Industrial
screen printing

Decorative front foils

Membrane keyboards

Assemblies

Guaranteeing the best contacts!

FORSTER FF

Decorative front foils and designs

Finishes and materials

The right product for every application

Based on our expert know-how, years of experience and creativity we deliver attractive solutions for every application.

Front foil:
- Polyester matte/structured
- Glossy/brushed
- Polycarbonate matte/structured
- Vinyl foil matte/glossy
- Soft-touch foil

Track foil:
Polyester

Shielding foil:
Polyester (all-over or lattice print with a silver or graphite paste)

Adhesives:
Transfer paste, spacer foil (acrylate adhesive each).
The adhesive is chosen to fit the basic material.

Protective foil:
The display by itself or the front foil is provided with a protective foil which is easily and completely removed after assembly.

Creative designs perfectly implemented

Colours

The decorative colours are usually applied from the back, whether screen- or digital-printed, and nuances are available in all the ranges defined by RAL, Pantone, HKS or your own colour sample.
Creative designs and colour gradations are combined in the screenprinting process, to obtain brilliant and opaque shades.

Decorative front foils and designs

Functionality combined with eye-catching design

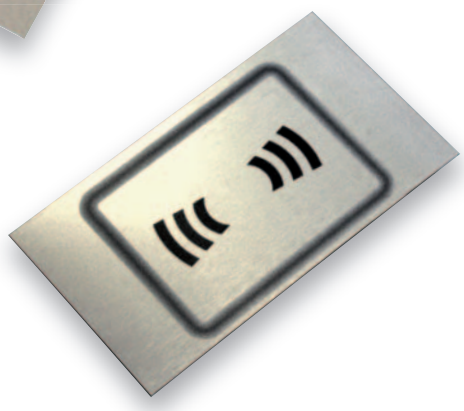
Front foil design

To obtain process capability it is necessary to agree on the product's finer points. Defining the design is a key step in this direction. We offer a range of filter colours, whether clear, red, yellow, green or diaphanous blue, depending on technical and design requirements for displays and indicators.
Colour-disappearing effects are used to make the display virtually vanish when unlit.

Options – we make your wishes visible

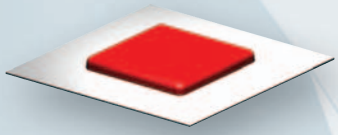
You have the choice:

- Various structural effects
- Brushing effects, matte, bloomed or high-gloss
- Stainless steel effects
- Soft-to-the-touch feel
- Customised inscriptions by slide-in labels
- Optical bonding
- Individual design

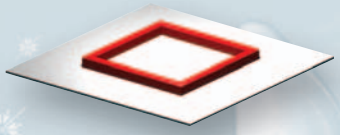


Forming

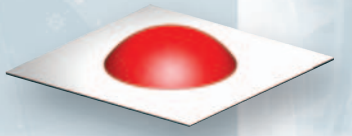
Close to the touch



High-relief
embossing



Edge
embossing



Dome
embossing

A special forming process is used for shaping polyester and polycarbonate foils to get just the right key touch, which in turn provides for better finger guidance and key localisation. Among the forming options available are high-relief, edge and dome embossing.

Finishing

Decorative foils – finished to timeless perfection

The foils are covered with transparent polyurethane resin to make them even more weather- and scratch-proof. The adhesive is chosen to match base properties. An individualised finish is obtained with special paint coats that provide relief and structured surfaces of a matte to high-gloss shine.

Membrane keypads

Acting on the touch

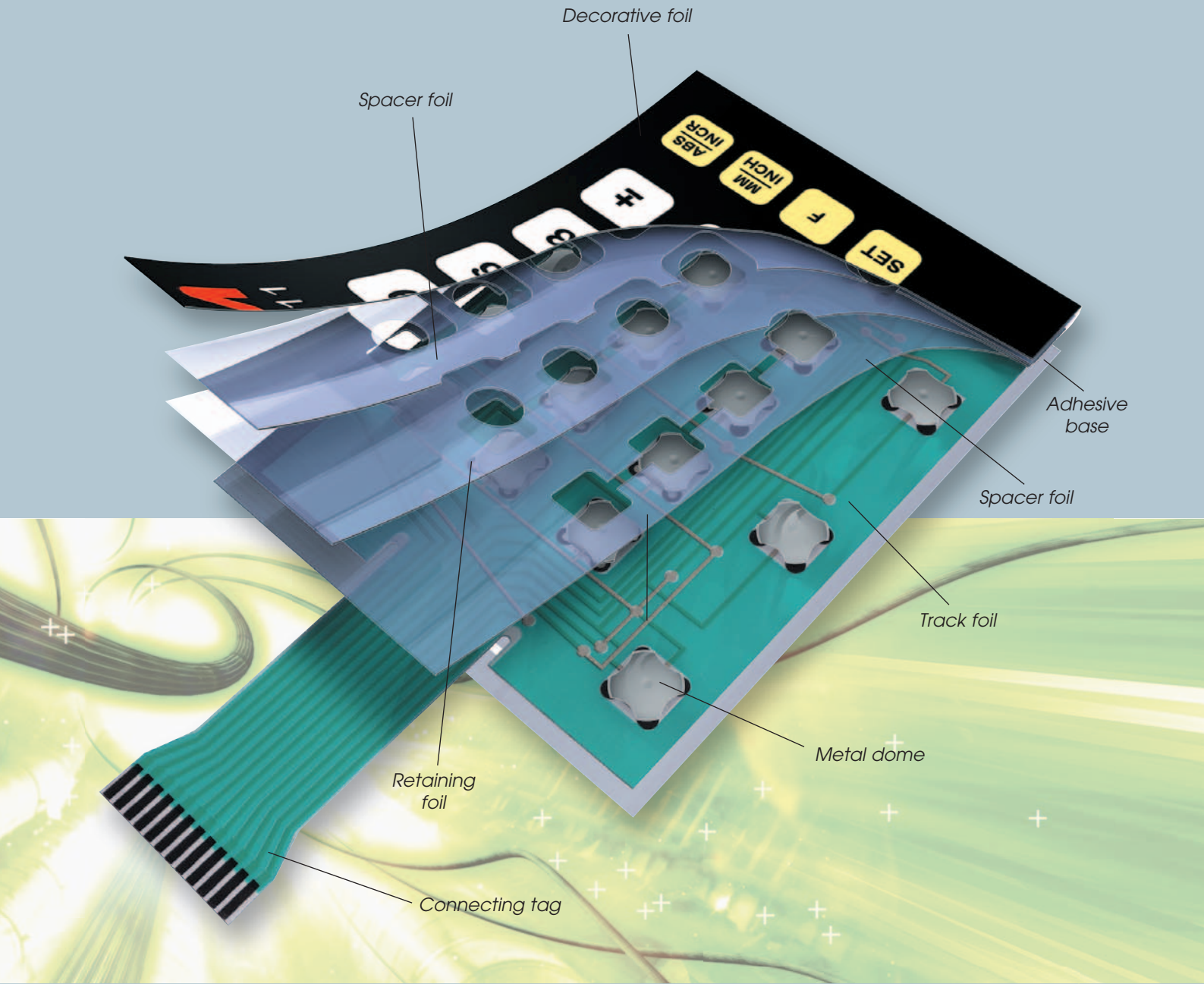
Membrane keypads with their tactile action point that passes on the signal to the electronic system can be individually and universally used. Rapid progress in this field has put the focus squarely on this innovative component which serves as a link between man and machine.

Application

Used as a control and decorative element, membrane keypads have a very wide range of applications that spans everthing from controls and instruments to mechanical engineering, white goods, medical apparatuses, consumer electronics, toys and the automotive industry.

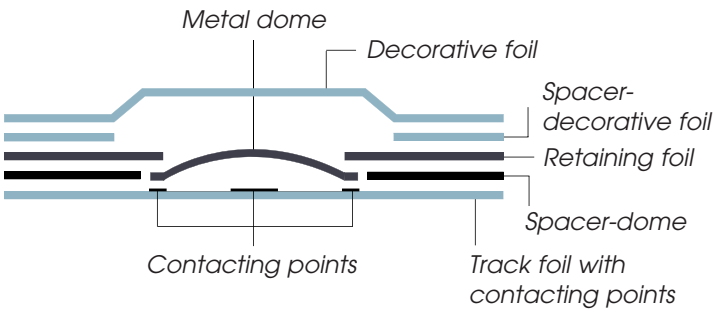
Structure

- Multilayer structure with conductor lines, preferably silver-plated.
- Connecting tag with protective cover such as graphite and insulating prints. Graphite prints prevent mechanical abrasion and oxidation. Blue or green insulating prints protect against abrasion and moisture.
- Each key is connected to an air duct for pressure compensation.
- Special-steel snap-action disks with gilded contact side for switching (membrane keyboard with tactile feedback = defined action point).



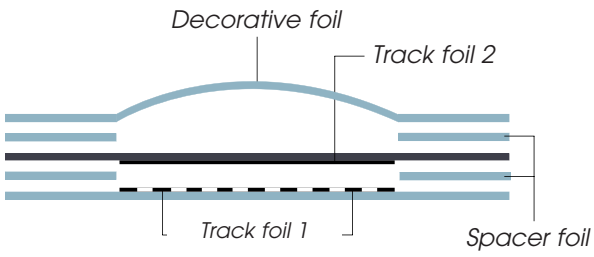
Function
Pressure on the key surface closes the contacts embedded between the polyester membranes.

Membrane keypad with snap-action disk
(with tactile feedback)



Metal dome acting as switch

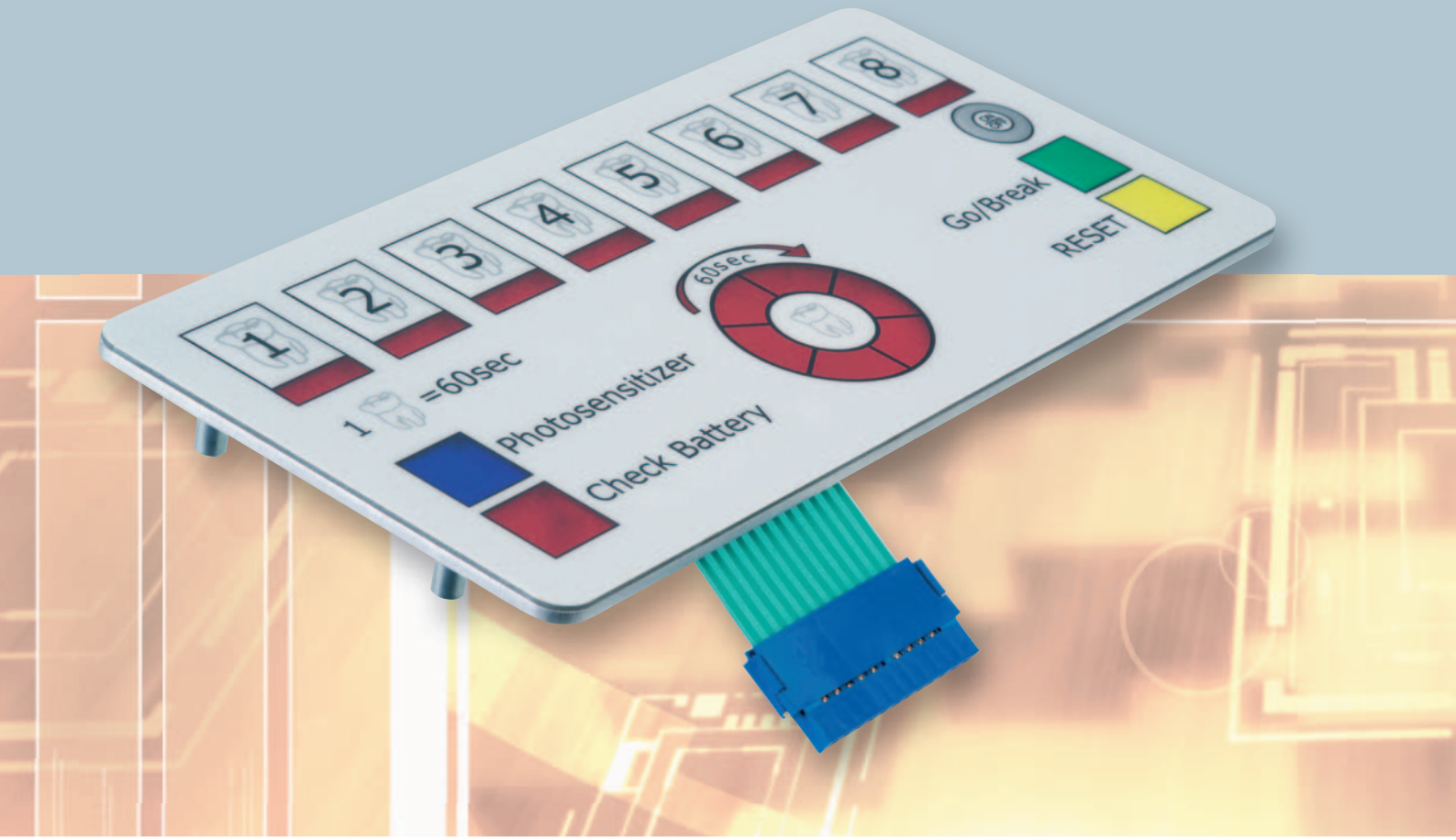
Membrane keypad without snap-action disk
(without tactile feedback)



Two contact surfaces acting as switch

Connecting tags

Best contacts



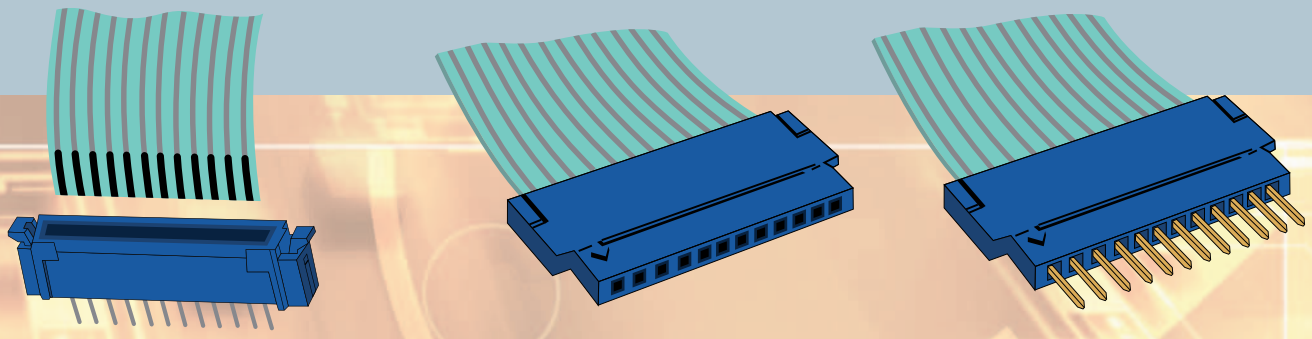
Switch and pc board are connected by a tag protruding from the keyboard to prevent the membrane from tearing when bent. The grid measure between conductor lines is usually 2.54 mm and 1.27 mm. The bending radius should not be less than 4 mm, and bending should be avoided. As the connecting cable and contacts are printed on the same side of the membrane, lines cannot exit underneath the keys. Volume resistivity depends on the size of the keypad and length of connecting cable.

Connectors

Two versions on offer

Without plug
Direct connection

With plug
Indirect connection



The tag is plugged directly into the print (zero insertion force system)

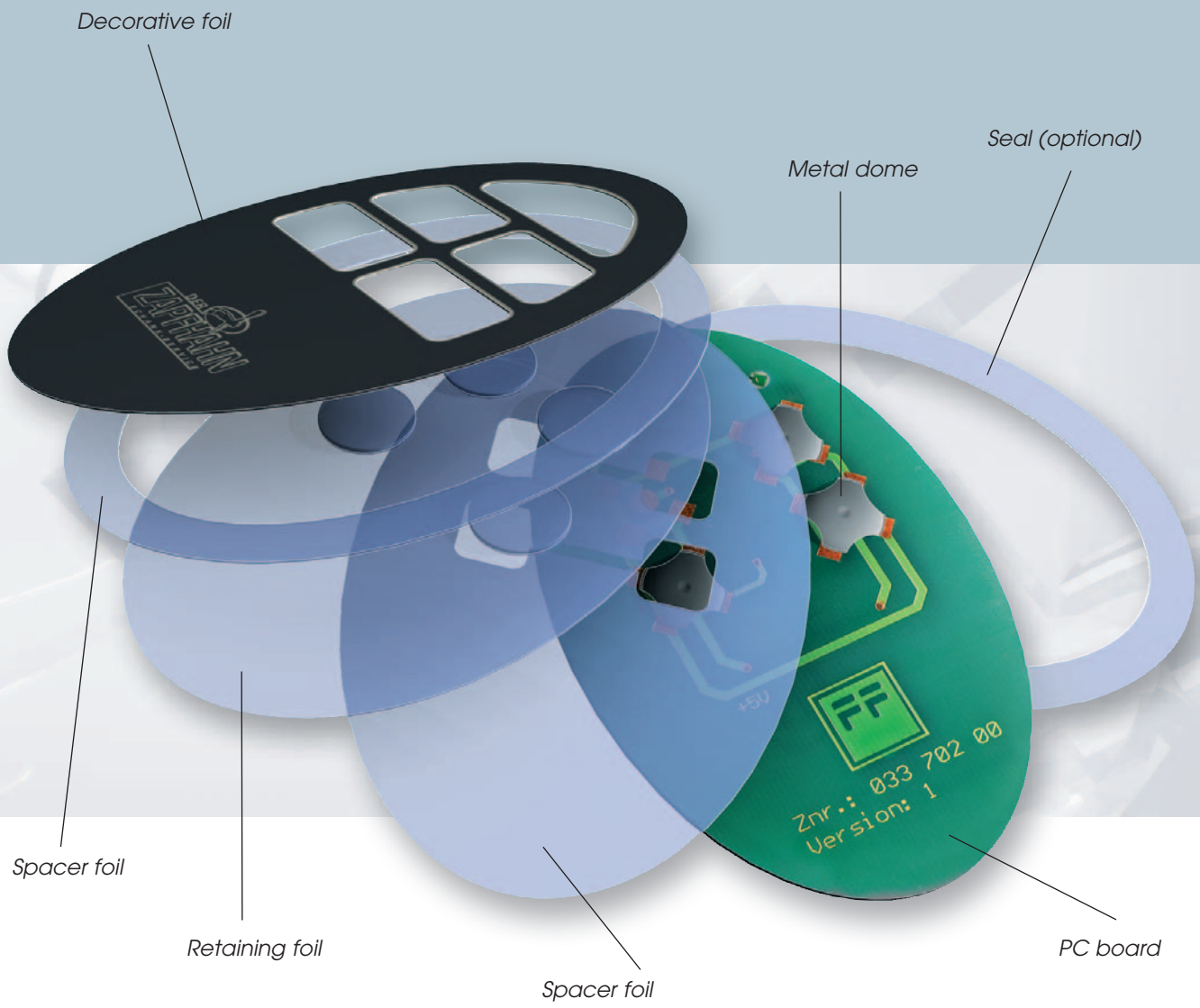
A gilded or tin-plated plug is placed onto the tag and plugged into the pc board (2-24 poles)

The benefits of membrane keypads vs conventional control panels

Key differences
Maximum freedom to design surfaces, closed front with embedded switches, low overall height (saves on space requirements), easy to install (self-adhesive or with a mounting plate), dust- and waterproof, simple plug-in connection – membrane keypads combine crucial advantages in a single application.

Keypad membranes on pc boards

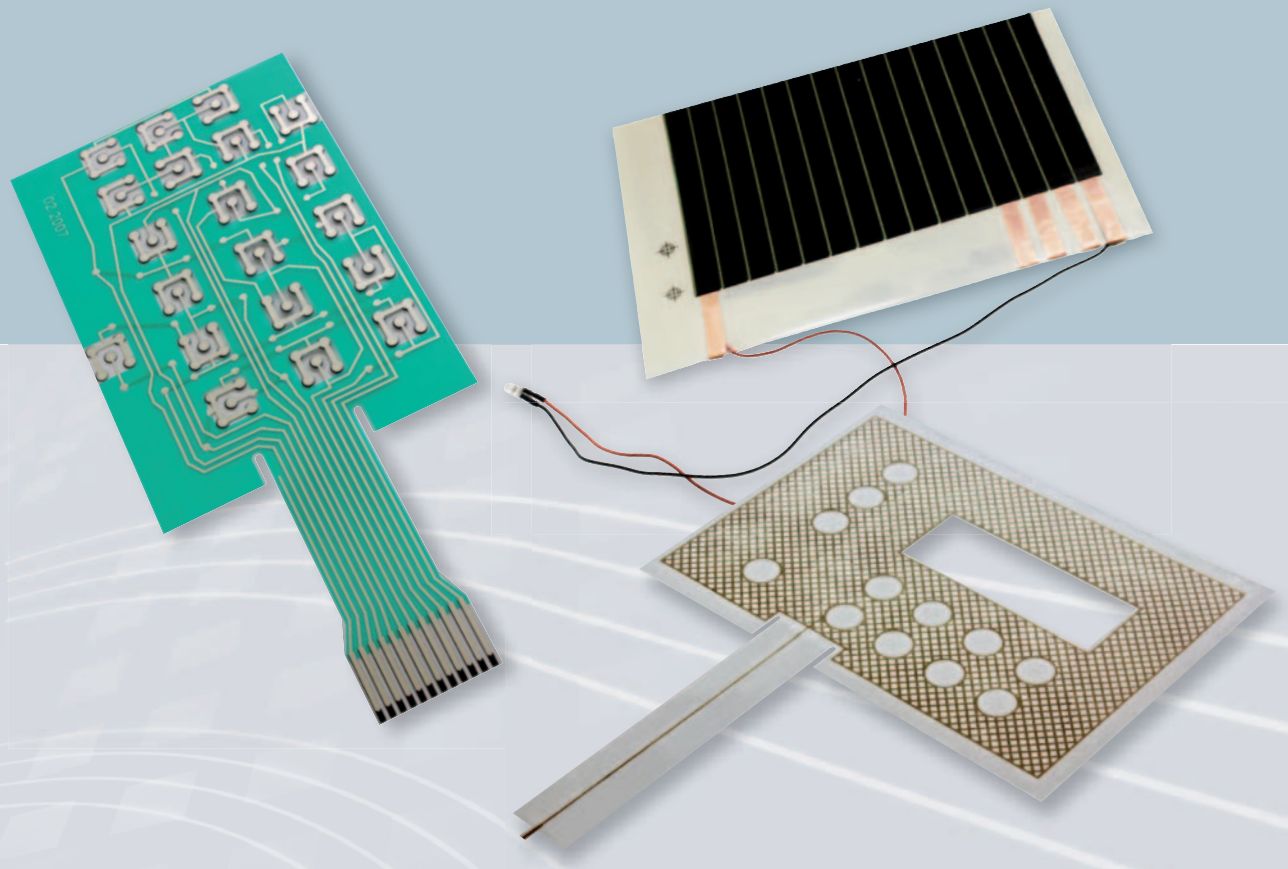
Highly variable uses

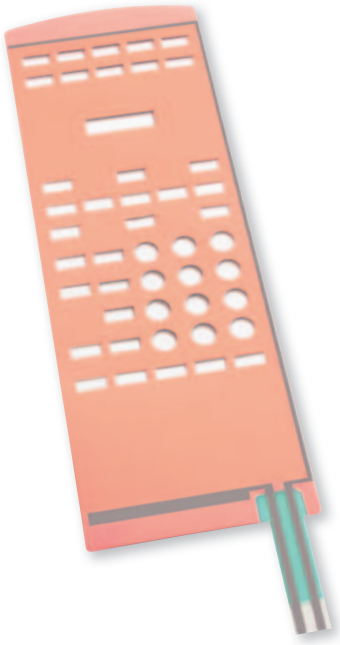


The keypad membrane is glued onto a pc board. Where no keys are fitted metal domes are placed on the contact surface. This setup allows fitting LEDs, resistors, etc. to be placed on the back of the pc board.

Printed electronics

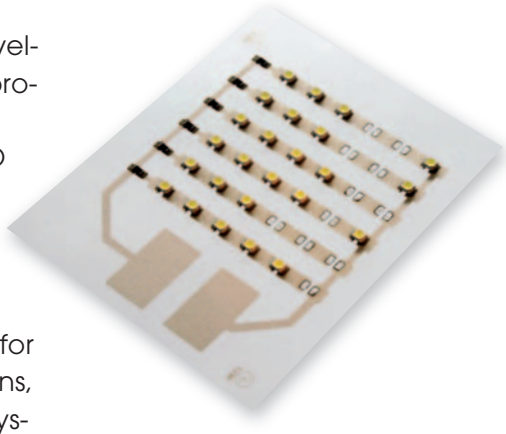
Innovative solutions





We develop innovative solutions jointly with our customers. Products that involve printed electronics are designed, developed and readied for serial production not least through our intense cooperation with R&D institutes.

Our portfolio of R&D activities includes, on a regular basis, projects to develop modules for renewable energy applications, assemblies for novel display systems and many more.

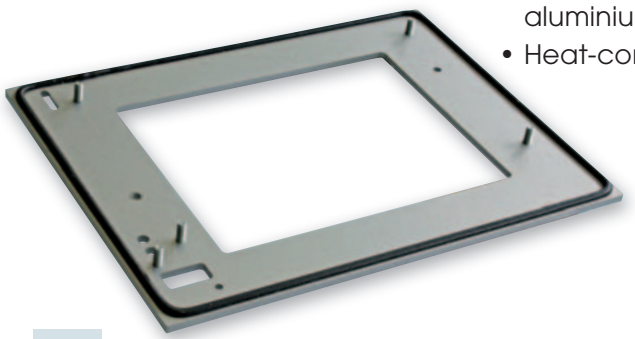


Punch-out parts and insulating foils

Automatic punching and cutting machines help us produce all sorts of shapes. Cut-outs and folding lines (to indicate where the foil is to be bent), perforations (as folding lines or to indicate breaks) are feasible. Whether individual items, on sheets or on rolls – we produce to the specifications of our customers.

Applications:

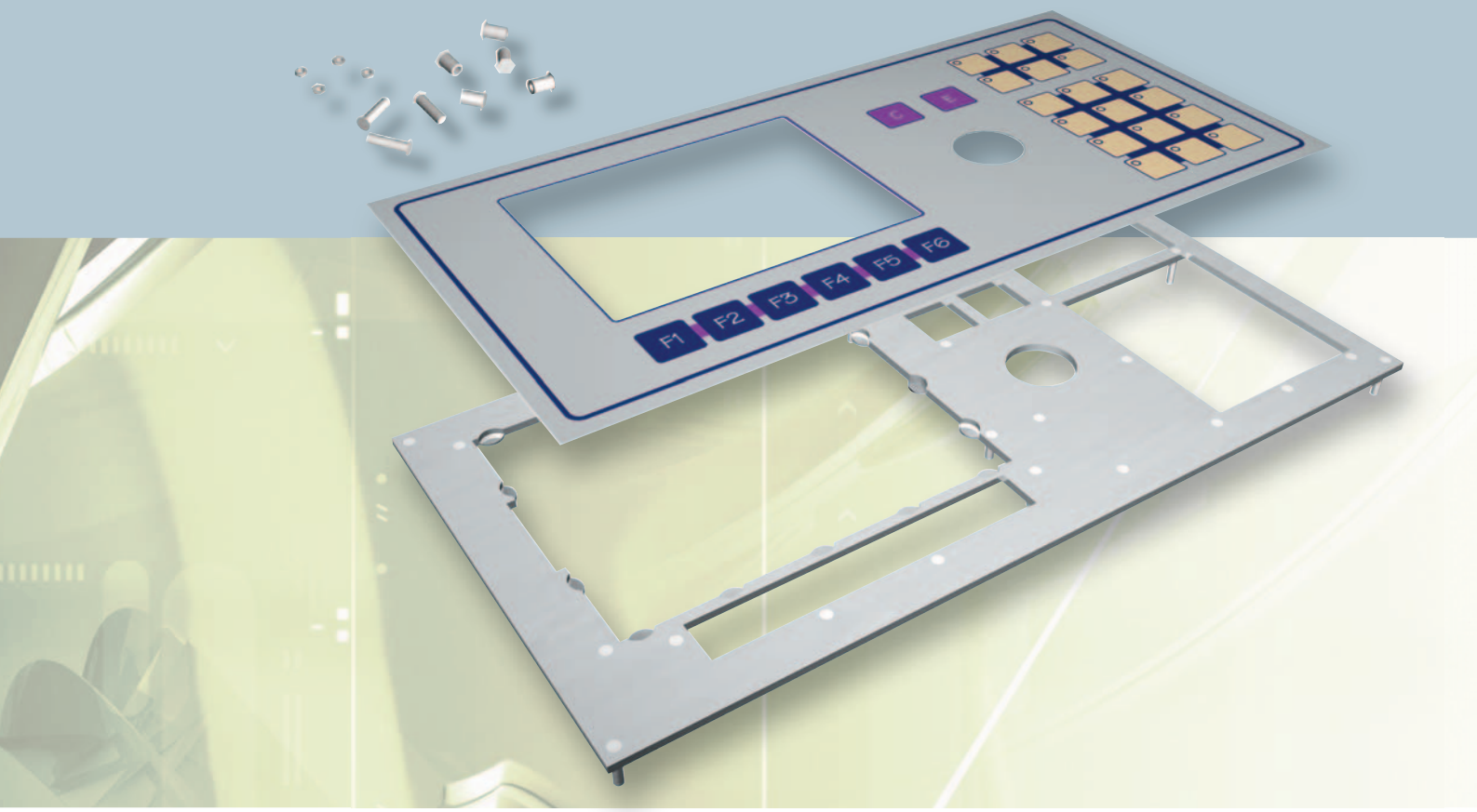
- Insulating foils
- Screening foils
- Double-sided adhesive dots (to facilitate assembly)
- Cover foils
- Conductor foils (e.g. copper, aluminium, silver)
- Heat-conducting foils



Laser cutting, punching and milling are part and parcel of our production line. Seals are either cut from a range of synthetic materials and glued on or foamed onto the base in sizes and shapes as required. Materials processed by us include synthetics such as EPDM, polyester, polycarbonate as well as high-quality copper and other metal sheeting.

Front and mounting plates

for membrane keypads and decorative foils



We furnish the mounting plates for membrane keypads and front foils sheets in a range of materials and thicknesses (aluminium, steel, plastic, etc.).

Front plates can be laser-cut, punched, milled on one or two sides or provided with an all-round edge or chamfer. Whether powder-coated, chromated, galvanised or anodised: we have a large variety of surface finishes at your disposal.

Moreover, fit-up aids such as press bolts and sleeves for threads or nuts to fasten assemblies and pc boards are all part of our programme.

Sheet metal casings

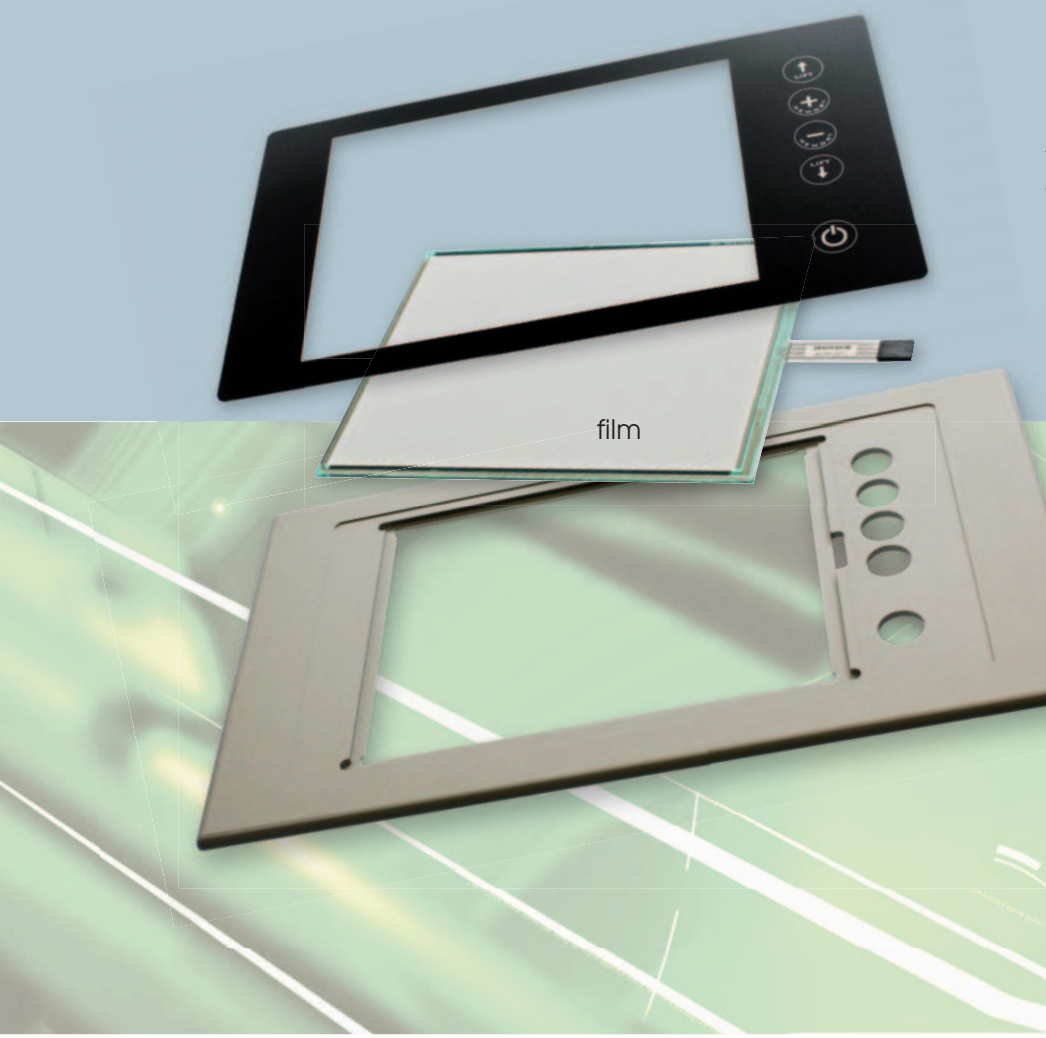
No limits to variety

Professional to the core

Aluminium and steel sheets are punched or laser-cut to produce casings for electronic parts. They can be trimmed at the edges and fitted with assembly aids such as press bolts, sleeves and nuts. Surfaces can be finished by, i.a., powder coating, eloxation or chromating. Our plastic processing equipment, including vacuum moulding, adds to the variety by allowing us to produce synthetic parts as well.

Assembly production

Assembling with high vertical integration



Our range includes the production of components, assembling foil layers, glass panes, screens and touch pads on fronts and casings. Vaccum moulded components made of plastic complete our rich portfolio of products.

Production volumes

Small quantities, individual samples

We strive for maximum flexibility, especially at the development stage. In order to achieve this, prototypes and pilot runs are handled by CAD lasers and cutting systems, enabling us to cut materials into any required shape at little cost.

Large series

Our roll printers and rotary die cutters enable us to handle large series efficiently and at low cost.

Lenticular technology

We make your adverts move

The latest in advert technology: motion is no longer restricted to the screen.

Originally known as wiggle or flicker pictures, this type of attention-grabbing marketing tool is used by Forster in large-size posters. A special, highly transparent lenticular sheet reflects different images depending on the angle of view, creating an illusion of movement and depth. The technology itself is not exactly new, but the effects achievable by it have multiplied, so that we now have several techniques to choose from:

Flip effect - images flip from one image to another
Animation - several images change by a single movement
3D effect - intense depth effect through the use of several levels
Morphing - change by seamless transition
Photo 3D - image is photographed from multiple angles
Mix - mixture of several effects

Lenticular technology has diverse uses and, combined with our range of products, opens up novel opportunities to gain the attention of your customers.

Use this QR code to get more information on lenticular technology.

Product range

In-house sign system
Combiflex Meneo

Outdoor sign system
Combiflex CF-40

Outdoor sign system
Combiflex CF 60

Advertising systems:
Screen and digital printing,
displays, exhibition advertising,
adhesive foils and signs

Warning, information and
accident prevention signs

Mobile and stationary
shelving systems

Traffic engineering

Noise control systems

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Products are subject to changes.

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