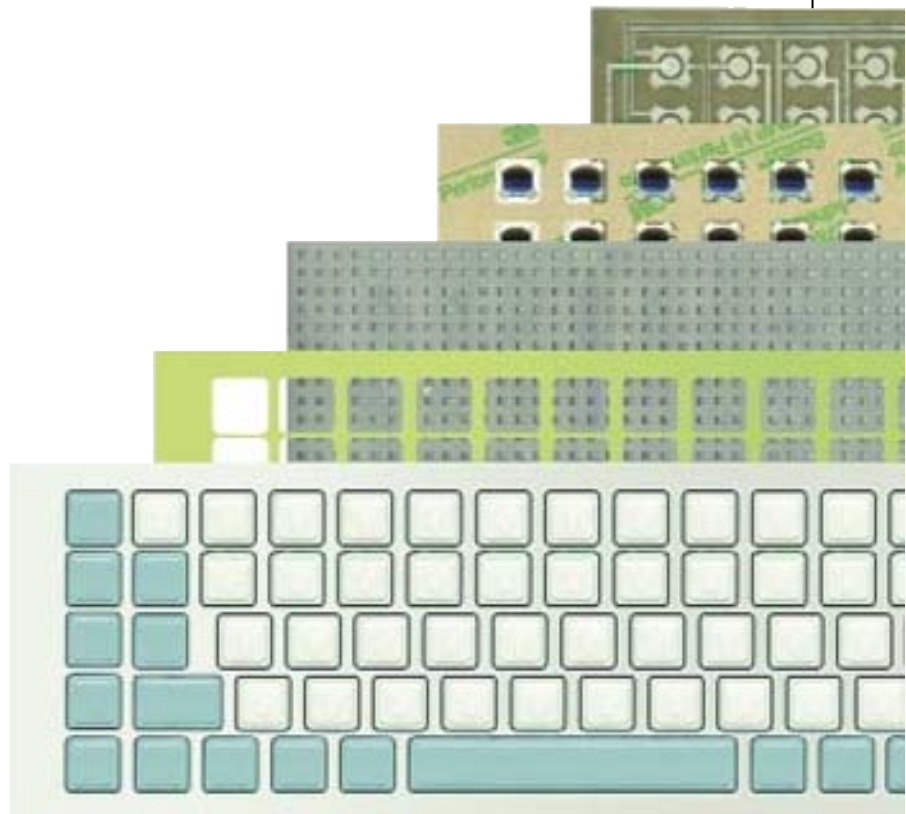
Free Design Possibilities

Excellent features

- Suitable for consumer and medical products, computer games, electrical scales and data input devices of any kind
- IP65 sealed chemical resistant polyester front foils
- Positive tactile feedback with embossing options
- Resistant against dust and low pressure water jets
- Custom colours and key layouts
- Optional rugged aluminium front panel available

The numerous design possibilities of these keyboards through key positions, key dimensions and colors will certainly increase the marketing value of your application.

To improve the tactile feel of the key position, we can add a special relief technology onto the foil surface. Options are: embossing can be made as surface embossing, frame embossing or dome embossing. Embossing improves the tactile feedback of any keystroke.

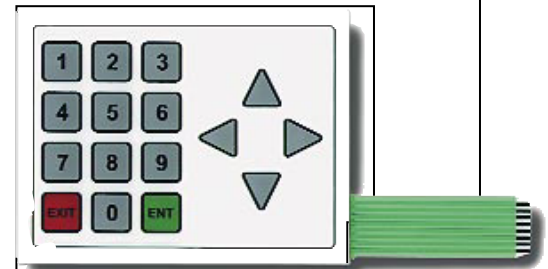
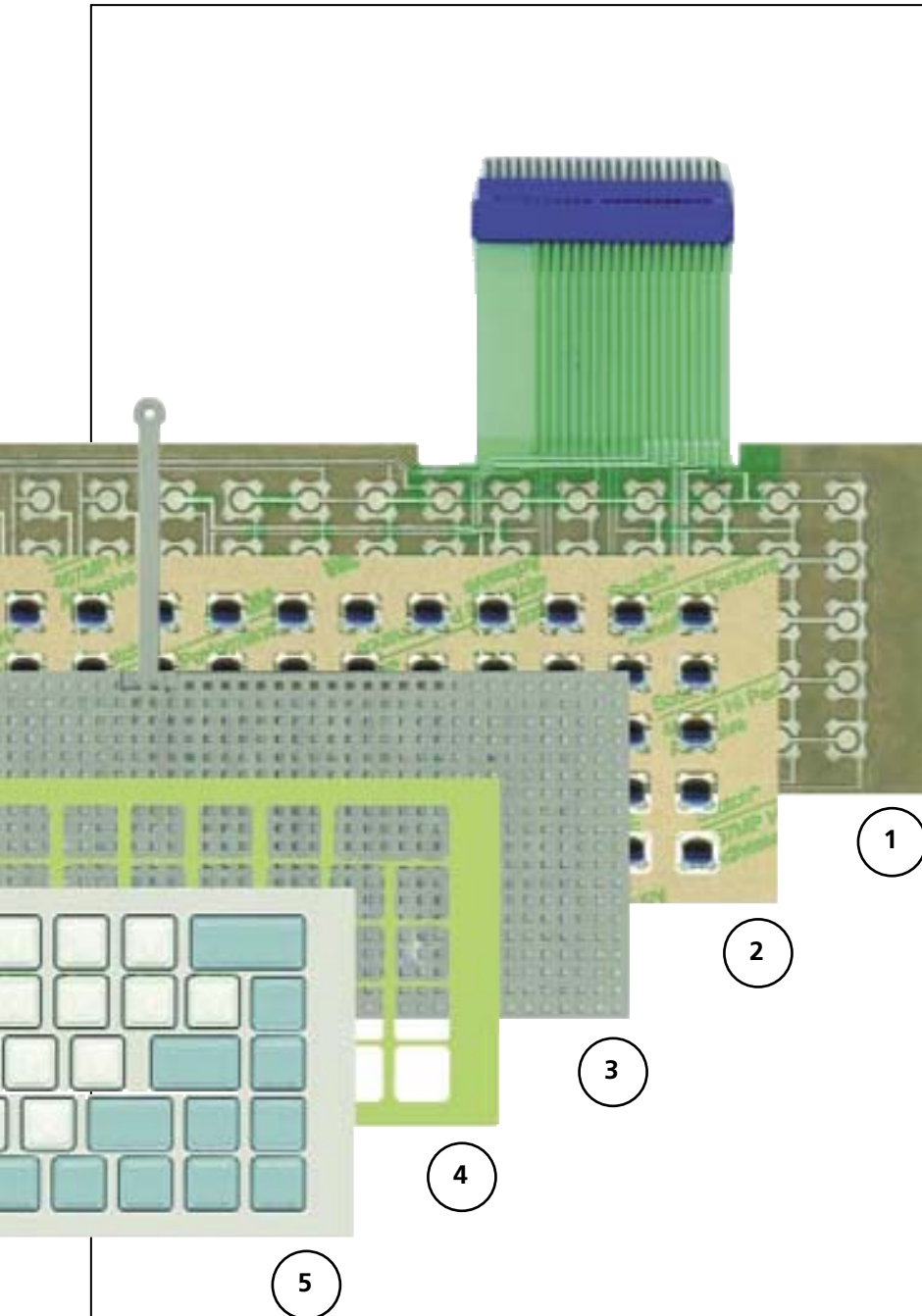


Customized Flex Keyboard

Flexible Membrane Foil Keyboards

The membrane foil keyboard is manufactured as a glued foil-layer-system. Silver-paste printed polyester foils are normally used as switch membranes. A spacer foil separates the lower and the upper switch membrane layer. The contact is made by pressing on the upper design foil in the key area. The upper switch membrane layer is situated on top of the the design foil. The highly transparent design foil comes as a fine structure or smooth surface. This foil can be printed in various colors and/or legend information. Edge or key embossing as well as inlaying of metal domes ensure an excellent tactile feel and lead the finger to the right position.

Custom Flexible Membrane Keyboards



Application Example

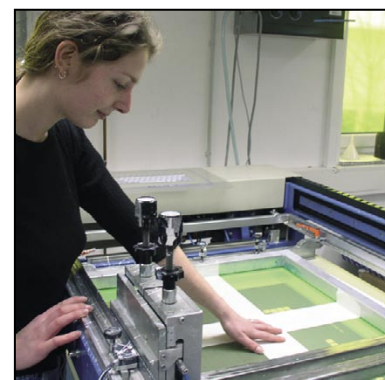
This flexible membrane keyboard is designed for simple data entry functions. A cursor block, numeric keys as well as ENTER- and ESC/EXIT keys support all-important functions for most info-terminals.

Example for a foil-layer-system

1. Printed circuit foil (switch foil)
2. Position-foil with metal domes
3. Shielding foil (optional)
4. Adhesive sheet for the design foil
5. Design foil

Key advantages of the InduKey® products

- Flexible membrane foil keyboards made of high quality polyester or polycarbonate films
- Easy to clean with most cleaning detergent
- Suitable for industrial and medical use
- Protected against dust and moisture
- Available with or without keyboard controller
- In-house development and layout design by InduKey®
- Custom-layout- and color design upon request
- Foil printing in our in house silk screen printing department
- Zero Force connectors or clinched male or female connectors available



Part of Silk Screen Printing Department



Excellent features

- Suitable for use in all industries
- Custom designs and multi coloured printing options
- Several embossing options available
- Easy to clean with most cleaning detergents
- Sealed against dust and moisture
- Sealed up to IP68 standards



At InduKey quality control is of high importance. We work with the latest technologies to make sure all demands from our customers are met. Keeping the customer involved during all steps of custom product production minimizes the chance of mistakes.

InduKey® is a ISO 9001:2000 certified company.



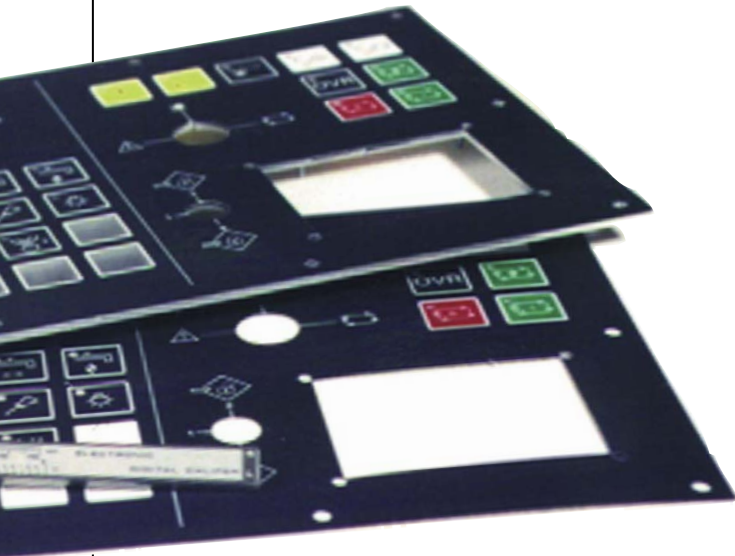
Custom front foils

The surface can be smooth or textured. To make the foils and printing wear and tear resistant the legends are printed on the rear side. Special layering techniques offer the possibility of having removable legends. Our embossing options offer maximum key feedback.

Custom Design Foils and Metal Plates

Front panels from InduKey®'s mechanical production department

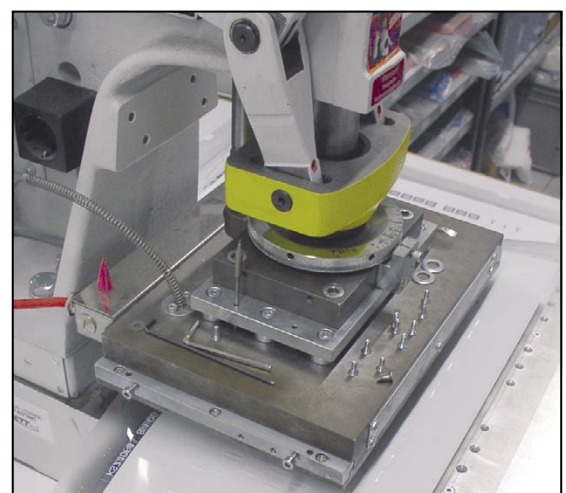
We work with the latest in 3D CNC milling machines. We have the technologies to meet all your requirements in mechanical engineering projects. All metal parts produced in our mechanical department can be treated with any surface treatment techniques. We offer our customers bespoke metal products or parts for the production of standard and custom keyboards.



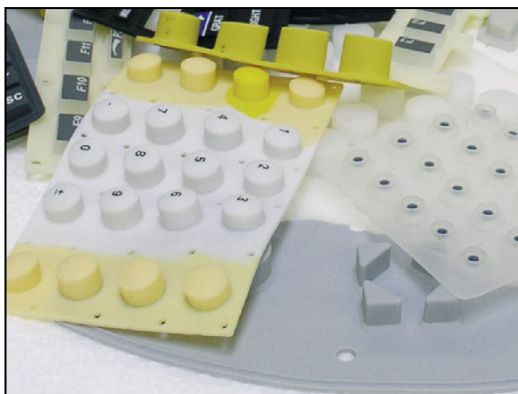
Precise Front Plate, made by InduKey®

Key advantages of the InduKey® products

- Layout, color design and text labels of the foils exactly according to your requirements
- Available as laminated graphic overlay with adhesive tape on rearside, as front panel or directly laminated on the case
- Possibility to combine keys with various technologies
- We use the latest CAD system for professional drawings



Embossing Machine at InduKey®



Excellent features

- Suitable for use in remote controls, measuring instruments, phone key blocks and communication systems
- Unlimited design possibilities
- Different color combinations in one keyboard possible
- Very good chemical resistance
- Resistance against dust and water
- Low cost solution for mass production
- Key position sensing
- Illuminated versions available

Key advantages of the silicone products

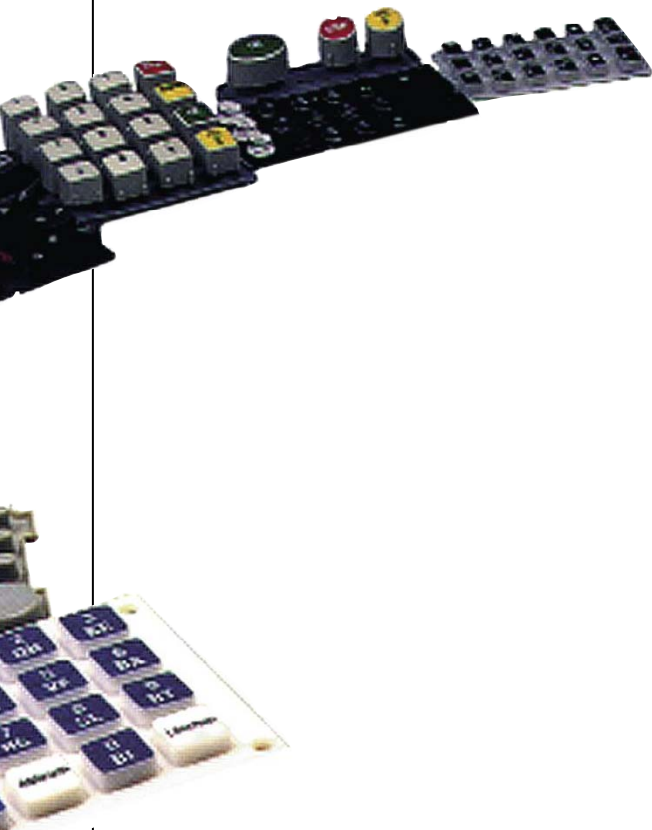
- Well-designed contacts ensure reliable contacts on PCB
- Quality key switch technologies ensure high reliable switching
- Key tops available in different colour and hardness
- Highly resistant operation secured by using closed surface silicone keypads
- Design and construction by InduKey®
- Different electronics in SMD technology as option
- Customized enclosures available
- Low prices for high volume productions due to own production plant in mainland China



Different silicone coatings

Silk-screen printing is normally used as printing method on the silicone top of a key. If required, the key tops can be coated. In this case the feel is better than with pure silicone surface. The coating also significantly improves the resistance against abrasion.

Custom Silicone Keyboards



Custom Input Device with Silicone Keypad

Silicone keypads

Silicone keyboards are used in many applications, for example in industry, communication systems or consumer products. In comparison to other keyboard technologies the silicone keyboards have an excellent price performance ratio and are robust and reliable. Unlimited design options are possible. Silicone keyboards are made of high flexible and toxin free silicone rubber. Pressure and accurate temperature control are parts of the production process of these keyboards. Special tooling is required for every different design. A conductive carbon pill is located under every key and a key stroke is made by pushing it against a special coil printed on the PCB or foil.

Tools for Silicone keyboards

The tooling for every silicone keyboard is made of a special alloy. They are produced on the latest CNC-milling machines. The prototype tool can also be used for several production runs before it needs to be replaced by a permanent tool. This way we lower the overall cost of future productions.



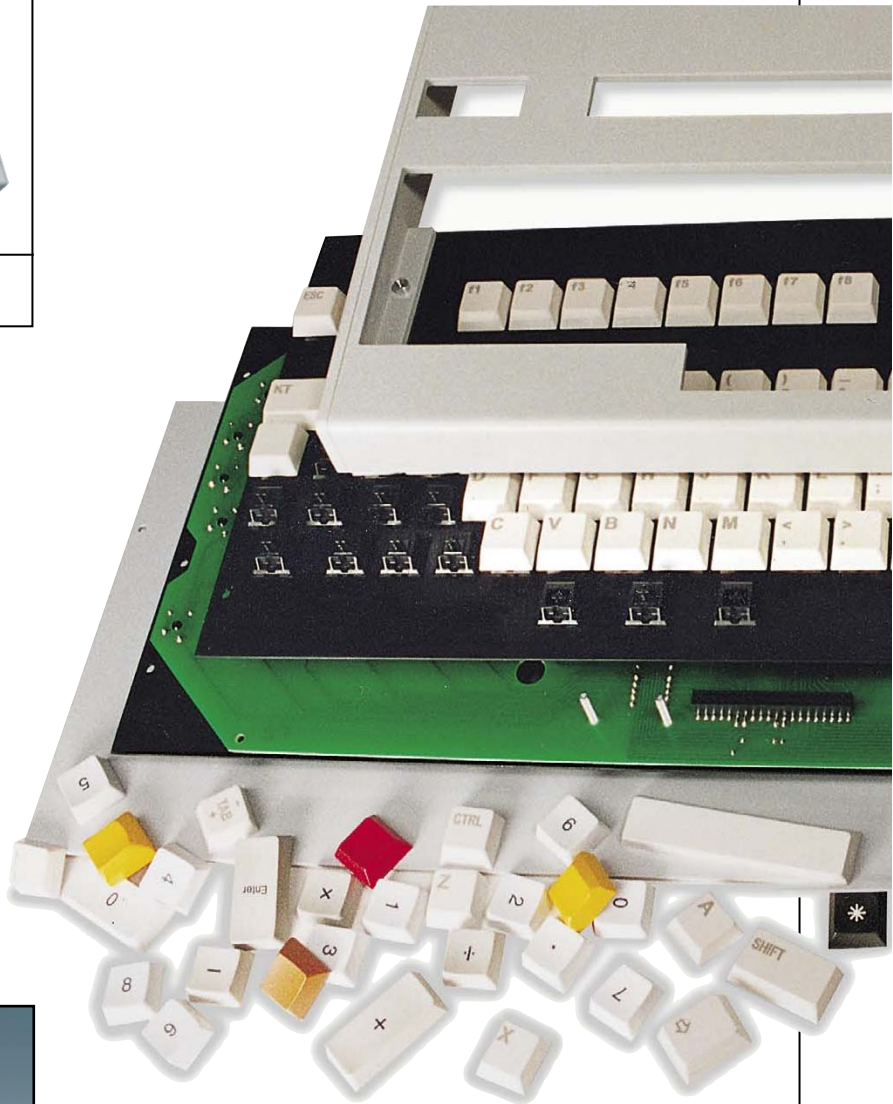
Silicone pad on Short Travel Keys



Custom Long Travel Keyboard with special, additional keyfields

Excellent features

- Reliable contact system prevents input errors
- Lifetime of more than 50 million operation cycles
- Usage of the long life gold-crosspoint technology
- Layout and color design available on request
- High quality keyboards for professional usage and personal applications

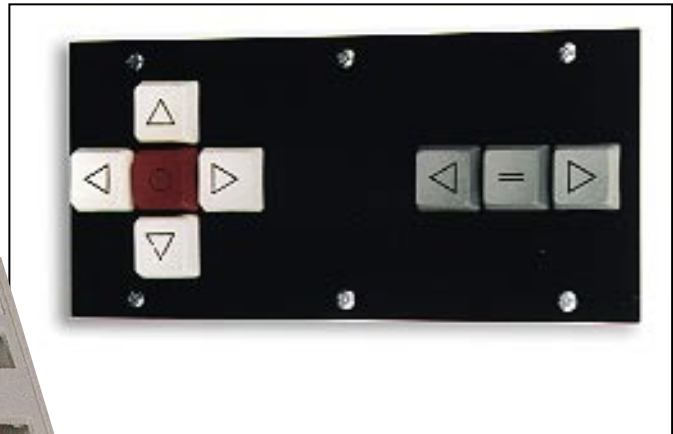
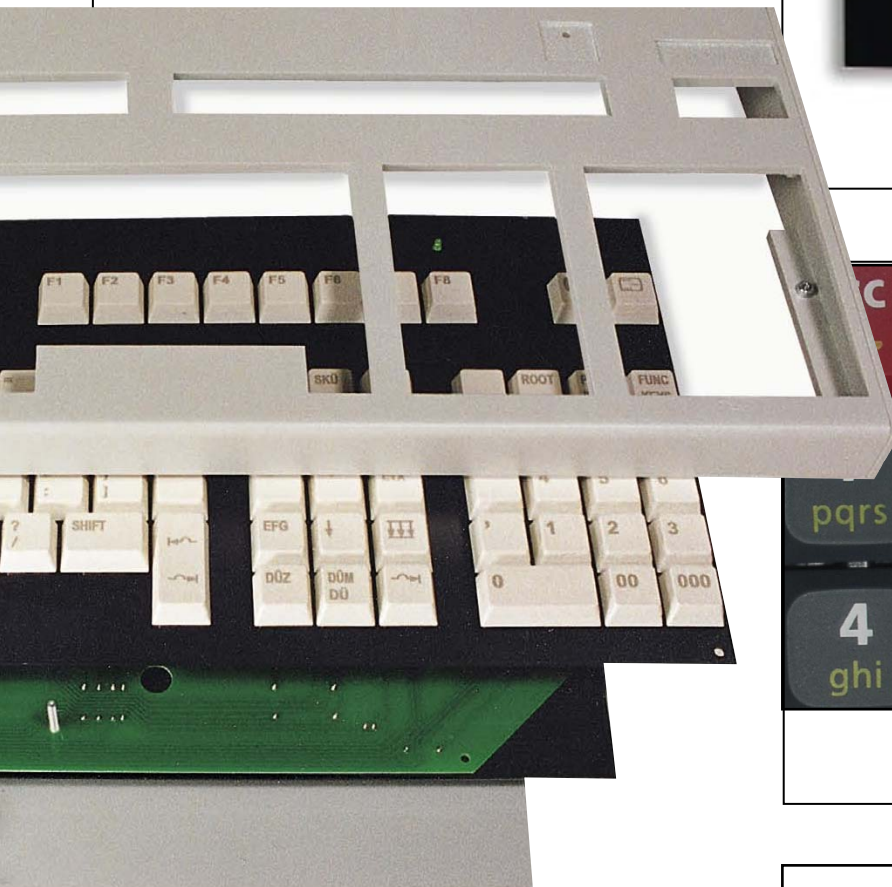


Custom Long Travel Keyboards

InduKey's® long travel keyboards are used in the most demanding industries. From airport terminals to point-of-sales applications. We offer customisation of the key layout, colour schemes and even fully customised polystyrene or metal enclosures. By using the famous Cherry MX keys with their typical 4 mm key travel we can offer the highest quality keyboards.

Custom Long Travel Keyboards

InduKey's® long travel keyboards can be used in most industrial and commercial applications with high-speed data entry needs.



Air Traffic Control Unit, made by InduKey®
Photo: DFS

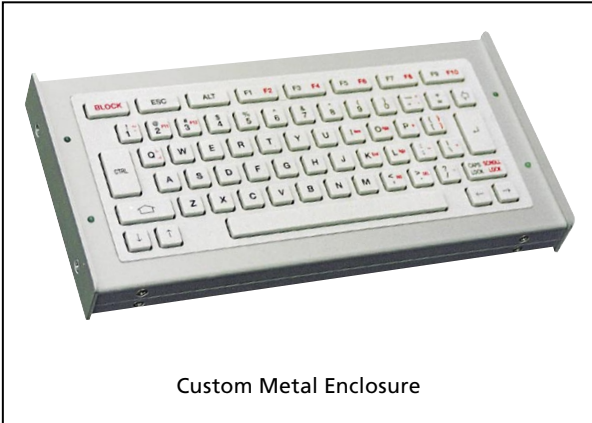


Key advantages of the InduKey® products

- Special keyboards for POS-systems, medical devices, measurement instruments and more
- Ideal for high speed data entry and computing
- Anti-glare surfaces for the key tops and enclosures
- Legends in different technologies available
- Highly resistant against abrasion of the key legends
- Complete development and manufacturing by InduKey®
- Also available in fully customized enclosures



High Quality Cherry-MX-Key



Custom Metal Enclosure

Metal enclosures

- Use of standard profiles
- Construction of pan casings
- Best shielding and durability
- Also available in IP65
- Different surfaces possible
- In aluminium or stainless steel

Enclosures and Devices from InduKey®

To realize your projects you need a functional keyboard in the right enclosure. Sometimes a standard of-the-shelf product will just not do. We can help by developing with you the right keyboard and enclosure by advising on the best key switch technology and enclosure materials. This will help you to supply your customers with high quality and cost effective keyboard solutions.

InduKey® has the right solution for you.



Custom Vacuum Formed Enclosure

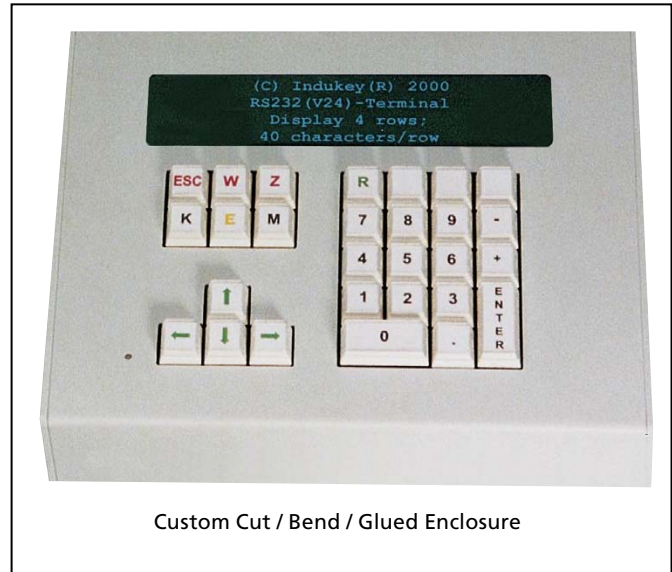
Production of vacuum formed plastic enclosures

- Suitable for production series between 100 and 2000 PCs
- Low cost vacuum tool
- Variable divide-fuges possible
- Different surface structures

Custom Enclosures and Devices

Enclosures without special tooling

- Suitable for prototype production and production in lower quantities
- Plate material is cut and bend
- Front covers are specially glued
- Suitable for simple geometric contours
- No tooling required so low setup cost



Custom Cut / Bend / Glued Enclosure

Complete devices - Development and manufacturing

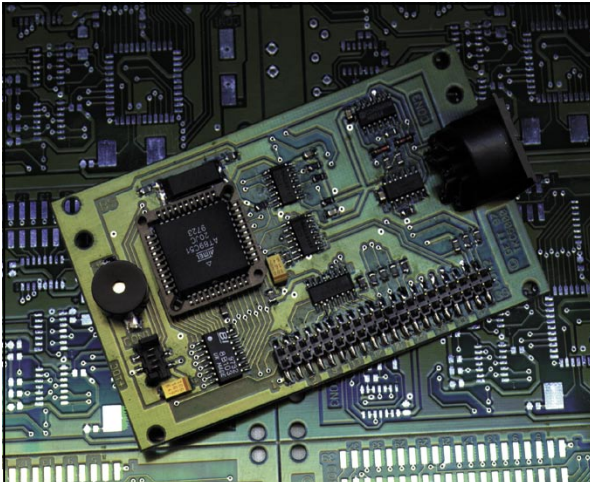
InduKey® is your specialist for man-machine-interfaces and has an experienced hard- and software development team as well as a high capacity, well equipped production plant. We make what you want.

Enclosure production - plastic injection housings

- Suitable for mass production
- Low cost enclosure for mass production
- Exact test form stability
- Good value for tool production and manufacturing



Custom Plastic Injection Enclosure



Standard Keyboard Controller, made by InduKey®

Electro mechanic development

As a supplier of custom keyboards our service spectrum goes beyond electromechanical and silk-screen printing. Our electromechanics R&D staff includes excellent hard- and software specialists, especially in the keyboard area. We often integrate our low cost keyboard controllers in custom systems. Good communication between our engineers and in-house production department ensures the fast and optimal realization of your project.



Construction

Custom keyboards are complex mechanic systems. The layer construction and the good definition of the enclosures guarantee reliable operation. Our projects are realized on a modern CAD-system. High attention is paid to tolerances.

Custom Development and Production

We aim to give you the shortest time between order and delivery of your prototypes.

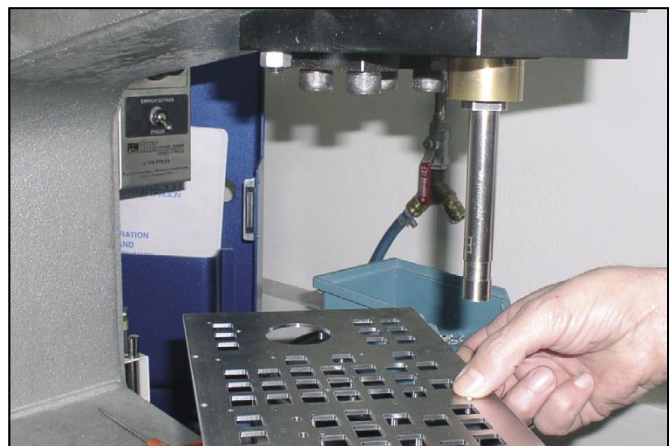


Manual assembly at InduKey®

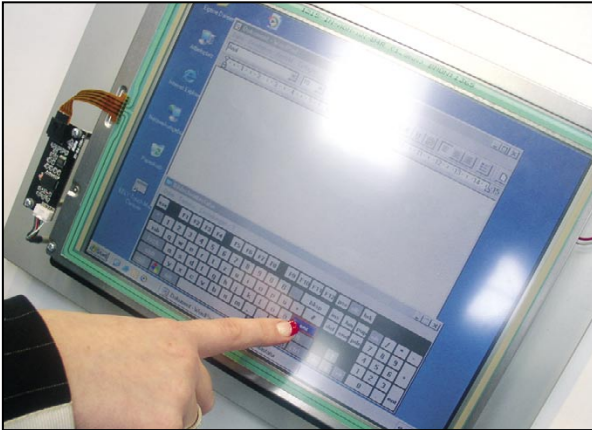
Electronic production

InduKey® products are already in use in many medical, industrial, communication and office applications. Today's need for short production times makes it necessary to have all production facilities in-house. This means that all aspects of keyboard manufacturing, including design, R&D, assembly and testing is done in our production plant in Treuen, Germany.

Keyboard controllers and electronic systems, all made by InduKey®. From the PCB design to the end test - Our knowledge guarantees reliability and quality.



Screwing stud insertion machine



Application examples

- Kiosks
- Voting machines
- Financial devices
- Industrial PCs
- Factory automation
- Remote controls



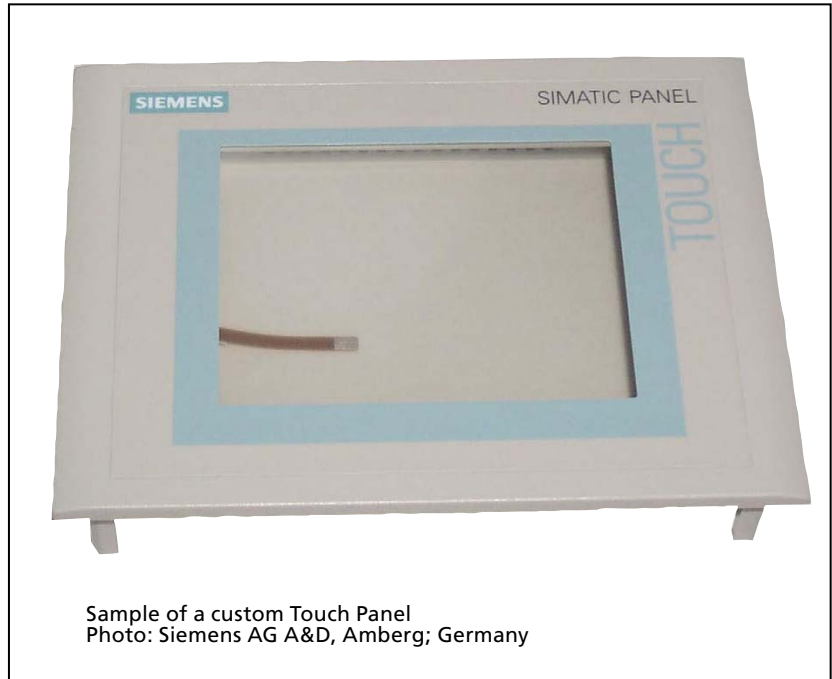
Resistive Touchscreens - How it works

- Resistive touchscreens consist of a flexible top and a solid bottom layer, separated by tiny spacer dots
- The insides of the two layers have a conductive metal transparent film
- Pressure on the top foil will create a contact between the two layers and a controller connected to a computer can calculate the exact position of the pressure point by accurately measuring the resistance between that point and the x and y axes.
Touch point resolution of 2400x2400

Specifications

- Light transmission:
 - Film to film: more than 77 %
 - Film to glass: more than 83 %
- Life expectancy - 4 wire types:
 - Touches: 1 million (using silicone rubber stylus)
 - Scoring: 100 Thousands (using dia 2 polyacetal stylus)
- Life expectancy - 5 wire types:
 - Touches: 35 millions (using silicone rubber stylus)
 - Scoring: 5 millions (using dia 2 polyacetal stylus)

Custom Resistive Touchscreens



Sample of a custom Touch Panel
Photo: Siemens AG A&D, Amberg; Germany

Key Advantages of InduKey® Touchscreen products

- Controller for different interfaces available
- 4 wire or 5 wire technology available
- More wires on request
- Custom touchscreens for low and high quantities
- Many years experience in Touchscreen production

