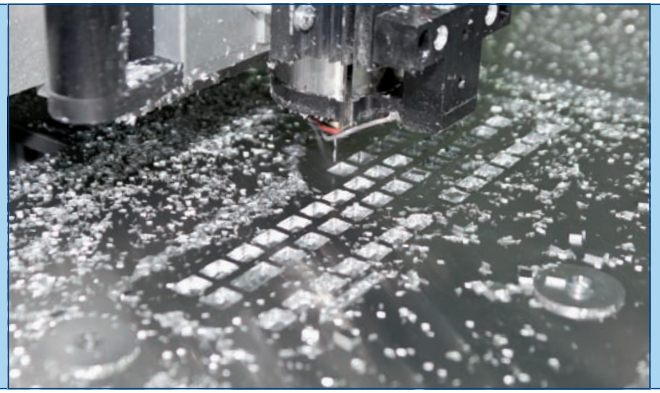
Professional Data Input Systems
Made in Germany

InduKey®
Industrial Input Devices

made
in
Germany

2012



InduKey® is a global Leader in the development and manufacture of specialty input peripherals. As a company with a strong technology and engineering focus and background, we offer a complete range of professional grade components and devices. We provide industry standard products as well as customized solutions particularly for sectors such as engine building, tool building, automation, traffic and medical engineering.

Our services include development, comprehensive design and production processes and extend to implementing and completing the production process for all our product lines. Due to our high degree of vertical integration, *InduKey*® is able to manufacture small and medium quantities of high-quality and specifically designed data input systems, including OEM production. In this field we have demonstrated our value as a professional, competent and reliable partner for long-term projects.

The nature of our work requires strict adherence to the highest standards of quality, while ensuring that even the most complex requirements of our customers are fully met.

We achieve this through the application of consistent quality assurance processes starting with procurement of components through to ensuring that customers are fully satisfied upon delivery of finished products.

Our fully qualified employees have gained extensive experience from taking and finding solutions to challenging projects. The effects of this philosophy are clear and are reflected in the innovative and dynamic nature of *InduKey*®. One of our core competencies is being able to analyze the requirements of any unique application and to draw on our internal resources to find a technically feasible solution which meets the needs of the customer.

Since its foundation in 1996, *InduKey*® has been manufacturing its products under strict tolerances and to exact specifications in Germany. The company is certified according to ISO 9001:2008. Our global distribution network ensure that our products are available all over the world.

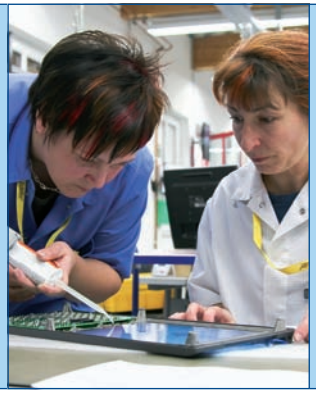
The following sectors benefit from our experience:

- Engine Building
- Automation
- Vehicle Manufacturing
- Tool Building
- Medical Engineering
- Chemical Industry
- Food Industry
- Electrical Engineering
- Industrial Control Systems
- POS/ POI

Our Services:

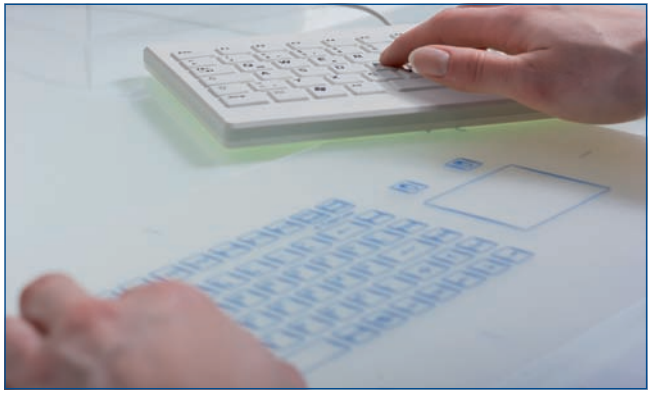
- Standard Products
- Modification of Standard Products
- Customized Solutions
- Tool Building
- Development Services
- Manufacturing Services
- OEM Manufacturing

made in Germany



On the www.indukey.com website you will find a technology-specific and detailed product presentation, technical information as well as product and company news.

Internet-linkage:
Each topic is provided with a link located in the top line of each page. This link enables fast access to up-to-date contents. In addition to downloading the current catalogue additional information brochures and data sheets are also available online.



www.indukey.com

The products in this catalogue are accompanied by one or more symbols. These visualizations provide information about the different features and additional functions. Here is the legend for the symbols you will find throughout this catalogue.

Mounting type: Indicates that the housing on this device has the option of VESA boreholes, front mount boreholes or rack mount boreholes, respectively.

IP-Rating: Provides an indication of the level of protection that is provided by the enclosure. The first number indicates the rating on protection from hazardous internal components (electrical conductors, moving parts, etc.) and ingress of solid foreign objects. The second number is rating on protection from harmful ingress of water.

Edge Protection: Indicates that there is a deeper recess in the mounting plate which enhances the protection of the foil against mechanical delamination and degradation of the integrity of the edges.

Antimicrobial Properties: The surface material on these products contains silver ions which prevent bacteria and germs from growing.

Lighting Function: These products are backlit which makes the keys and their legends visible in the absence of ambient light.

EX-Accredited: These are devices which can securely be used in explosion-prone areas and conform to the EX-standard.

Wireless: Device uses a RF-based wireless data transfer technology to communicate with the computer.

Integrated Cursor Control: Trackball, touchpad, mouse button, joystick, respectively.

Interfaces: PS/2 or USB interface, as indicated.

Modifications: Customization of these products for unique requirements is available.

Medical Accessory: Certified to DIN EN 60601

TKS - 088c - TOUCH - AM - KGEH - USB

TK...
- TKL = Long Travel Keyboards
- TKS = Short Travel Keyboards
- TKF = Flat Input Keyboards
- TKG = Keyboards with Silicone Keys
- TKV = Vandal Proof Keyboards
- TKA = Accessories
- TKH = Pointing Devices
- TKC = Decoder

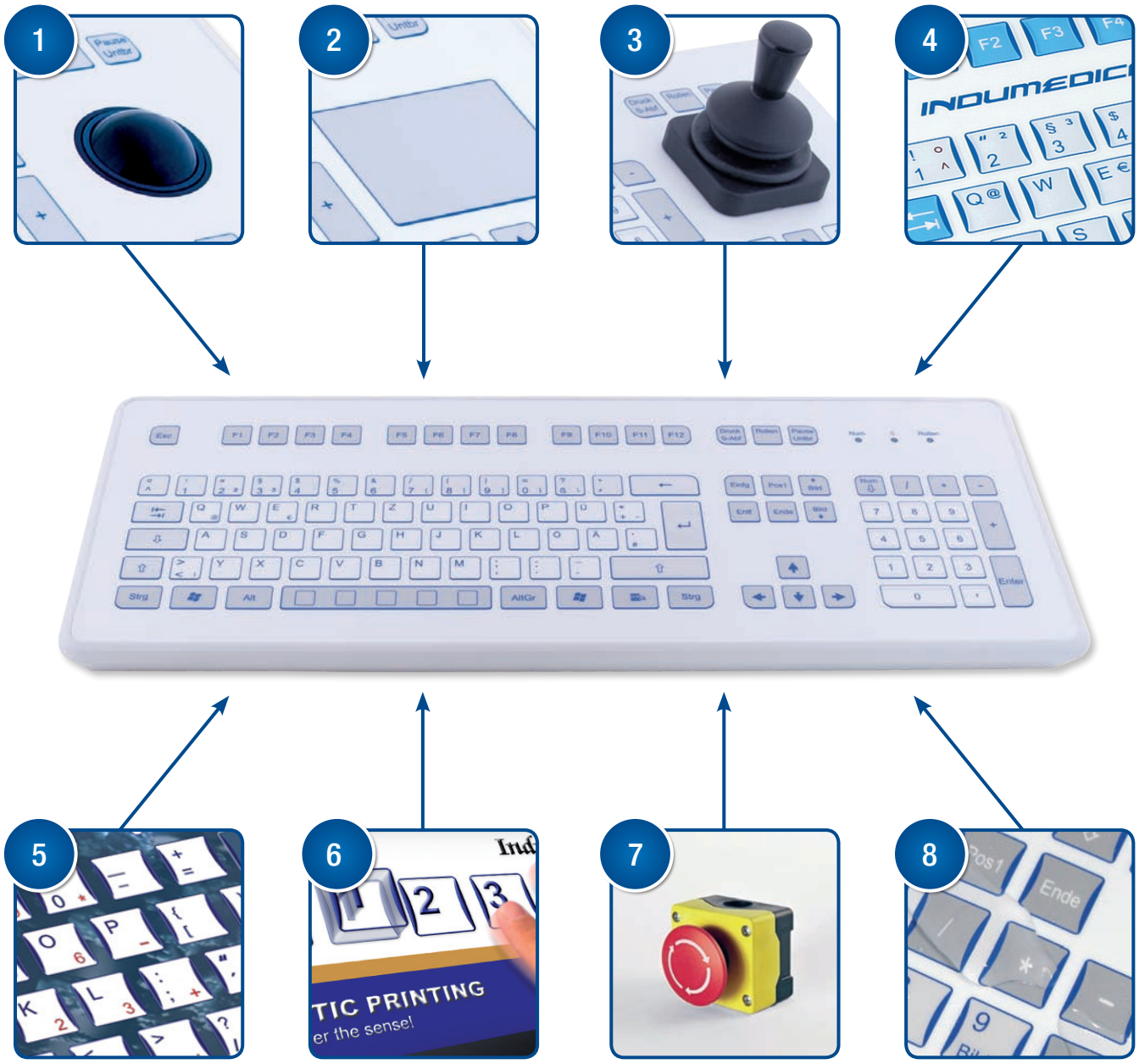
Number of Keys
e.G.. 088 = 88 keys
„a“; „c“ = Versions

Pointing Devices
- TBXX = Trackball with Ø
- TOUCH = Touchpad
- JST = Joystick
- MB = Mousebutton

Additional Components / Feature
- BACKL = Backlite Function
- CFK = Carbon Front Panel
- RF = Radio Frequency Transmission
- IPXX = IP Rating
- EX = Approved Explosion Protection
- AM = Antimicrobial Properties
- EP = Edge Protection

Mounting / Housing Type
- KGEH = Plastic Housing
- MGEH = Metal Housing
- MODUL = Front Panel with Threaded Studs
- FP = 19-inch Front Panel with Mounting Holes
- SCHUBL = 19-inch Drawer
- OEM = Keypad without Frame

Interface
- PS/2 = 6-pol- MiniDIN
- USB = USB Type A



We Can Custom-Tailor a Solution to Meet the Unique Needs of any Customer and Application!

Besides the standard off-the-shelf models, the foil covered keyboards of the TKS and TKF series offer an enormous range of possible modifications. Talk to our project engineers about the various options.

1. Integrated trackball, available in different designs, e. g. optical or analogue and in two form factors: 38-mm or 50-mm
2. Integrated touchpad
3. Joystick
4. Antimicrobial surface prevents bacteria and germs from growing
5. InduPrint Technology: Capability of individual printings on operator panels
6. InduSense Technology: Relief printing on operating panels
7. Additional buttons and keys
8. InduClean Technology: Nano paint coating with Lotus effect

TKS Series

TKS Series

Our TKS series has demonstrated its value under difficult environmental conditions for more than a decade. Many of our initial deployments are still in use today, a testament to their durability and longevity. The next generation TKS Series is based on solid, sophisticated research and improvements garnered from installations both in-house and in the field. It is a design you can be assured will endure even the harshest conditions.

The new TKS series we are offering in addition to the classic series offers several improvements, starting with the housing itself. The simplified modular design results in faster production times, improved availability, lower costs for custom requests and a standardized height.

However, the most striking modification in the new series is the appearance and design of the user interface. The new contrasting colours and graphic design is based on scientifically proven ergonomic research which indicates that this design facilitates the user's visual acuity. To assist in haptic or tactile orientation, the keys have raised edges; so the fingers are guided to the desired key.

TKS-105c-KGEH

Introducing the next generation of foil covered industrial keyboards (with housing), the successor to the popular TKS-105a-KGEH series (page 20) has been completely redesigned both inside and out. The user interface has received a comprehensive facelift which improves more than just the cosmetic appeal of this keyboard. The keyboard legends are now optimized to be clearer featuring superior contrast and a more defined, structured and traditional appearance and layout. The housing itself now features rounded edges and the profile of the unit is thinner (i.e. shorter) than on the original series.

TKS-105c-KGEH keyboards are the physically largest sized housing models available in this series. They offer the user a standard familiar user footprint which presents no impediments to data input, and as a result this model is ideal whenever the footprint of this keyboard can be accommodated in the available workspace. In addition to keyboard only versions, models with an integrated touchpad or 38-mm trackball are also available.

TKS-104c/088c-KGEH

All optimizations and innovations of the TKS-105c series also apply to these models. This series is significantly more compact, due to adjustments in the layout and the absence of the numeric keypad on several models. These adjustments have allowed the size to be reduced by 100 mm, making the total footprint required 382.6 mm, compared to 482.6 mm for the TKS-105c series models. This more compact model is ideal for addressing the demands of constrained applications in a variety of environments, including mechanical and plant engineering. Despite the compact dimensions, these models have the same complete key-functionality as a traditional full-layout keyboard. In addition to the key-only versions, models with integrated touchpad or 38-mm trackball are also available.

TKS-105c/088c-TB38-KGEH with integrated 38-mm trackball

TKS-105c/088c-TOUCH-KGEH with integrated touchpad

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KS18231	TKS-105c-KGEH-PS/2-US	None	IP65	482.6 x 184.6 x 34.9	1300 g
KS18233	TKS-105c-KGEH-USB-US	None	IP65	482.6 x 184.6 x 34.9	1300 g
KS18235	TKS-105c-TB38-KGEH-PS/2-US	Trackball, 38 mm	IP65 [2]	482.6 x 184.6 x 41.7	1500 g
KS18237	TKS-105c-TB38-KGEH-USB-US	Trackball, 38 mm	IP65 [2]	482.6 x 184.6 x 41.7	1500 g
KS18239	TKS-105c-TOUCH-KGEH-PS/2-US	Touchpad	IP65	482.6 x 184.6 x 34.9	1300 g
KS18241	TKS-105c-TOUCH-KGEH-USB-US	Touchpad	IP65	482.6 x 184.6 x 34.9	1300 g
KS18243	TKS-104c-KGEH-PS/2-US	None	IP65	382.6 x 184.6 x 34.9	1000 g
KS18245	TKS-104c-KGEH-USB-US	None	IP65	382.6 x 184.6 x 34.9	1000 g
KS18247	TKS-088c-TB38-KGEH-PS/2-US	Trackball, 38 mm	IP65 [2]	382.6 x 184.6 x 41.7	1100 g
KS18249	TKS-088c-TB38-KGEH-USB-US	Trackball, 38 mm	IP65 [2]	382.6 x 184.6 x 41.7	1100 g
KS18251	TKS-088c-TOUCH-KGEH-PS/2-US	Touchpad	IP65	382.6 x 184.6 x 34.9	1000 g
KS18253	TKS-088c-TOUCH-KGEH-USB-US	Touchpad	IP65	382.6 x 184.6 x 34.9	1000 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS (C) series:

TKS-088c-TOUCH-AM-KGEH

The *InduMedical* series (TKS-088a-KGEH) has also benefited from the next generation redesign of foil-covered industrial keyboard. All the benefits and functionality of the proven antimicrobial benefits remain as per the original *InduMedical* keyboard, with the addition of all optimizations and innovations of the TKS-105c series providing the antimicrobial benefits with improved functionality and ease of use.
TKS-088c-InduMedical keyboards are available with an integrated touchpad. This design permits a completely closed surface which can be entirely cleaned and disinfected without sacrificing an integrated pointing device.

Technical Data

Number of Keys:	88
Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	0 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KS18255	TKS-088c-TOUCH-AM-KGEH-PS/2-US	Touchpad	IP65	382.6 x 184.6 x 34.9	1000 g
KS18257	TKS-088c-TOUCH-AM-KGEH-USB-US	Touchpad	IP65	382.6 x 184.6 x 34.9	1000 g

Other layouts, configurations and interfaces on request


F6
F7
F8

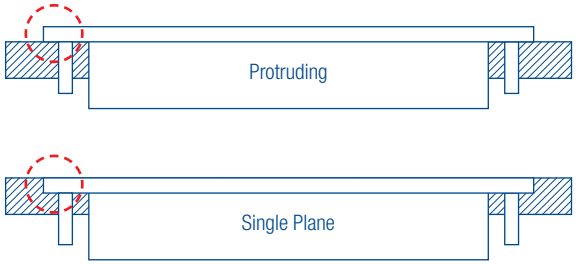
with integrated 38-mm trackball

FRONT MOUNTING

The front mounting of a keyboard is the kind of systems integration which is most widely used in the field of engine and tool building. The input device is firmly linked to the system; if it is accordingly mounted, a plane surface of the operating panel is the result.

The front mounting is performed by means of threaded fastening bolts which are installed on the rear side of the keyboard front panel. The keyboard is embedded into the mounting surface of the system and is screwable in place. A gasket reliably prevents liquids and dust from entering the carrier system. In order to create the cut-out, a cutting template can be used. For the mounting of the keyboard, the studs can be screwed by nuts. In order to protect the circuit board of the keyboard, the back of the keyboard is equipped with a metal protective tray.

Stay bolts which are installed on the rear side of the keyboard front panel allow for a mounting of the keyboard to the respective mounting surface. A cutting template can help to create the mounting cut-out.



Sketched Cross Section for Front Mounting Possibilities

with integrated 50 mm trackball

with integrated touchpad

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front Panel Material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

with integrated joystick

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KS18271	TKS-105c-MODUL-PS/2-US	None	IP65	482.6 x 177.8 x 26.1	1200 g
KS18273	TKS-105c-MODUL-USB-US	None	IP65	482.6 x 177.8 x 26.1	1200 g
KS18275	TKS-105c-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8 x 50.0	1300 g
KS18277	TKS-105c-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8 x 50.0	1300 g
KS18279	TKS-105c-TB50oF80-MODUL-PS/2-US[2]	Trackball, 50 mm	IP65 [2]	482.6 x 177.8 x 50.0	1600 g
KS18281	TKS-105c-TB50oF80-MODUL-USB-US[2]	Trackball, 50 mm	IP65 [2]	482.6 x 177.8 x 50.0	1600 g
KS18283	TKS-105c-TOUCH-MODUL-PS/2-US	Touchpad	IP65	482.6 x 177.8 x 26.1	1200 g
KS18285	TKS-105c-TOUCH-MODUL-USB-US	Touchpad	IP65	482.6 x 177.8 x 26.1	1200 g
KS18299	TKS-105c-JSTb-MODUL-PS/2-US	Joystick	IP65	482.6 x 177.8 x 51.1	1450 g
KS18301	TKS-105c-JSTb-MODUL-USB-US	Joystick	IP65	482.6 x 177.8 x 51.1	1450 g
KS19253	TKS-105c-TB50XF20-MODUL-USBPORT-USB-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8 x 50.0	1600 g
KS18287	TKS-104c-MODUL-PS/2-US	None	IP65	370.0 x 180.0 x 26.8	1000 g
KS18289	TKS-104c-MODUL-USB-US	None	IP65	370.0 x 180.0 x 26.8	1000 g
KS18291	TKS-088c-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	370.0 x 180.0 x 45.8	1100 g
KS18293	TKS-088c-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	370.0 x 180.0 x 45.8	1100 g
KS18295	TKS-088c-TOUCH-MODUL-PS/2-US	Touchpad	IP65	370.0 x 180.0 x 25.8	1000 g
KS18297	TKS-088c-TOUCH-MODUL-USB-US	Touchpad	IP65	370.0 x 180.0 x 25.8	1000 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] Optical Trackball [3] IP65 (front), IP54 (dynam.)

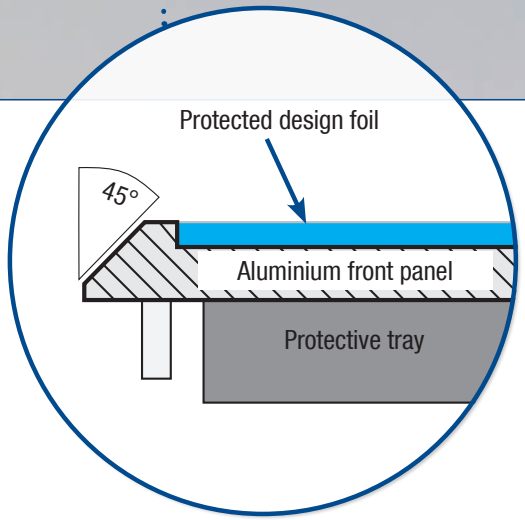
Learn more about further housing and mounting versions of the TKS (C) series:

TKS-105c-TB50XF20-MODUL-USBPORT

Integrated USB-Port to connect external devices

- USB 2.0
- USB-plug protection cap (IP65)
- Optional: External voltage source, 500mA
- Not included: Power pack
- Specified Plug:
  - Min. 5V/700mA
  - NES/J25, NES/J250, XNES/J250

IP 65
105
104
88



FRONT MOUNTING WITH EDGE PROTECTION

Unlike conventional front mount models (see p. 12), these front mounting variants have a heightened slanted edge. The edge protection is achieved by a deeper milling of the front panel.
The reason for this alternative model is to provide superior protection of the front foil of the mechanism. Especially in installations where the keyboard is not plane mounted (i.e. they protrude from the surrounding surface), it is possible that the foil can peel away from the edges and borders. Keyboards with this edge protection are ensured a substantially longer lifespan even in harsher, more mechanically demanding industrial environments.

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front Panel Material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

with integrated 50 mm trackball

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KS18362	TKS-105c-MODUL-EP-PS/2-US	None	IP65	482.6 x 177.8 x 26.1	1200 g
KS18364	TKS-105c-MODUL-EP-USB-US	None	IP65	482.6 x 177.8 x 26.1	1200 g
KS18366	TKS-105c-TB38-MODUL-EP-PS/2-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8 x 50.0	1300 g
KS18368	TKS-105c-TB38-MODUL-EP-USB-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8 x 50.0	1300 g
KS18370	TKS-105c-TB50oF80-MODUL-EP-PS/2-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8 x 50.0	1600 g
KS18372	TKS-105c-TB50oF80-MODUL-EP-USB-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8 x 50.0	1600 g
KS18374	TKS-105c-TOUCH-MODUL-EP-PS/2-US	Touchpad	IP65	482.6 x 177.8 x 26.1	1200 g
KS18376	TKS-105c-TOUCH-MODUL-EP-USB-US	Touchpad	IP65	482.6 x 177.8 x 26.1	1200 g
KS18378	TKS-105c-JSTb-MODUL-EP-PS/2-US	Joystick	IP65	482.6 x 177.8 x 51.1	1450 g
KS18380	TKS-105c-JSTb-MODUL-EP-USB-US	Joystick	IP65	482.6 x 177.8 x 51.1	1450 g
KS18382	TKS-104c-MODUL-EP-PS/2-US	None	IP65	370.0 x 180.0 x 26.8	1000 g
KS18384	TKS-104c-MODUL-EP-USB-US	None	IP65	370.0 x 180.0 x 26.8	1000 g
KS18386	TKS-088c-TB38-MODUL-EP-PS/2-US	Trackball, 38 mm	IP65 [3]	370.0 x 180.0 x 45.8	1100 g
KS18388	TKS-088c-TB38-MODUL-EP-USB-US	Trackball, 38 mm	IP65 [3]	370.0 x 180.0 x 45.8	1100 g
KS18390	TKS-088c-TOUCH-MODUL-EP-PS/2-US	Touchpad	IP65	370.0 x 180.0 x 25.8	1000 g
KS18392	TKS-088c-TOUCH-MODUL-EP-USB-US	Touchpad	IP65	370.0 x 180.0 x 25.8	1000 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] Optical Trackball [3] IP65 (front), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS (C) series:

Front-mounted keyboards with edge protection shield the front foil against delamination due to mechanical or environmental influences.
This product variant is called „EP“ at *InduKey®*; the „c-variant“ represents the conventional front mount model.

A01

TKS-105c-FP-4HE

A02

TKS-105c-TB38-FP-4HE

A03

TKS-105c-TB50oF80-FP-4HE

A04

TKS-105c-TOUCH-FP-4HE

RACK MOUNTING

One type of front mounting is installation into industrial rack systems. In the majority of cases, these systems adhere to a 19“ system which has a 19” form factor as its key defining characteristic. In this respect, 19“ or 482.6 mm refers to the width of the racks which can be stored on rails inside the cabinet which can then easily be extracted and retracted. The height of one cassette compartment is also standardized and are referred to as Rack Units (RU). 1 RU has a height of 1.75” or 44.45 mm per unit.

With the FP series, *InduKey®* has developed a product family of industrial keyboards which are precisely adapted to the specifications of the 19” system. All FP keyboards have a width of 19“ and models with 1 (drawer version), 3 or 4 RU are available. The mounting of the industrial keyboards of the FP series is performed by means of boreholes on the front of the keyboard front panel. The keyboard front panel is connected to the frame of the rack by means of a screw.

A05

TKS-105c-FP-3HE

A06

TKS-105c-TB38-FP-3HE

A07

TKS-105c-TOUCH-FP-3HE

FRONT MOUNTING - 3 RU Mounting Height

TKS-105a-FP-3HE
These keyboards feature a normal conventional keyboard layout and size, and are ideally suited for the installation into 19“ rack mount systems. These keyboards are 3 rack units (RU) high or 133.35 mm.

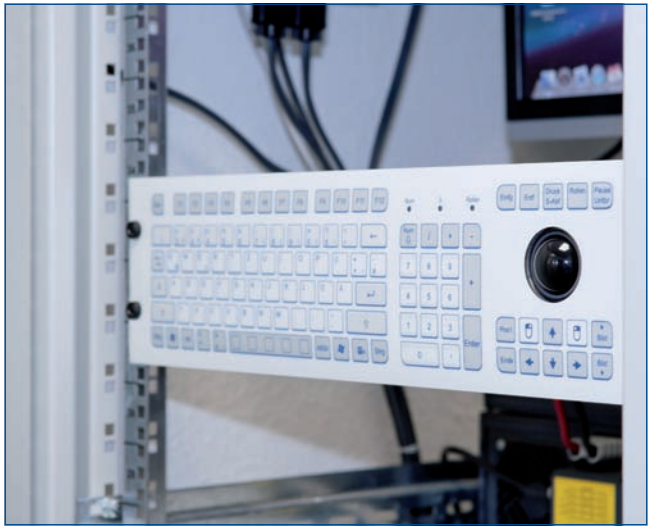
FRONT MOUNTING - 4 RU Mounting Height

TKS-105a-FP-4HE
This model is technically identical to the TKS-105a-FP-3HE, this product family offers all features of a rugged industrial short travel keyboard with a front panel height of 4 RU and is fully compatible with 19“ switch cabinets.

All models available in this series include integrated pointing devices, which are often a necessary element in rack mount applications. The options include an integrated trackball or integrated touchpad.

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	19“ Front Panel with Boreholes
Frontpanel Material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

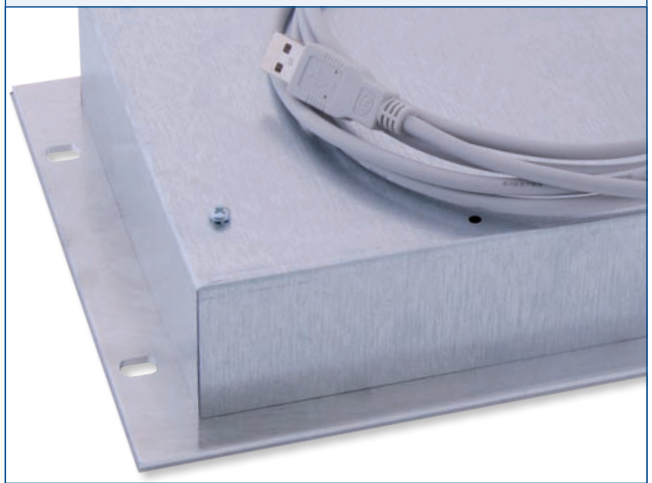


Pict.	Cat. No.	Product Description		Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KS18323	TKS-105c-FP-4HE-PS/2-US	4 RU	None	IP65	482.6 x 177.8 x 25.5	1200 g
A01	KS18325	TKS-105c-FP-4HE-USB-US	4 RU	None	IP65	482.6 x 177.8 x 25.5	1200 g
A02	KS18327	TKS-105c-TB38-FP-4HE-PS/2-US	4 RU	Trackball, 38 mm	IP65 [2]	482.6 x 177.8 x 50.4	1300 g
A02	KS18329	TKS-105c-TB38-FP-4HE-USB-US	4 RU	Trackball, 38 mm	IP65 [2]	482.6 x 177.8 x 50.4	1300 g
A03	KS18331	TKS-105c-TB50oF80-FP-4HE-PS/2-US	4 RU	Trackball, 50 mm	IP65	482.6 x 177.8 x 49.9	1600 g
A03	KS18333	TKS-105c-TB50oF80-FP-4HE-USB-US	4 RU	Trackball, 50 mm	IP65	482.6 x 177.8 x 49.9	1600 g
A04	KS18335	TKS-105c-TOUCH-FP-4HE-PS/2-US	4 RU	Touchpad	IP65	482.6 x 177.8 x 25.5	1200 g
A04	KS18337	TKS-105c-TOUCH-FP-4HE-USB-US	4 RU	Touchpad	IP65	482.6 x 177.8 x 25.5	1200 g
A05	KS18311	TKS-105c-FP-3HE-PS/2-US	3 RU	None	IP65	482.6 x 133.5 x 42.1	900 g
A05	KS18313	TKS-105c-FP-3HE-USB-US	3 RU	None	IP65	482.6 x 133.5 x 42.1	900 g
A06	KS18315	TKS-105c-TB38-FP-3HE-PS/2-US	3 RU	Trackball, 38 mm	IP65 [2]	482.6 x 133.5 x 43.5	1000 g
A06	KS18317	TKS-105c-TB38-FP-3HE-USB-US	3 RU	Trackball, 38 mm	IP65 [2]	482.6 x 133.5 x 43.5	1000 g
A07	KS18319	TKS-105c-TOUCH-FP-3HE-PS/2-US	3 RU	Touchpad	IP65	482.6 x 133.5 x 42.6	900 g
A07	KS18321	TKS-105c-TOUCH-FP-3HE-USB-US	3 RU	Touchpad	IP65	482.6 x 133.5 x 42.6	900 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS (C) series:



In the technical sector, „rack“ designates a frame for electrical devices which has a standardized width of 19“. Accordingly, InduKey® rack mount series keyboards have a front panel width of precisely 482.6 mm in order to meet the requirements of this standard. In case of devices of smaller dimensions, such as the TKS-030-FP, so called integration cassette mounting‘ is used to allow the incorporation of devices narrower than 19“.

IP 65
104
88

TKS-104c-SCHUBL

TKS-088c-TOUCH-SCHUBL

Rugged Keyboard / Drawer Combination

This aesthetically appealing mounting variant of the TKS input system is suited for the use in 19" systems. Due to the low height of 1 RU (1 rack unit = 44.45 mm) it requires very little space. The extracted drawer has an angle of 15° which allows an easy operation in standing position.

Cat. No.	Product Description		Pointing Device	Protection Level	Dimensions (mm)	Weight
KS18343	TKS-104c-SCHUBL-PS/2-US	1 RU	None	IP65	482.6 x 280 x 43.7	5000 g
KS18345	TKS-104c-SCHUBL-USB-US	1 RU	None	IP65	482.6 x 280 x 43.7	5000 g
KS18347	TKS-088c-TOUCH-SCHUBL-PS/2-US	1 RU	Touchpad	IP65	482.6 x 280 x 43.7	5100 g
KS18349	TKS-088c-TOUCH-SCHUBL-USB-US	1 RU	Touchpad	IP65	482.6 x 280 x 43.7	5100 g

Other layouts, configurations and interfaces on request

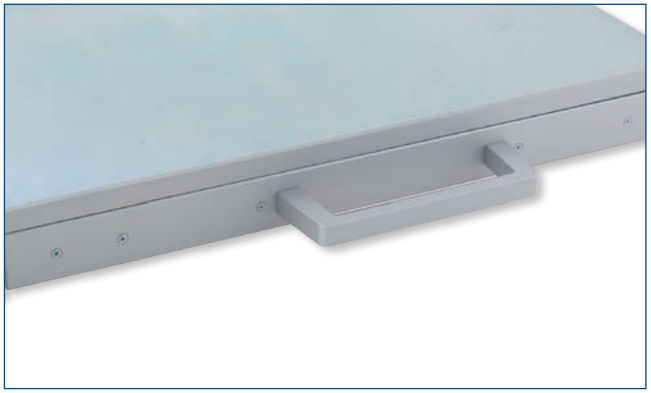
[1] Keyboards with pointing device: 0 °C to +70 °C

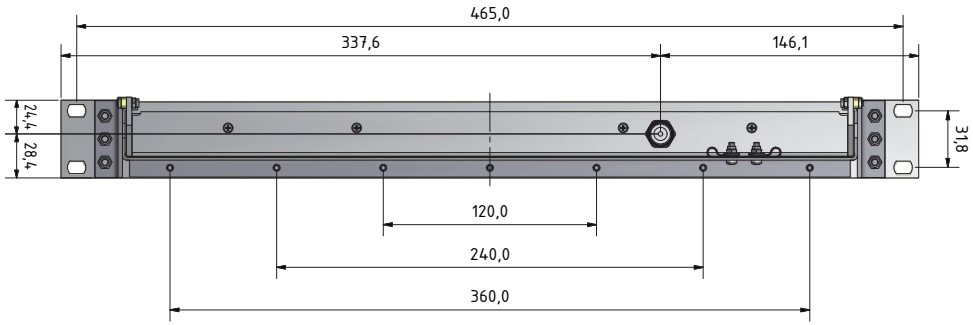
Technical Data

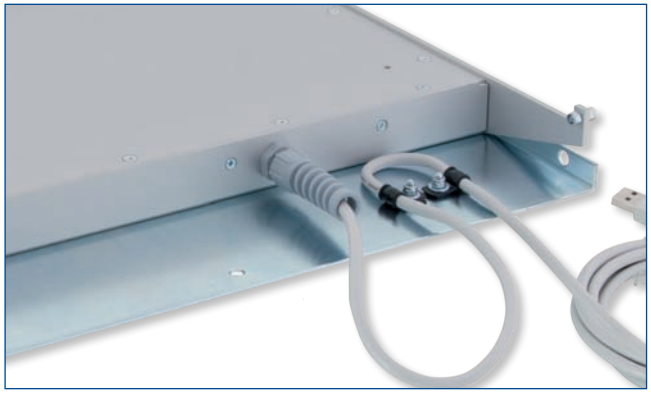
Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	19" drawer (1 RU)
Frontpanel Material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

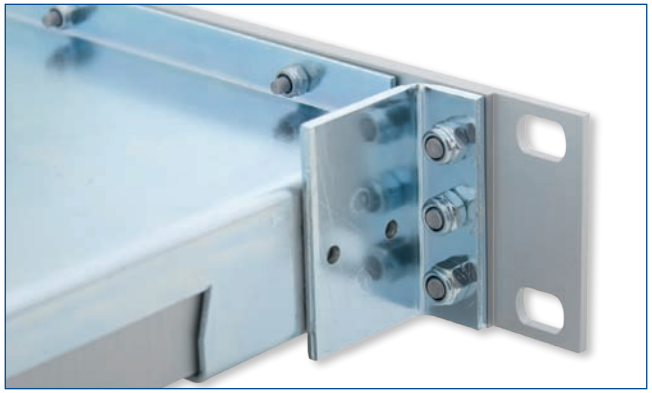
Technical Data of the Integrated Touchpad

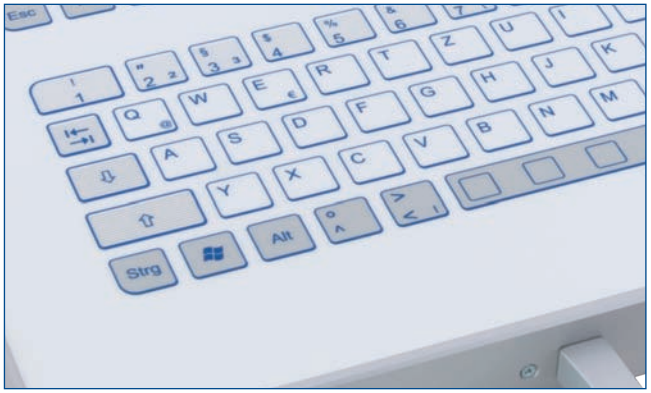
Operating Principle:	Capacitive
Resolution:	100-300 dpi
Dimensions:	65 x 49 mm
Active Surface:	59 x 42 mm




465,0
337,6
146,1
24,4
28,4
31,8
120,0
240,0
360,0






Esc
Strg
Alt

A01

TKS-105a-KGEH

A02

TKS-105a-TB38-KGEH

A03

TKS-105a-TOUCH-KGEH

A04

TKS-105a-TB38-RF-KGEH

TKS-105a/104a/088a/030a-KGEH

This keyboard is the base model of the successful TKS series. It is based on high-quality electromechanic short travel (0.3 mm) keys and provides an excellent, tactile feedback and a long service life. The closed surface is resistant to water, dust, and other substances arising from industrial activity which can damage conventional keyboards. As a housing version, it comes with the usual MFII layout of a conventional PC keyboard.

A05

TKS-104a-KGEH

A06

TKS-088a-TB38-KGEH

A07

TKS-088a-TOUCH-KGEH

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

A08

TKS-088a-TOUCH-AM-KGEH

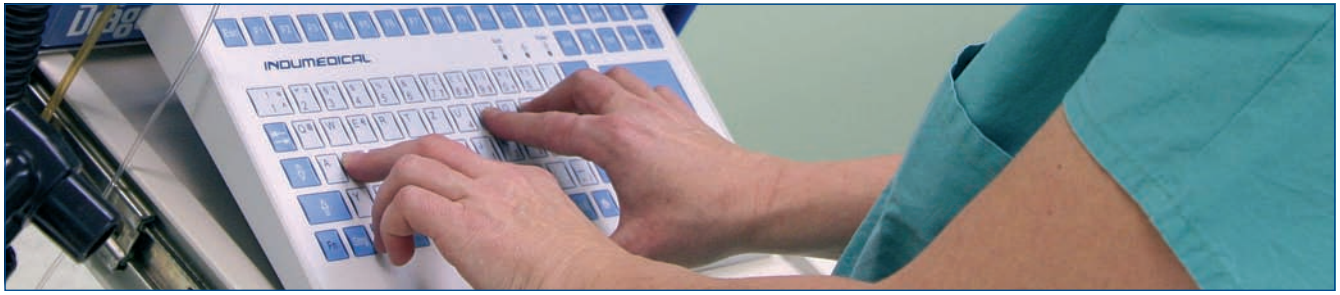
A09

TKS-030-KGEH

A10

TKS-030-TOUCH-KGEH

[1] Keyboards with pointing device: 0 °C to +70 °C

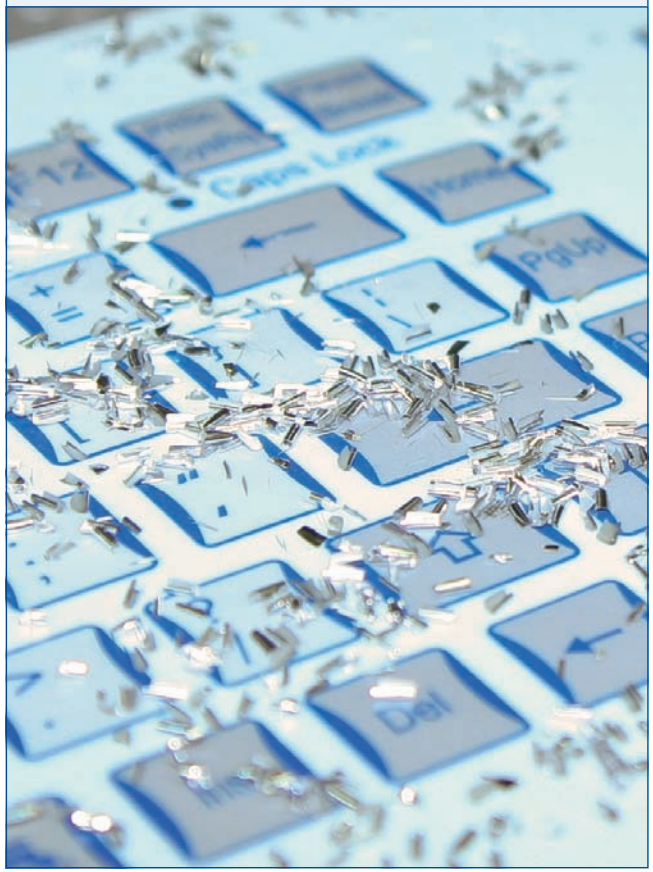


Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KS07211	TKS-105a-KGEH-PS/2-US	None	IP65	480 x 182 x 34	1400 g
A01	KS09451	TKS-105a-KGEH-USB-US	None	IP65	480 x 182 x 34	1400 g
A02	KS08271	TKS-105a-TB38-KGEH-PS/2-US	Trackball, 38 mm	IP65[2]	480 x 182 x 44	1600 g
A02	KS09453	TKS-105a-TB38-KGEH-USB-US	Trackball, 38 mm	IP65[2]	480 x 182 x 44	1600 g
A03	KS07216	TKS-105a-TOUCH-KGEH-PS/2-US	Touchpad	IP65	480 x 182 x 34	1400 g
A03	KS09455	TKS-105a-TOUCH-KGEH-USB-US	Touchpad	IP65	480 x 182 x 34	1400 g
A04	KS15267	TKS-105a-TB38-RF-KGEH-PS/2-US[2]	Trackball, 38 mm[2]	IP65[2]	480 x 182 x 44	1550 g
A04	KS14026	TKS-105a-TB38-RF-KGEH-USB-US[2]	Trackball, 38 mm[2]	IP65[2]	480 x 182 x 44	1550 g
A05	KS07201	TKS-104a-KGEH-PS/2-US	None	IP65	372 x 182 x 34	1150 g
A05	KS09506	TKS-104a-KGEH-USB-US	None	IP65	372 x 182 x 34	1150 g
A06	KS08261	TKS-088a-TB38-KGEH-PS/2-US	Trackball, 38 mm	IP65[2]	372 x 182 x 44	1300 g
A06	KS09508	TKS-088a-TB38-KGEH-USB-US	Trackball, 38 mm	IP65[2]	372 x 182 x 44	1300 g
A07	KS07206	TKS-088a-TOUCH-KGEH-PS/2-US	Touchpad	IP65	372 x 182 x 34	1150 g
A07	KS09510	TKS-088a-TOUCH-KGEH-USB-US	Touchpad	IP65	372 x 182 x 34	1150 g
A08	KS03213	TKS-088-TOUCH-AM-KGEH-PS/2-US	Touchpad	IP65	372 x 182 x 34	1150 g
A08	KS13209	TKS-088-TOUCH-AM-KGEH-USB-US	Touchpad	IP65	372 x 182 x 34	1150 g
A09	KS07351	TKS-030-KGEH-PS/2-US	None	IP65	125 x 150 x 26	450 g
A09	KS07352	TKS-030-KGEH-USB-US	None	IP65	125 x 150 x 26	450 g
A10	KS09222	TKS-030-TOUCH-KGEH-PS/2-US	Touchpad	IP65	195 x 151 x 26	550 g
A10	KS14003	TKS-030-TOUCH-KGEH-USB-US	Touchpad	IP65	195 x 151 x 26	550 g

Other layouts, configurations and interfaces on request

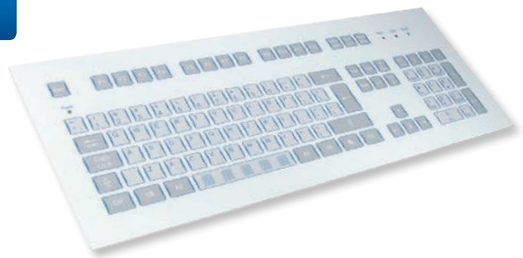
[2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS series:



IP 65
105
104
88
30

A01



TKS-105a-MODUL

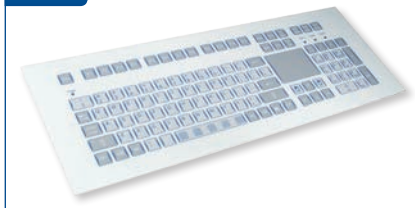
A02

TKS-105a-TB38-MODUL

A03

TKS-105a-TB50oF80-MODUL

A04



TKS-105a-TOUCH-MODUL

TKS-105a/104a/088a/030a-MODUL

The front mounting of a keyboard is the kind of system integration which is most widely used in the field of engine and tool building. The input device is built into the control panel. The standard installation of the keyboard in this circumstance results in a single flat plane surface which seamlessly integrates with the control panel. However the keyboard can protrude from the housing, resulting in a slight projection from the remainder of the control panel if desired.

A05

TKS-105a-JSTb-MODUL

A06

TKS-105a-TB50xF50-MODUL-USBPORT

A07

TKS-104a-MODUL

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front Panel material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

[1] Keyboards with pointing device: 0 °C to +70 °C

A08

TKS-088a-TB38-MODUL

A09

TKS-088a-TOUCH-MODUL

A10

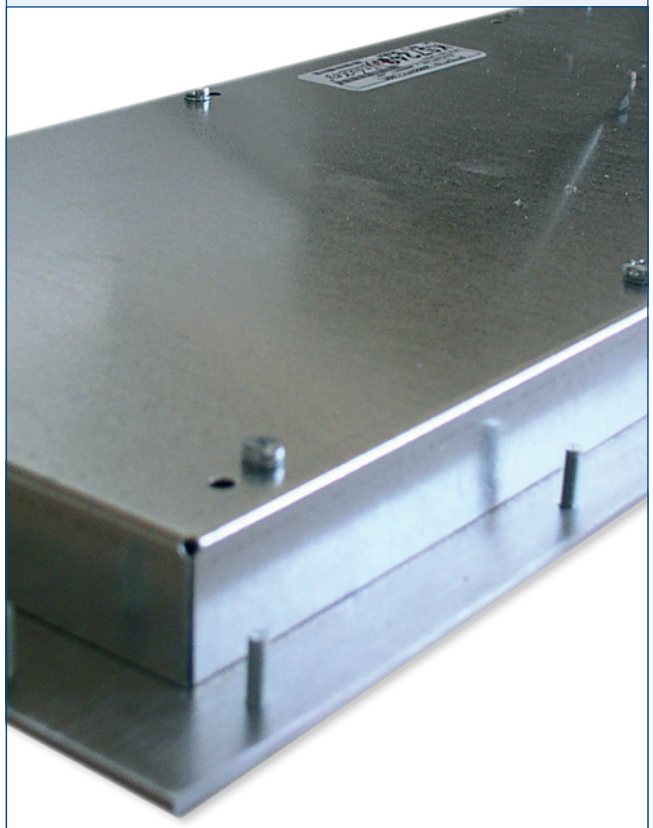
TKS-030-MODUL/TOUCH-MODUL

Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)
A01	KS07241	TKS-105a-MODUL-PS/2-US	None	IP65	482.6 x 177.8
A01	KS09490	TKS-105a-MODUL-USB-US	None	IP65	482.6 x 177.8
A02	KS08308	TKS-105a-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8
A02	KS09498	TKS-105a-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8
A03	KS01201	TKS-105a-TB50oF80-MODUL-PS/2-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8
A03	KS01203	TKS-105a-TB50oF80-MODUL-USB-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8
A04	KS07246	TKS-105a-TOUCH-MODUL-PS/2-US	Touchpad	IP65	482.6 x 177.8
A04	KS09502	TKS-105a-TOUCH-MODUL-USB-US	Touchpad	IP65	482.6 x 177.8
A05	KS15003	TKS-105a-JSTb-MODUL-PS/2-US	Joystick	IP65	482.6 x 177.8
A05	KS15005	TKS-105a-JSTb-MODUL-USB-US	Joystick	IP65	482.6 x 177.8
A06	KS18357	TKS-105a-TB50xF50-MODUL-USBPORT-USB-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8
A07	KS07231	TKS-104a-MODUL-PS/2-US	None	IP65	370.0 x 182.0
A07	KS09512	TKS-104a-MODUL-USB-US	None	IP65	370.0 x 182.0
A08	KS08312	TKS-088a-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	370.0 x 182.0
A08	KS09520	TKS-088a-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	370.0 x 182.0
A09	KS07236	TKS-088a-TOUCH-MODUL-PS/2-US	Touchpad	IP65	370.0 x 182.0
A09	KS09524	TKS-088a-TOUCH-MODUL-USB-US	Touchpad	IP65	370.0 x 182.0
A10	KS08461	TKS-030-MODUL-PS/2-US	None	IP65	141.0 x 157.0
A10	KS08466	TKS-030-MODUL-USB-US	None	IP65	141.0 x 157.0
A10	KS02031	TKS-030-TOUCH-MODUL-PS/2-US	Touchpad	IP65	141.0 x 196.0
A10	KS14001	TKS-030-TOUCH-MODUL-USB-US	Touchpad	IP65	141.0 x 196.0

Other layouts, configurations and interfaces on request

[2] Optical Trackball [3] IP65 (front), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS series:



A01

TKS-105b-MODUL

A02

TKS-105b-TB38-MODUL

A03

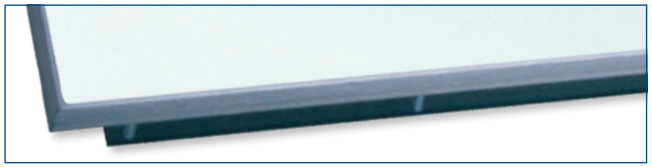
TKS-105b-TB50oF80-MODUL

TKS-105b / 104b / 088b / 030b-MODUL

Front Mounting with Edge Protection

Unlike conventional front mount models (see p. 22), these front mounting variants have a heightened slanted edge. The edge protection is achieved by a deeper milling of the front panel.

The reason for this alternative model is to provide superior protection of the front foil of the mechanism. Especially in installations where the keyboard is not plane mounted (i.e. they protrude from the surrounding surface), it is possible that the foil can peel away from the edges and borders. Keyboards with this edge protection are ensured a substantially longer lifespan even in harsher, more mechanically demanding industrial environments.



A04

TKS-105b-TOUCH-MODUL

A06

TKS-104b-MODUL

A07

TKS-088b-TB38-MODUL

A08

TKS-088b-TOUCH-MODUL

A09

TKS-030b-MODUL

A10

TKS-030b-TOUCH-MODUL

Technical Data

Switching Technology:	Short Travel Keys	Housing Design:	Front Panel with Threaded Bolts
Switching Force:	2.6 N	Front Panel Material:	Aluminium
Switch Travel:	0.3 mm	Operating Temperature:	-25 °C to + 70 °C [1]
Switching Cycles:	Approx. 3 Mio. (per key)	Storage Temperature:	-25 °C to + 80 °C

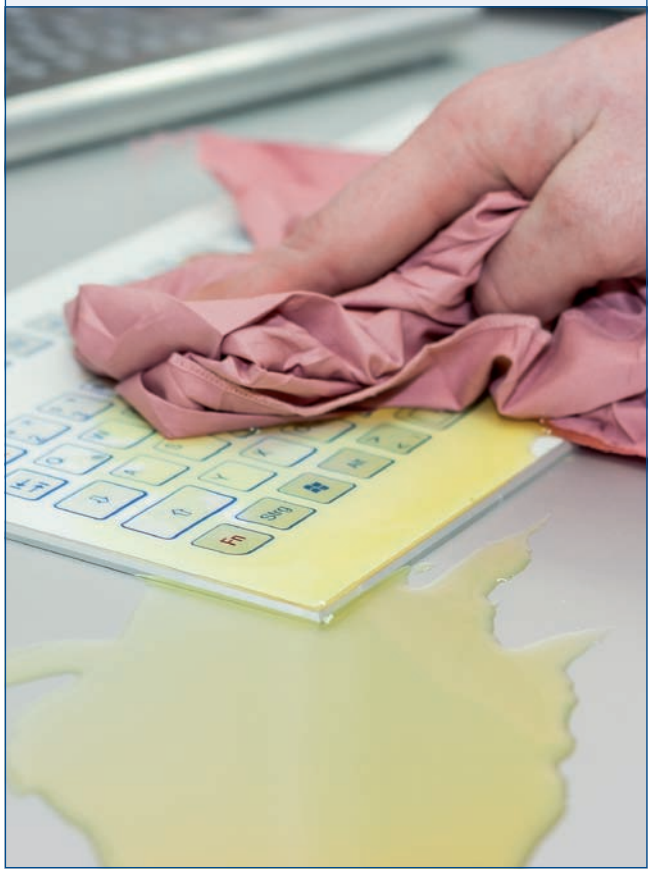
[1] Keyboards with pointing device: 0 °C to +70 °C

Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)
A01	KS13021	TKS-105b-MODUL-PS/2-US	None	IP65	482.6 x 177.8
A01	KS13023	TKS-105b-MODUL-USB-US	None	IP65	482.6 x 177.8
A02	KS13026	TKS-105b-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8
A02	KS13028	TKS-105b-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	482.6 x 177.8
A03	KS14006	TKS-105b-TB50oF80-MODUL-PS/2-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8
A03	KS14008	TKS-105b-TB50oF80-MODUL-USB-US	Trackball, 50 mm	IP65 [2]	482.6 x 177.8
A04	KS13031	TKS-105b-TOUCH-MODUL-PS/2-US	Touchpad	IP65	482.6 x 177.8
A04	KS13033	TKS-105b-TOUCH-MODUL-USB-US	Touchpad	IP65	482.6 x 177.8
	KS15007	TKS-105b-JSTb-MODUL-PS/2-US	Joystick	IP65	482.6 x 177.8
	KS15009	TKS-105b-JSTb-MODUL-USB-US	Joystick	IP65	482.6 x 177.8
A06	KS15011	TKS-104b-MODUL-PS/2-US	None	IP65	370.0 x 182.0
A06	KS15013	TKS-104b-MODUL-USB-US	None	IP65	370.0 x 182.0
A07	KS15015	TKS-088b-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [3]	370.0 x 182.0
A07	KS15017	TKS-088b-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [3]	370.0 x 182.0
A08	KS15019	TKS-088b-TOUCH-MODUL-PS/2-US	Touchpad	IP65	370.0 x 182.0
A08	KS15021	TKS-088b-TOUCH-MODUL-USB-US	Touchpad	IP65	370.0 x 182.0
A09	KS14028	TKS-030b-MODUL-PS/2-US	None	IP65	141.0 x 157.0
A09	KS14030	TKS-030b-MODUL-USB-US	None	IP65	141.0 x 157.0
A10	KS14032	TKS-030b-TOUCH-MODUL-PS/2-US	Touchpad	IP65	141.0 x 196.0
A10	KS14034	TKS-030b-TOUCH-MODUL-USB-US	Touchpad	IP65	141.0 x 196.0

Other layouts, configurations and interfaces on request

[2] Optical Trackball [3] IP65 (front), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS series:



IP 65
105
104
88
30

A01

TKS-105a-FP-3HE

A02

TKS-105a-TB38-FP-3HE

A03

TKS-105a-TOUCH-FP-3HE

A04

TKS-105a-FP

TKS-105a / 104a / 088a / 030a-FP-3HE / 4HE / 1HE

In the technical sector, „rack“ designates a frame for electrical devices which has a standardised width of 19“. Therefore, *InduKey®* keyboards have a front panel width of precisely 482.6 mm in order to meet the requirements of this standardisation. In case of devices of smaller dimensions, such as the TKS-030-FP, a so called cassette mounting is performed in order to appropriately incorporate the device.

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Housing Design:	19“ Front Panel with Boreholes
Front Panel Material:	Aluminium
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

[1] Keyboards with pointing device: 0 °C to +70 °C

A05

TKS-105a-TB38-FP

A06

TKS-105a-TB50oF80-FP

A07

TKS-105a-TOUCH-FP

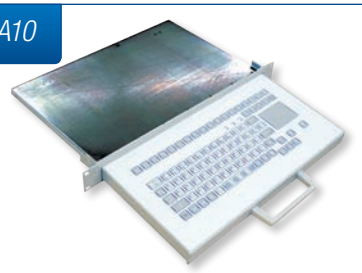
A08

TKS-030-FP

A09

TKS-104a-SCHUBL

A10



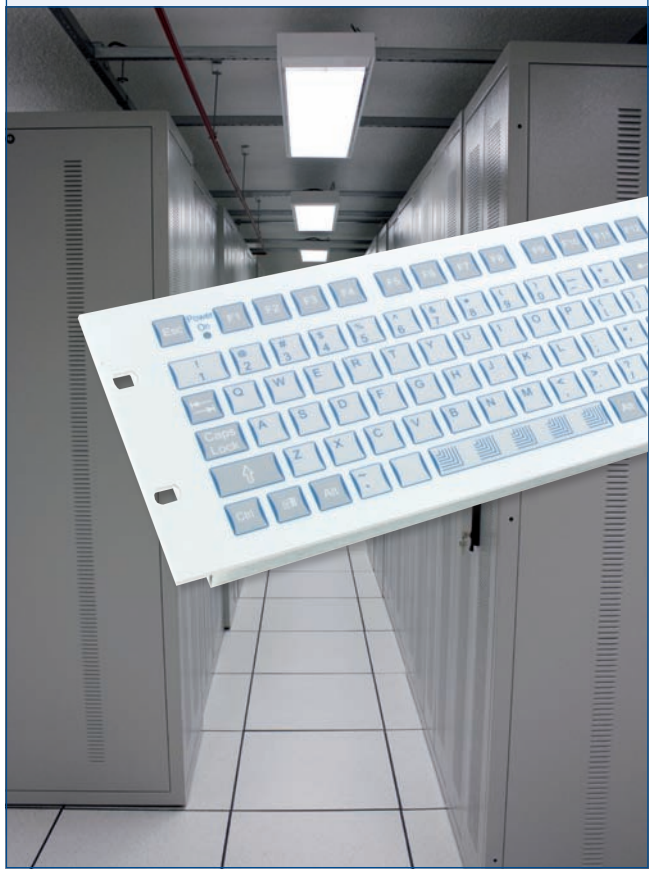
TKS-088a-TOUCH-SCHUBL

Pict.	Cat. No.	Product Description		Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KS09404	TKS-105a-FP-3HE-PS/2-US	3 RU	None	IP65	482.6 x 133.5	900 g
A01	KS09461	TKS-105a-FP-3HE-USB-US	3 RU	None	IP65	482.6 x 133.5	900 g
A02	KS09204	TKS-105a-TB38-FP-3HE-PS/2-US	3 RU	Trackball, 38 mm	IP65 [3]	482.6 x 133.5	1000 g
A02	KS09474	TKS-105a-TB38-FP-3HE-USB-US	3 RU	Trackball, 38 mm	IP65 [3]	482.6 x 133.5	1000 g
A03	KS09405	TKS-105a-TOUCH-FP-3HE-PS/2-US	3 RU	Touchpad	IP65	482.6 x 133.5	900 g
A03	KS09482	TKS-105a-TOUCH-FP-3HE-USB-US	3 RU	Touchpad	IP65	482.6 x 133.5	900 g
A08	KS08460	TKS-030-FP-PS/2-US	3 RU	None	IP65	128.6 x 111.6	200 g
A08	KS08464	TKS-030-FP-USB-US	3 RU	None	IP65	128.6 x 111.6	200 g
A04	KS07221	TKS-105a-FP-PS/2-US	4 RU	None	IP65	482.6 x 177.8	1200 g
A04	KS09457	TKS-105a-FP-USB-US	4 RU	None	IP65	482.6 x 177.8	1200 g
A05	KS08304	TKS-105a-TB38-FP-PS/2-US	4 RU	Trackball, 38 mm	IP65 [3]	482.6 x 177.8	1300 g
A05	KS09470	TKS-105a-TB38-FP-USB-US	4 RU	Trackball, 38 mm	IP65 [3]	482.6 x 177.8	1300 g
A06	KS01205	TKS-105a-TB50oF80-FP-PS/2-US	4 RU	Trackball, 50 mm	IP65 [2]	482.6 x 177.8	1600 g
A06	KS01207	TKS-105a-TB50oF80-FP-USB-US	4 RU	Trackball, 50 mm	IP65 [2]	482.6 x 177.8	1600 g
A07	KS07226	TKS-105a-TOUCH-FP-PS/2-US	4 RU	Touchpad	IP65	482.6 x 177.8	1200 g
A07	KS09478	TKS-105a-TOUCH-FP-USB-US	4 RU	Touchpad	IP65	482.6 x 177.8	1200 g
A09	KS07426	TKS-104a-SCHUBL-PS/2-US	1 RU	None	IP65	482.6 x 280.0	5000 g
A09	KS09528	TKS-104a-SCHUBL-USB-US	1 RU	None	IP65	482.6 x 280.0	5000 g
A10	KS07421	TKS-088a-TOUCH-SCHUBL-PS/2-US	1 RU	Touchpad	IP65	482.6 x 280.0	5100 g
A10	KS09530	TKS-088a-TOUCH-SCHUBL-USB-US	1 RU	Touchpad	IP65	482.6 x 280.0	5100 g

Other layouts, configurations and interfaces on request

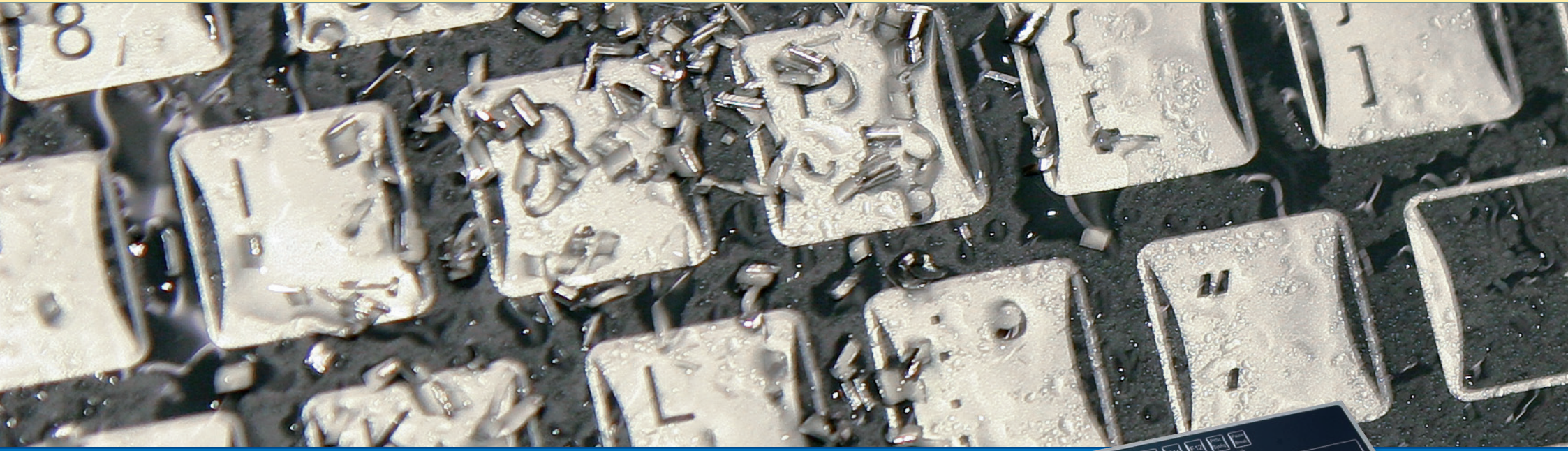
[2] Optical Trackball [3] IP65 (front), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKS series:



InduKey®
Industrial Input Devices

Rugged Flat Input Keyboards



TKF Series

TKF Series

InduKey® Keyboard Production GmbH & Co. KG

The models of the TKF series are well suited for applications in rugged environments. The TKF keyboards differ from other foil covered industrial keyboards by the extremely shallow mounting depth which is achieved by the domes with a low construction height as mechanical key switch elements. Accordingly, the keyboards of this category are ideally suited for installation into devices which require a low mounting depth and compact dimensions.

Despite their slim design, these keyboards have a key switch travel of 0.6 mm which provides good tactile feedback due to the 3N force to generate keystrokes, which is clearly perceptible even when wearing gloves. Pointing device options for integration into the keyboard include touchpads and trackballs.

The TKF series keyboards are most commonly used in the following applications:

- Fittings of all kinds
- Medical Equipment Engineering
- Measuring and Control Technology
- Flat Control Desks
- Industrial PCs
- Control and Observation Stations
- Information Terminals

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TKF-085a-KGEH

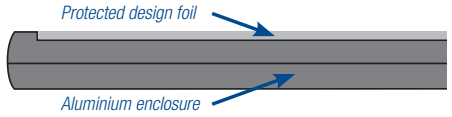
The TKF-085a-KGEH keyboard in an ABS plastic housing features a significantly space-saving form factor which is particularly space-saving. The closed surface is resistant to water, dust, and other substances arising from industrial activity.
TKF-085a-TB38-KGEH and TKF-085a-TOUCH-KGEH are the two available variants with an integrated trackball or touchpad as pointing device, respectively.

TKF-085a-TB38-KGEH with integrated 38-mm trackball

TKF-085a-TOUCH-KGEH with integrated touchpad

TKF-085c-MGEH

TKF-085c-MGEH - featuring an ultra-thin height of 15.50 mm, the visually attractive keyboard InduStyle is an extremely flat, compact desktop keyboard. The aluminum housing efficiently delivers a keyboard which combines long-lasting quality and functional reliability in rugged environments. A deeper milling or recess (pictured below) protects the foil against wear and delamination.



TKF-085c-MGEH

TKF-085c-TOUCH-MGEH with integrated touchpad

Technical Data

Switching Technology:	Gold Plated Domes
Switching Force:	3 N
Switch Travel:	0.6 mm
Switching Cycles:	Approx. 1 Mio. (per key)
Material: MGEH version:	Aluminium, Metal Housing
Material: KGEH version:	ABS, Plastic Housing
Material: OEM version:	FR4 (Epoxy glass resin)
Operating Temperature:	-25 °C to + 70 °C[1]
Storage Temperature:	-25 °C to + 80 °C

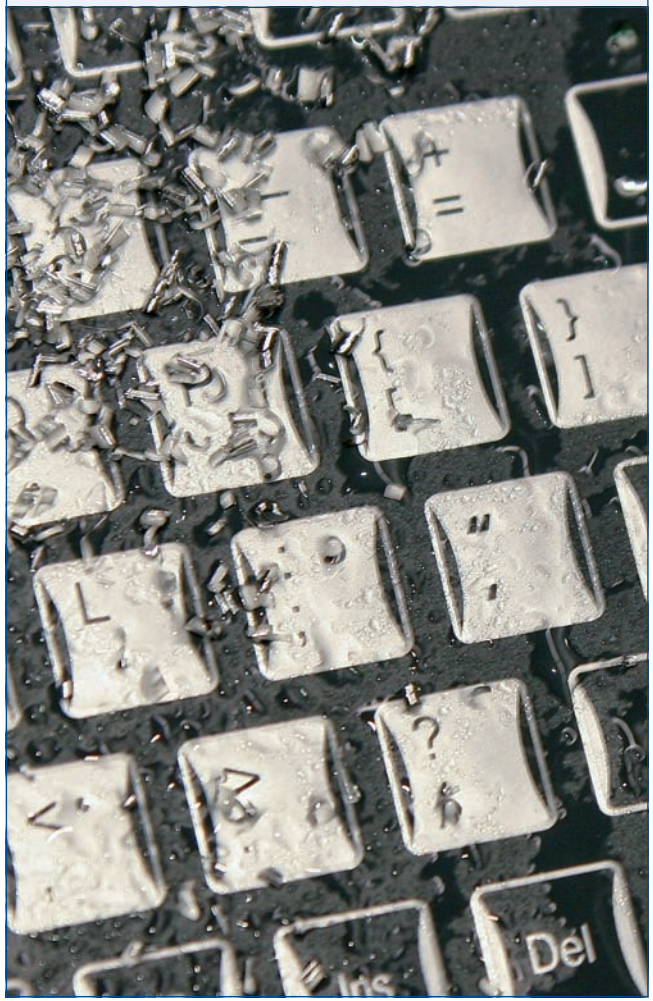
TKF-085a-OEM
This mounting variant can be integrated into systems by means of an adhesive foil on the rear side. The keyboard is versatile and compatible with a wide range of applications, since no mechanical incorporation is required.

Typ	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
Plastic Housing	KF08289	TKF-085a-KGEH-PS/2-US	None	IP65	274 x 138 x 35	700 g
	KF09451	TKF-085a-KGEH-USB-US	None	IP65	274 x 138 x 35	700 g
	KF08281	TKF-085a-TB38-KGEH-PS/2-US	Trackball, 38 mm	IP65 [2]	350 x 138 x 49	900 g
	KF09447	TKF-085a-TB38-KGEH-USB-US	Trackball, 38 mm	IP65 [2]	350 x 138 x 49	900 g
	KF08285	TKF-085a-TOUCH-KGEH-PS/2-US	Touchpad	IP65	350 x 138 x 35	700 g
	KF09449	TKF-085a-TOUCH-KGEH-USB-US	Touchpad	IP65	350 x 138 x 35	700 g
Metal Housing	KF02061	TKF-085c-MGEH-PS/2-US	None	IP65	261.0 x 116 x 15.5	750 g
	KF02063	TKF-085c-MGEH-USB-US	None	IP65	261.0 x 116 x 15.5	750 g
	KF02067	TKF-085c-TOUCH-MGEH-PS/2-US	Touchpad	IP65 [2]	335.5 x 116 x 15.5	1000 g
	KF02069	TKF-085c-TOUCH-MGEH-USB-US	Touchpad	IP65 [2]	335.5 x 116 x 15.5	1000 g
Adhesive Foil	KF08226	TKF-085a-OEM-PS/2-US	None	IP65	245.5 x 107.5	200 g
	KF13001	TKF-085a-OEM-USB-US	None	IP65	245.5 x 107.5	200 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKF series:



IP 65

85

TKF-085a-MODUL

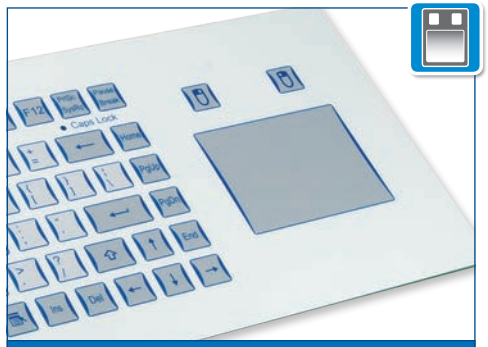
TKF-085b-MODUL

TKF-085a/b-MODUL is a compact keyboard which is designed to be front mounted. Threaded bolts on the rear side of the front panel allow an easy installation of the keyboard into control panels. The metal frame surrounding the “a-version” is an additional protection often of benefit in rugged applications and environments.

TKF-085a-TB38-MODUL with integrated trackball

TKF-085a-TOUCH-MODUL with integrated touchpad

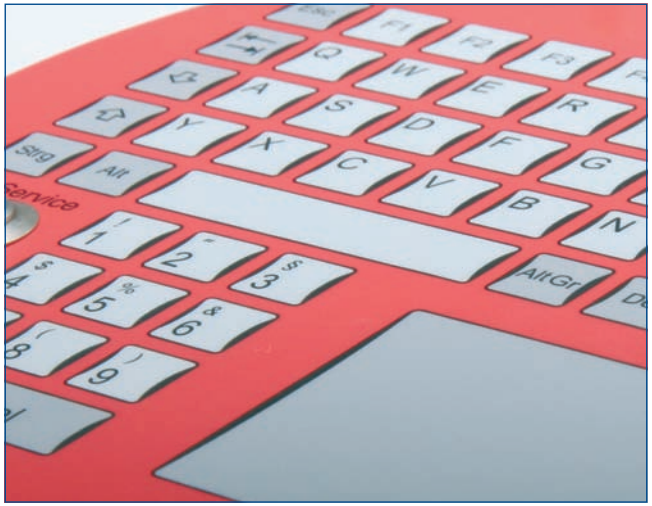
TKF-085b-TB38-MODUL with integrated trackball



TKF-085b-TOUCH-MODUL with integrated touchpad

Technical Data

Switching Technology:	Gold Plated Domes
Switching Force:	3 N
Switch Travel:	0.6 mm
Switching Cycles:	Approx. 1 Mio. (per key)
Front Panel Mat.: a-version:	Aluminium
Front Panel Mat.: b-version:	FR4 (Epoxy glass resin)
Housing Design:	Front Panel with Threaded Bolts
Operating Temperature:	-25 °C to + 70 °C[1]
Storage Temperature:	-25 °C to + 80 °C



Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KF08266	TKF-085a-MODUL-PS/2-US	None	IP65	274 x 135 x 15	380 g
KF09433	TKF-085a-MODUL-USB-US	None	IP65	274 x 135 x 15	380 g
KF08258	TKF-085a-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	365 x 135 x 30	550 g
KF09439	TKF-085a-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	365 x 135 x 30	550 g
KF08262	TKF-085a-TOUCH-MODUL-PS/2-US	Touchpad	IP65	365 x 135 x 18	500 g
KF09443	TKF-085a-TOUCH-MODUL-USB-US	Touchpad	IP65	365 x 135 x 18	500 g
KF02001	TKF-085b-MODUL-PS/2-US	None	IP65	274 x 135 x 13	350 g
KF02003	TKF-085b-MODUL-USB-US	None	IP65	274 x 135 x 13	350 g
KF02021	TKF-085b-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	365 x 135 x 28.5	400 g
KF02023	TKF-085b-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	365 x 135 x 28.5	400 g
KF02031	TKF-085b-TOUCH-MODUL-PS/2-US	Touchpad	IP65	365 x 135 x 13.4	350 g
KF02033	TKF-085b-TOUCH-MODUL-USB-US	Touchpad	IP65	365 x 135 x 13.4	350 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKF series:

Desktop..... Page 30
Rack Mounting..... Page 34

Pictured above ist the foil keyboard of the TKF-085b-Series in a robust Ruggedized PC designed for the harshest conditions.

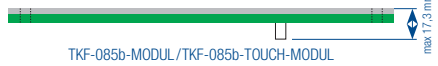
The ruggedized PC is suited for the use in extremely dirty, wet, vibration-exposed or dusty environments. This include environments such as in mining areas or on tunnel drilling machines, outdoors on construction machines or harbour facilities, in water works or saw mills, as well as in brickworks.

TKF-085a-FP

TKF-085b-FP

TKF-085a/b-FP - 19“ Cassette Mounting

As the housing is pre-drilled with mounting bore holes, this compact keyboard is suited for the installation into 19” rack systems or switch cabinet systems. It is 1 RU (Rack Unit) in depth, or 44.45 mm. The metal frame surrounding the “a-version” is an additional protection often of benefit in rugged applications and environments.



TKF-085a-TB38-FP with integrated trackball

TKF-085a-TOUCH-FP with integrated touchpad

TKF-085b-TB38-FP with integrated trackball

TKF-085b-TOUCH-FP with integrated touchpad

Technical Data

Switching Technology:	Gold Plated Domes
Switching Force:	3 N
Switch Travel:	0.6 mm
Switching Cycles:	Approx. 1 Mio. (per key)
Front Panel Mat.: a-version:	Aluminium
Front Panel Mat.: b-version:	FR4 (Epoxy glass resin)
Housing Design:	19“ Front Panel with Boreholes
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KF08231	TKF-085a-FP-PS/2-US	None	IP65	264 x 128.4 x 15.0	300 g
KF09405	TKF-085a-FP-USB-US	None	IP65	264 x 128.4 x 15.0	300 g
KF08248	TKF-085a-TB38-FP-PS/2-US	Trackball, 38 mm	IP65 [2]	340 x 128.4 x 28.0	530 g
KF09425	TKF-085a-TB38-FP-USB-US	Trackball, 38 mm	IP65 [2]	340 x 128.4 x 28.0	530 g
KF08252	TKF-085a-TOUCH-FP-PS/2-US	Touchpad	IP65	340 x 128.4 x 17.3	440 g
KF09429	TKF-085a-TOUCH-FP-USB-US	Touchpad	IP65	340 x 128.4 x 17.3	440 g
KF02011	TKF-085b-FP-PS/2-US	None	IP65	264 x 128.4 x 15.0	320 g
KF02013	TKF-085b-FP-USB-US	None	IP65	264 x 128.4 x 15.0	320 g
KF15001	TKF-085b-TB38-FP-PS/2-US	Trackball, 38 mm	IP65 [2]	340 x 128.4 x 31.0	370 g
KF15003	TKF-085b-TB38-FP-USB-US	Trackball, 38 mm	IP65 [2]	340 x 128.4 x 31.0	370 g
KF02041	TKF-085b-TOUCH-FP-PS/2-US	Touchpad	IP65	340 x 128.4 x 17.3	320 g
KF02043	TKF-085b-TOUCH-FP-USB-US	Touchpad	IP65	340 x 128.4 x 17.3	320 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Learn more about further housing and mounting versions of the TKF series:

Desktop..... Page 30
Front Mounting ..... Page 32

Above you can see a sample installation in a medical application. Here you see the flat input keyboard of the TKF-085a-Series integrated in a portable ultrasonic system for the measurement of blood flow.

The TKF-085a keyboards are rated at IP65, and as such protected against dust and liquids and also easily cleaned and disinfected.

InduKey®
Industrial Input Devices

Explosion Protected Industrial Keyboards

EX Series

EX Series

Keyboards of this category are designed for areas where a potentially explosive atmosphere occurs. This does not only apply to traditionally explosion-prone areas such as tank farms or mines, but increasingly also to a variety of industrial environments. There are two mechanisms to prevent an explosion; either prevent the formation of an explosive atmosphere or prevent the ignition of this atmosphere. In most cases it is not possible to eliminate the causes of explosive atmospheres. Consequently, identifying and eliminating potential sources of ignition is the most prudent course of action. All powered devices represent a potential ignition source when used in explosion-prone areas and must be consequently designed in such a way to take into account this explosive potential. The keyboards in this category are completely certified and tested for the following protection zones:

Protection Zone 1:
Area in which a potentially explosive atmosphere composed of a mixture of air, combustible gases, vapours or mist may occasionally occur during normal operational activities.

Protection Zone 2:
Area in which a potentially explosive atmosphere composed of a mixture of air, combustible gases, vapours or mist does normally not, or only temporarily, occur during normal operational activities.

Protection Zone 22:
Area in which a potentially explosive atmosphere consisting of a cloud of combustible dust contained in the air does normally not, or only temporarily, occur during normal operational activities.

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Metal Housing

This explosion protected keyboard is available as a model with a complete stand-alone metal housing. Due to the metal front panel and the stainless steel housing, the keyboard is extremely sturdy.

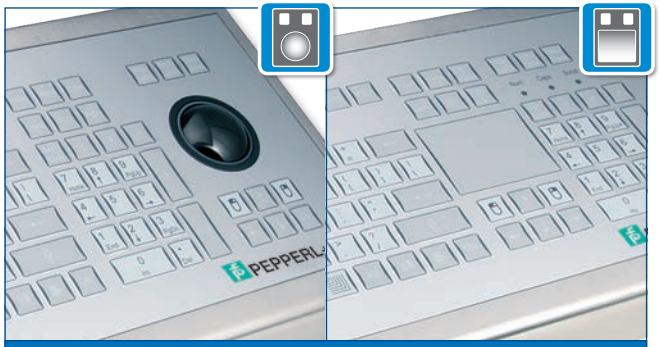
Front Mounting

This front panel model of our explosion protected keyboard can be easily integrated into systems by means of threaded bolts which are located on the rear side.

Entirely Covered Silicone Keyboard

This explosion protected keyboard (pictured above) is completely covered with silicone, which makes it entirely waterproof and dustproof.

To prevent the possibility of ignition, a decoupling device for the galvanic isolation between the keyboard and the system is required. If your facility does not have such a device available, his required accessory is available from Indukey.

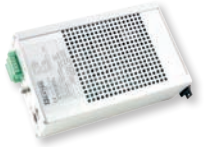


Available as Version with 50-mm trackball or touchpad

Available as version with 50-mm trackball or touchpad

TKA Interface Ex:

To prevent the possibility of ignition, a decoupling device for the galvanic isolation between the keyboard and the system is required. This accessory is shown below and available from *InduKey®* if your facility does not have such a device available.



KA09210

KA08201

Technical Data

Switching Technology:	Short Travel Keys
Switching Force:	2.6 N
Switch Travel:	0.3 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Operating Temperature:	0 °C to + 50 °C
Storage Temperature:	0 °C to + 60 °C
Interface:	PS/2
Front Panel Material	
TKS version:	Aluminium
TKG version:	Silicone
Housing Material	
MGEH version:	Stainless Steel

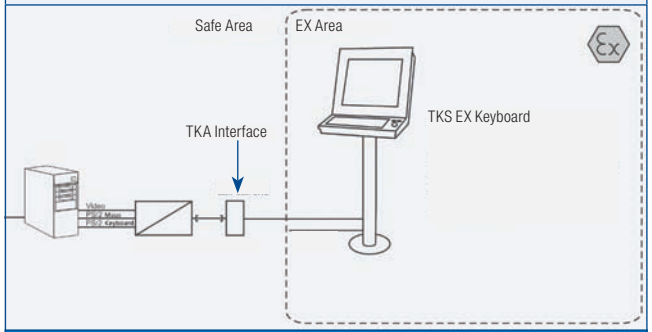
Gönnheimer PC100

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KS02011	TKS-105-EX-MGEH-PS/2-US	None	IP65	508 x 213 x 52 mm	5700 g
KS02013	TKS-105-EX-TB50-MGEH-PS/2-US	Trackball, 50 mm	IP65 [1]	508 x 213 x 52 mm	6000 g
KS02015	TKS-105-EX-TOUCH-MGEH-PS/2-US	Touchpad	IP65	508 x 213 x 52 mm	5800 g
KS09220	TKS-105-EX-TB50-MODUL-PS/2-US	Trackball, 50 mm	IP65 [1]	482.6 x 177.8 x 48	1600 g
KS09218	TKS-105-EX-TOUCH-MODUL-PS/2-US	Touchpad	IP65	482.6 x 177.8 x 23	1200 g
KG14046	TKG-105-EX-IP68-GREY-PS/2-US	None	IP68	387 x 150 x 22 mm	1200 g
KA09210	TKA-EX-VERSORGUNG-TKS-PS/2	Please order the EX Interface separately			
KA08201	TKA-INTERFACE-EX	Please order the EX Interface separately			

Other layouts, configurations and interfaces on request

[1] IP65 (static), IP54 (dynam.)

Other Industrial Keyboards:



Data input devices are electromechanic devices and as such are a potential source of ignition. As a result they are subject to specific technical modifications and often confronted with demanding industrial environments.
For the operation of such devices in explosion-prone areas, the operating devices are at first separated from the system and from the remaining periphery, which are located in a safe area (see above picture). For barrier is used, which allows for this the galvanic isolation of the two circuits. Without this barrier, the safe use of an explosion protected data input device is not possible. The distance between the operating element and the barrier can often be as large as 10.0 m.

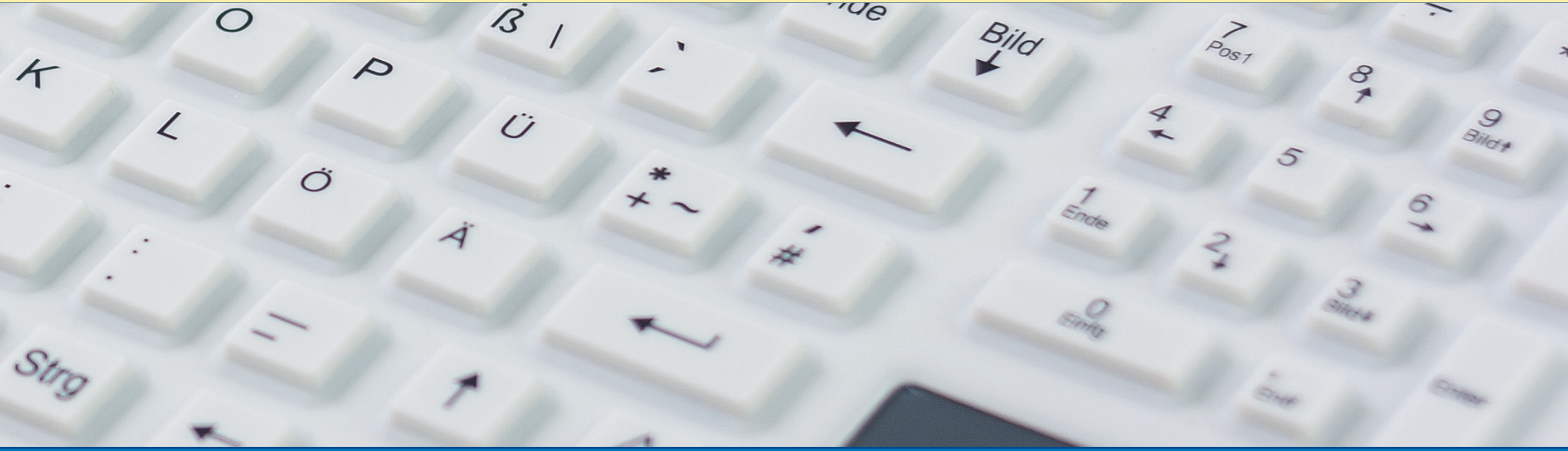
InduKey®
Industrial Input Devices

Washable and Disinfectable Keyboards and Mice

IP68 Series

InduProof Series

InduKey® Keyboard Production GmbH & Co. KG



The keyboards and mice of this category are designed with a closed silicone surface. This completely protects them against liquids and dust, yielding a protection level of IP68. These devices are particularly suited for environments which have to meet high hygienic requirements. These includes hospitals, laboratories and companies which are active in the fields of food and pharmaceutical production.

Another application is clean room environments often found in manufacturers of microelectronic products. As these input devices are completely disinfectable and cleanable, bacteria and germs can be eliminated. In addition, some models possess antimicrobial properties, which actually can attack microbes that are located on the surface and inhibit their growth. The robust construction ensures a long service life.
On some models, there is the option of cursor control integrated into the keyboard to provide an alternative to the traditional mouse.

The models of the IP68 family are most commonly used in the following application areas and industries:

- Medical Engineering
- Pharmaceutics
- Chemical Industry
- Food Industry
- Clean Room Applications
- Military

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Silicone BasicOne

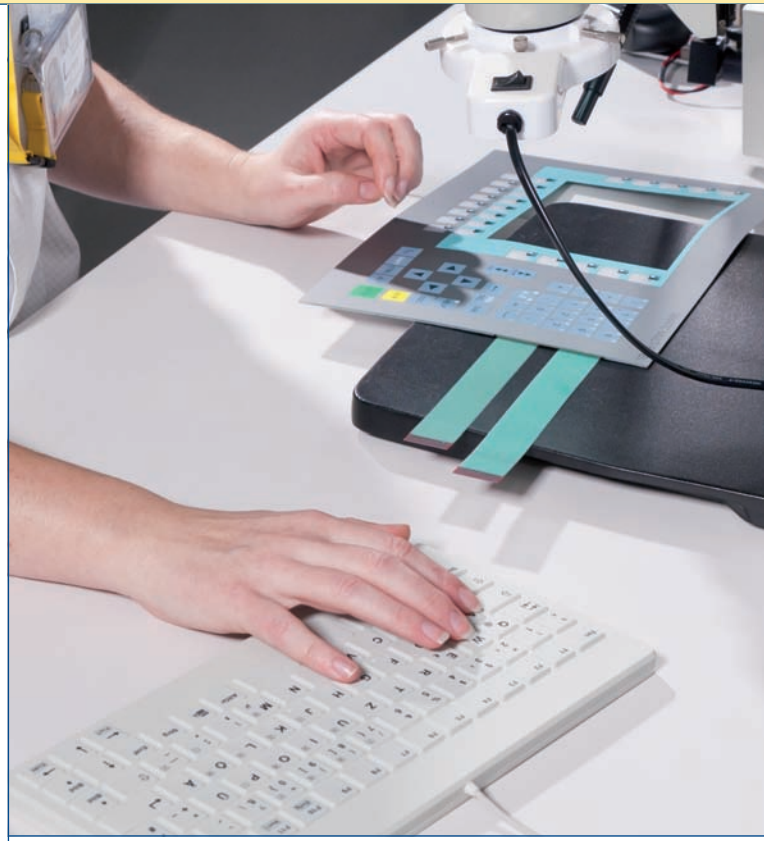
TKG-084-IP68-GREY

This keyboard impresses with its smooth handling, its space-saving dimensions and a low weight. Thanks to the patented mechanical key module, the keyboard obtains the same comfortable feeling as a conventional office keyboard. The innovation in this scissor balancing technology is the combination of a guided key and an IP68 covering. The closed silicon surface ensures an optimum protection against contaminations. As a result, contaminations can simply be wiped off without entering the spaces between the keys. Thanks to protection level IP68, the device is completely dust- and waterproof and is suitable for the use of standard disinfectants and cleaning agents.

For optimum guidance, the layout is lettered with a large, high-contrast key legend. Since it can be used at operating temperatures between 0 and 70 °C, the keyboard can also be used in particularly rough surroundings. Its construction type and easy handling make the Silicone BasicOne an essential basis in areas sensitive to hygiene such as medical practices, hospitals and clean rooms. As a standard, the keyboard with USB connection is available under the designation TKG-084-IP68-GREY in American layout. The connection cable with USB interface is equipped with bend protection on the cable outlet ensuring high flexibility as well as a long service life of the device.

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KG19222	TKG-084-IP68-GREY-USB-US	-	IP68	285 x 150 x 13 mm	530 g

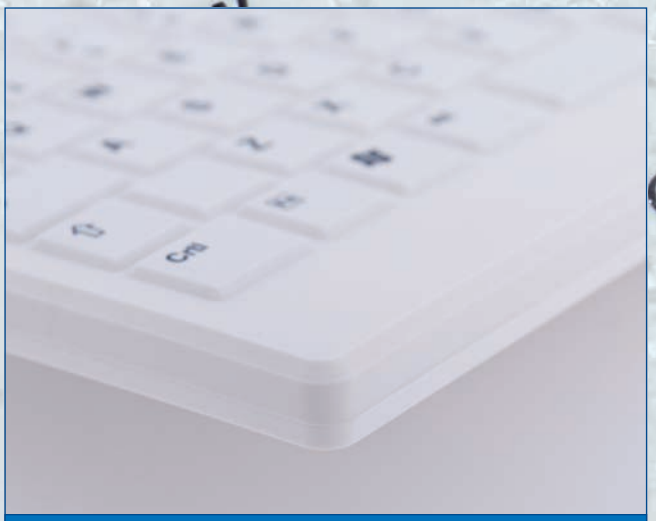
Other layouts, configurations and interfaces on request



Technical Data

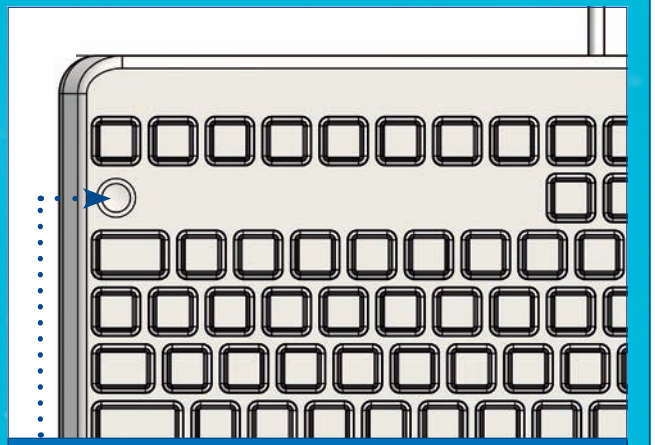
Number of keys:	84
Switching Technology:	Patented Scissor Technology
Switching Force:	< 1.0 N
Switch Travel:	2,2 mm
Housing Design:	Desktop (KGEH)
Housing Material:	Silicone
Operating Temperature:	0 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C
Weight:	530 g

The connection cable with USB interface is equipped with bend protection on the cable outlet.

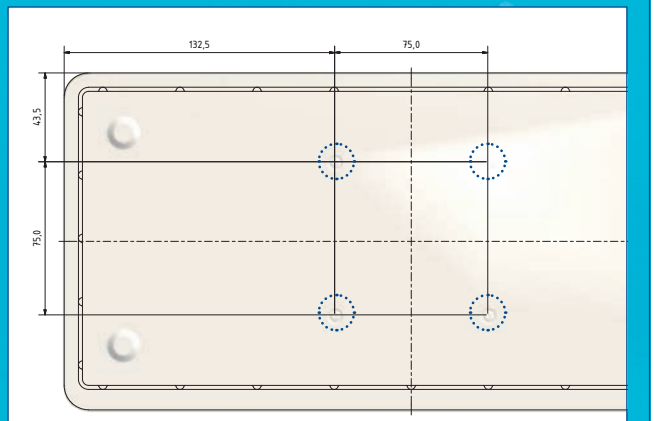


TKG-084-IP68-GREY - compact and flat


INDUPROOF
Advanced



ON/OFF Switch: *This button allows the unit to be disengaged or temporarily powered off, allowing for a complete thorough cleaning, without the need to turn off the rest of the system!*



InduProof Advanced for VESA Mounting

If needed, boreholes on rear side for VESA mounting (75 x 75 mm) can be accessed by means of „Push-Out" from plastic bottom plate.

TKG-104-MB/TOUCH-IP68-GREY

The models of the new InduProof generation are designed as desktop versions and can be used on any flat surface.
In addition, there are VESA boreholes on the rear side of the housing (in a 75 mm matrix) which allow the user to mount the keyboard to any compatible fixture.

Medical accessory, certified to DIN EN 60601

Technical Data

Number of keys:	104
Switching Technology:	Carbon Contacts
Switching Force:	2.0 N
Switch Travel:	1.0 mm
Switching Cycles:	Approx. 2 Mio. (per key)
Housing Material:	Silicone
Operating Temperature:	0 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KG17226	TKG-104-MB-IP68-GREY-PS/2-US	Mousebutton	IP68	340 x 165 x 16.3 (18.4)	800 g
KG17204	TKG-104-MB-IP68-GREY-USB-US	Mousebutton	IP68	340 x 165 x 16.3 (18.4)	800 g
KG17224	TKG-104-TOUCH-IP68-GREY-PS/2-US	Touchpad	IP68	340 x 165 x 16.3	800 g
KG17202	TKG-104-TOUCH-IP68-GREY-USB-US	Touchpad	IP68	340 x 165 x 16.3	800 g

Other layouts, configurations and interfaces on request

InduProof med

TKG-105-MED-IP68-GREY/BLACK

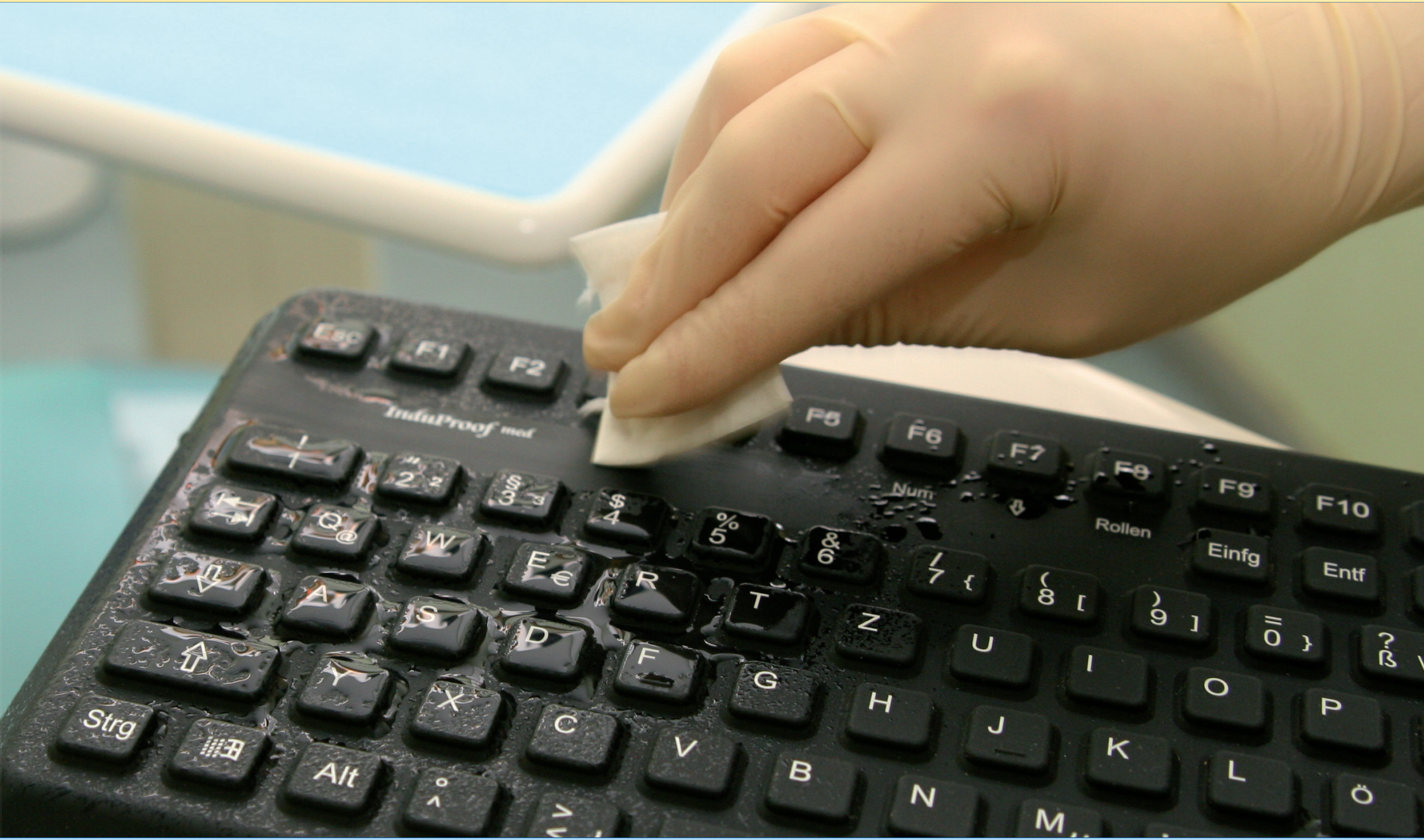
The silicone surface of this keyboard contains an agent which inhibits the growth of germs. These devices are well suited for use in applications which have heightened hygiene requirements. A coating seals the surface and makes it resistant to biological contaminants.

Technical Data

Number of keys:	105
Switching Technology:	Carbon Contacts
Switching Force:	2.0 N
Switch Travel:	1.0 mm
Switching Cycles:	Approx. 2 Mio. (per key)
Housing Material:	Silicone
Operating Temperature:	-20 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C
Weight:	1300 g

Cat. No.	Product Description	Colour	Protection Level	Dimensions (mm)	Weight
KG14011	TKG-105-MED-IP68-GREY-PS/2-US	Grey	IP68	385 x 160 x 21	1300 g
KG14013	TKG-105-MED-IP68-GREY-USB-US	Grey	IP68	385 x 160 x 21	1300 g
KG15001	TKG-105-MED-IP68-BLACK-PS/2-US	Black	IP68	385 x 160 x 21	1300 g
KG15003	TKG-105-MED-IP68-BLACK-USB-US	Black	IP68	385 x 160 x 21	1300 g

Other layouts, configurations and interfaces on request


Esc
F1
F2
F5
F6
F7
F8
F9
F10
Num
Rollen
Einfg
Entf
Strg
Alt

IP 68
86
105

InduProof

The Basic InduProof — *A01*

TKG-105-MB-IP68-GREY/BLACK

The keyboard InduProof is the basic version of the successful InduProof Series of silicone-covered keyboards.
An integrated mouse button provides precise cursor control.

InduProof²

InduProof² — *A02*

TKG-105-IP68-GREY/BLACK

The InduProof² keyboard is a silicone-covered keyboard in MFII-layout. Flattened key caps and mechanical short travel keys offer a pleasant tactile feedback. For a cursor control solution we recommend the InduMouse.

InduProof³

InduProof³ — *A03*

TKG-086-MB-IP68-GREY/BLACK

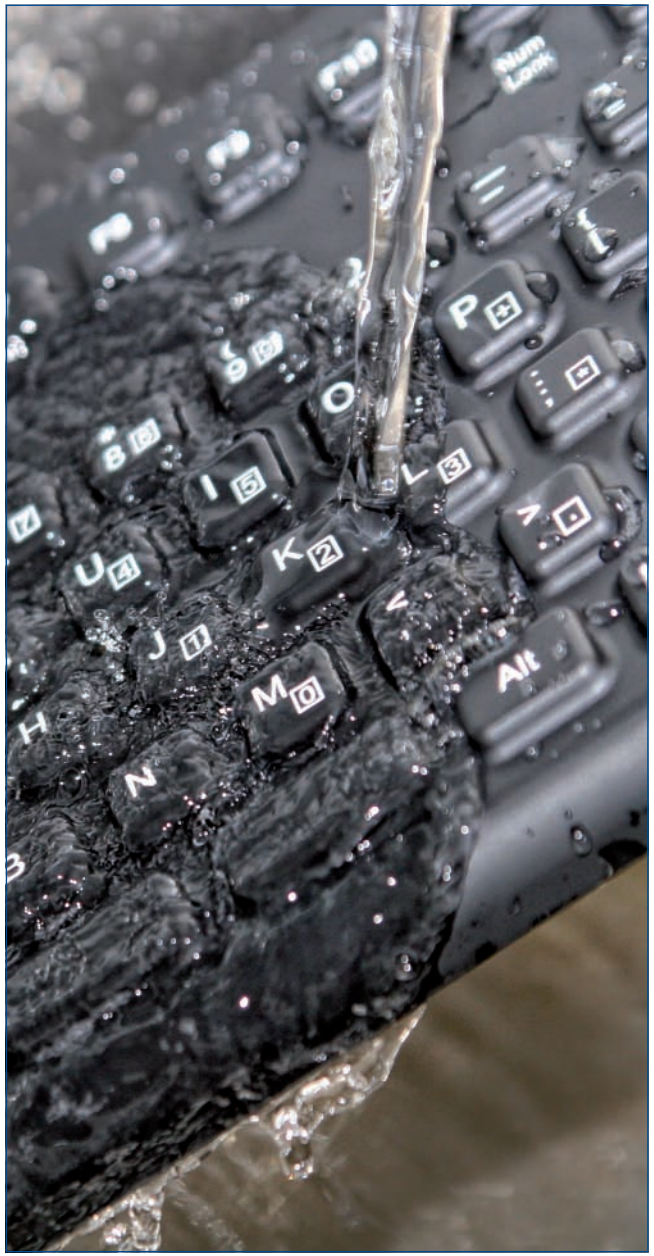
The InduProof³ keyboard is the compact version and features an embedded numeric keypad which can be toggled on as required using the [Fn] key at the bottom left corner of the keyboard. It also is equipped with an integrated mouse button, and versions with backlite which is dimmable in eight stages are also available.

Technical Data

	InduProof	InduProof [2]	InduProof [3]
Number of Keys:	105	105	86
Switching Technology:	Short Travel Keys	Short Travel Keys	Gold Plated Domes
Switching Force:	2.6 N	2.6 N	3.0 N
Switch Travel:	0.3 mm	0.3 mm	0.6 mm
Switching Cycles:	Approx. 3 Mio. (per key)	Approx. 3 Mio. (per key)	Approx. 2 Mio. (per key)
Housing Material:	Silicone	Silicone	Silicone
Operating Temperature:	0 °C to + 70 °C	-20 °C to + 70 °C	0 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C	-25 °C to + 80 °C	-25 °C to + 80 °C
Weight:	1350 g	1200 g	1000 g
Feature:	-	-	Avail. with backlit function

Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KG09203	TKG-105-MB-IP68-GREY-PS/2-US	Mousebutton	IP68	387 x 146 x 27	1350 g
A01	KG09205	TKG-105-MB-IP68-GREY-USB-US	Mousebutton	IP68	387 x 146 x 27	1350 g
A01	KG01416	TKG-105-MB-IP68-BLACK-PS/2-US	Mousebutton	IP68	387 x 146 x 27	1350 g
A01	KG01418	TKG-105-MB-IP68-BLACK-USB-US	Mousebutton	IP68	387 x 146 x 27	1350 g
A02	KG02003	TKG-105-IP68-GREY-PS/2-US	None	IP68	387 x 150 x 22	1200 g
A02	KG02005	TKG-105-IP68-GREY-USB-US	None	IP68	387 x 150 x 22	1200 g
A02	KG02434	TKG-105-IP68-BLACK-PS/2-US	None	IP68	387 x 150 x 22	1200 g
A02	KG02435	TKG-105-IP68-BLACK-USB-US	None	IP68	387 x 150 x 22	1200 g
A03	KG13001	TKG-086-MB-IP68-GREY-PS/2-US	Mousebutton	IP68	320 x 145 x 22	1000 g
A03	KG13003	TKG-086-MB-IP68-GREY-USB-US	Mousebutton	IP68	320 x 145 x 22	1000 g
A03	KG13005	TKG-086-MB-IP68-BLACK-PS/2-US	Mousebutton	IP68	320 x 145 x 22	1000 g
A03	KG13007	TKG-086-MB-IP68-BLACK-USB-US	Mousebutton	IP68	320 x 145 x 22	1000 g
A03	KG13009	TKG-086-MB-IP68-BACKL-PS/2-US	Mousebutton	IP68	320 x 145 x 22	1000 g
A03	KG13011	TKG-086-MB-IP68-BACKL-USB-US	Mousebutton	IP68	320 x 145 x 22	1000 g

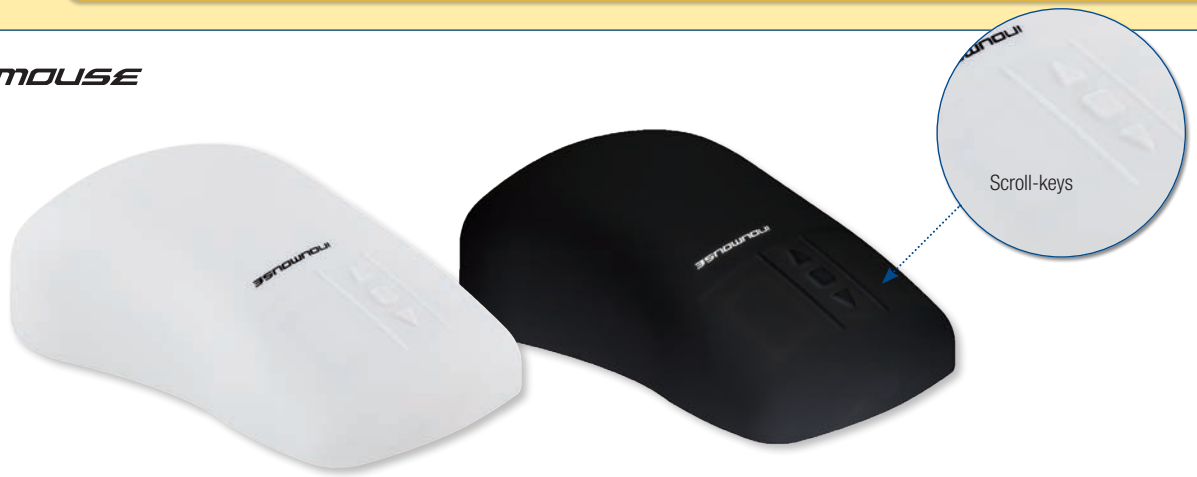
Other layouts, configurations and interfaces on request



IP 68

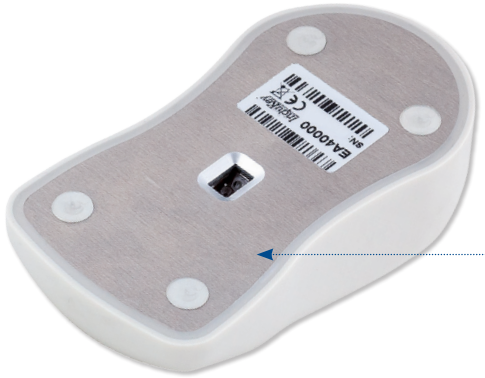
3

INDUMOUSE



TKH-MOUSE-SCROLL-IP68-LASER

This is the new generation of the InduMouse series. The sculpting of the mouse (thinner in the middle) and curvature for the palm make the ergonomics of this model significantly improved from prior versions. Despite its hygienic properties, the mouse is still light enough to make cursor control comfortable. A unique feature is the integrated vertical scroll function accessible by the three buttons at the front side of the mouse. Even thought this mouse meets IP68 protection standards, (i.e. complete protection against dust and liquids), the new InduMouse still is as easy to handle as a normal mouse. This laser technology permits the use of the mouse on reflecting surfaces such as glass or stainless steel.



Cat. No.	Product Description	Colour	Protection Level	Base Plate Material	Weight
KH18218	TKH-MOUSE-SCROLL-IP68-GREY-LASER-USB	Grey	IP68	Plastic	160 g
KH19216	TKH-MOUSE-SCROLL-IP68-BLACK-LASER-USB	Black	IP68	Plastic	160 g
KH19226	TKH-MOUSE-IND-SCROLL-IP68-GREY-LASER-USB	Grey	IP68	Aluminium	210 g
KH19224	TKH-MOUSE-IND-SCROLL-IP68-BLACK-LASER-USB	Black	IP68	Aluminium	210 g

Other layouts, configurations and interfaces on request

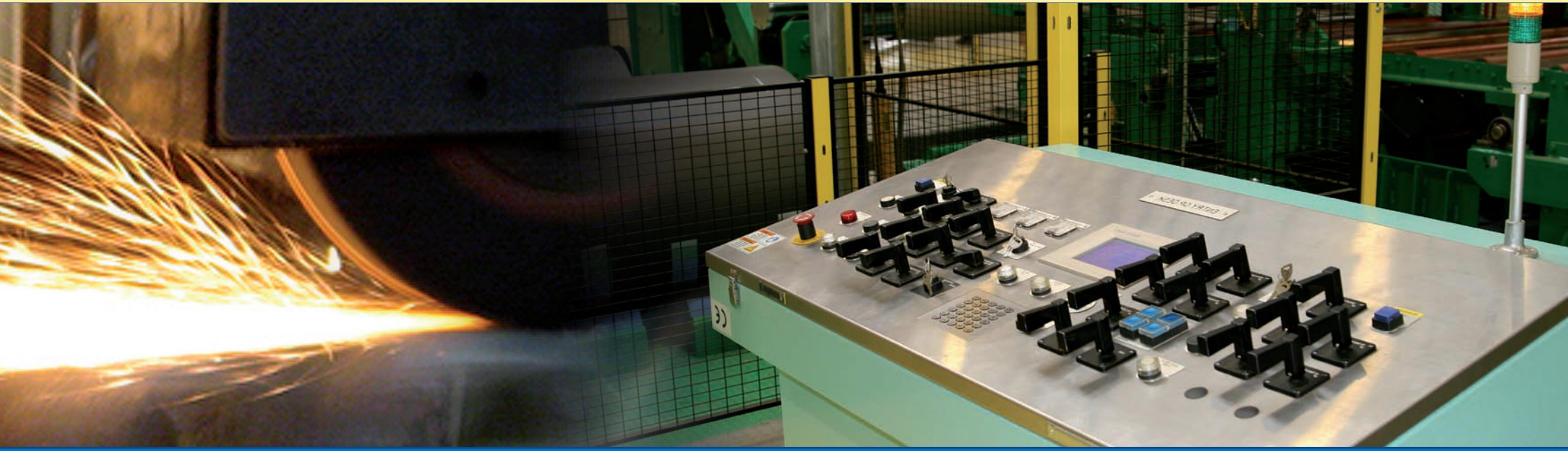
Technical Data

Number of Keys:	3
Technology:	Laser
Resolution:	1000 dpi
Protection Level:	IP68
Housing Material:	Silicone
Base plate Material:	Plastic or Aluminium
Interface:	USB
Operating Temperature:	-20 °C to + 70 °C
Storage Temperature:	-25 °C to + 80 °C
Weight:	Plastic 160 g Aluminium 210 g


Enter

TKV Series

TKV Series



Metal keyboards are typically used in areas requiring protection against vandalism. This arises in places where information terminals or kiosks are freely accessible to the public. As these terminals are usually not monitored and accessible 24 hours a day, self-service kiosk systems are at high risk of mechanical damage due to vandalism.

The advantage of metal keyboards used as data input devices in public space is that they can be kept in service for a long period of time. Equipped with a metal front panel and metal key caps, they are uniquely equipped to resist mechanical impacts occurring on the surface. In addition, the bottom side of the key caps are designed with a lip which prevents the possibility of having the keycaps pried up or out.

In addition, the majority of the models in this series provide an increased IP-protection level which also protects the keyboard against dust and liquid incursions. This means that beverages spilled over the keyboard or debris dropped on cannot damage the electronics or functionality of the keyboard.

Common application areas of TKV keyboards:

- Kiosk Systems
- Self-service Machines
- Service Terminals in Public Spaces
- Points-of-Sale
- Heavy Industry

InduSteel

TKV-084-TB25/TOUCH-MODUL
ROBUST STAINLESS STEEL DEVICES

The InduSteel keyboard is a front-mounted keyboard with compact dimensions. Extra-large legends on the keycaps provide excellent visibility for all users. Keyboards of this series are particularly suited for the public access applications, such as information kiosks, mall directories or internet terminals. If the interface needs to be improved with the inclusion of an integrated pointing device, options available are an integrated trackball or an integrated touchpad. If a 10-key keypad is a useful addition, the TKV-105-TB38V-MODUL-variant is equipped with a numeric keypad.

Technical Data

Switching Technology:	Carbon Ccontact Technology
Switching Force:	1.0 N
Switch Travel:	1.5 mm
Switching Cycles:	Approx. 10 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front panel material:	Stainless Steel
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C
Interface:	PS/2; USB

TKV-084-TB25V-MODUL with integrated 25-mm-trackball

TKV-084-TOUCH-MODUL with integrated touchpad

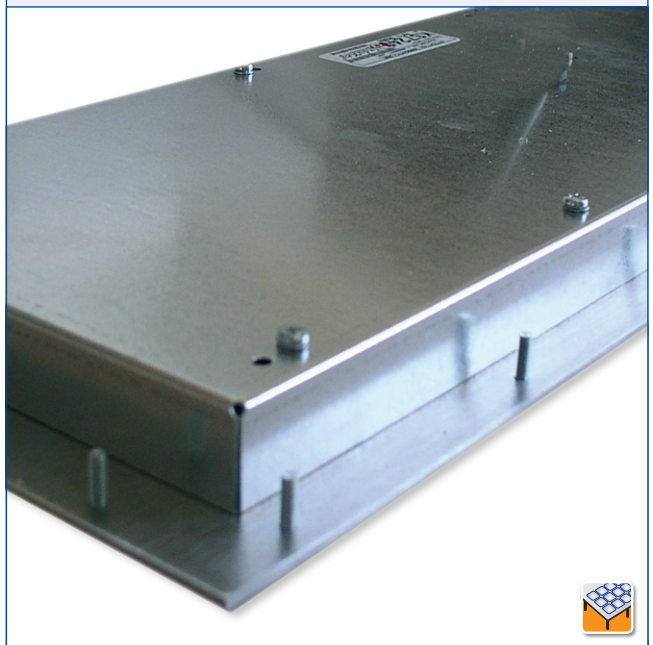
Application example: *TKV-084-TB25V-MODUL integrated in radar systems*

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KV01209	TKV-084-MODUL-PS/2-US	None	IP65	295 x 145 x 30	1700 g
KV01215	TKV-084-MODUL-USB-US	None	IP65	295 x 145 x 30	1700 g
KV01211	TKV-084-TB25V-MODUL-PS/2-US	Trackball, 25 mm	IP65 [2]	370 x 145 x 35	2200 g
KV01217	TKV-084-TB25V-MODUL-USB-US	Trackball, 25 mm	IP65 [2]	370 x 145 x 35	2200 g
KV13001	TKV-084-TOUCH-MODUL-PS/2-US	Touchpad	IP65	385 x 145 x 24.8	2100 g
KV13003	TKV-084-TOUCH-MODUL-USB-US	Touchpad	IP65	385 x 145 x 24.8	2100 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (front), IP54 (dynam.)

Other Industrial Keyboards:



Stay bolts which are installed on the rear side of the keyboard front panel allow for a mounting of the keyboard to the respective mounting surface. A cutting template can help to create the mounting cut-out.

IP 65
105
68

InduSteel ²

TKV-068-MODUL

TKV-068-TB38V-MODUL with integrated 38-mm trackball

InduSteel ³

TKV-105-TB38V-MODUL with integrated 38-mm trackball

TKV-105-TOUCH-MODUL with integrated touchpad

Technical Data

Switching Technology:	Carbon Contact Technology
Switching Force:	1.0 N
Switch Travel:	1.5 mm
Switching Cycles:	Approx. 10 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front Panel Material:	Stainless Steel
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

TKV-105-TOUCH-MODUL with numeric keypad and integrated touchpad

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KV03005	TKV-068-MODUL-PS/2-US	None	IP65	300 x 125 x 26	1600 g
KV03007	TKV-068-MODUL-USB-US	None	IP65	300 x 125 x 26	1600 g
KV03001	TKV-068-TB38V-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	300 x 125 x 26	2000 g
KV03003	TKV-068-TB38V-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	300 x 125 x 26	2000 g
KV14006	TKV-105-TB38V-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	446 x 145 x 38	2650 g
KV14008	TKV-105-TB38V-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	446 x 145 x 38	2650 g
KV17216	TKV-105-TOUCH-MODUL-PS/2-US	Touchpad	IP65	446 x 145 x 38	2600 g
KV17200	TKV-105-TOUCH-MODUL-USB-US	Touchpad	IP65	446 x 145 x 38	2600 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C

[3] IP65 (front), IP54 (dynam.)

Other Industrial Keyboards:

InduSteel² keyboards are used in SOLIDD terminals (pictured above). With an compact layout of 68 clearly arranged keys, the stainless steel keyboard is optimized for the operation of web-focused applications.

The keyboard is protected against damage by means of the metal housing and key caps with lips, which secure the keys against being pried or levered out. The top surface of the keys has a sculpted trough-shaped contoured profile, so that the user experiences a tactile sensation on this keyboard comparable to most standard desktop keyboards.

InduDur

TKV-068-CFK-TB38/TOUCH-MODUL
LIGHTWEIGHT CARBON CONSTRUCTION DEVICES

InduDur is the brand name for the carbon keyboard series from *InduKey®*. These unique in-house developed devices are front-mounted keyboards with a front panel made of carbon and carbon contact technology is used for keyswitches under the stainless steel keycaps. Due to the characteristics of the material, carbon is the ideal material for data input devices: incredibly hard at a comparatively low weight, good processing properties, dimensional stability, and the capacity to connect with other materials and components.

Technical Data

Number of keys:	68
Switching Technology:	Carbon Contact Technology
Switching Force:	1.0 N
Switch Travel:	1.5 mm
Switching Cycles:	Approx. 10 Mio. (per key)
Housing Design:	Front Panel with Threaded Bolts
Front Panel Material:	Carbon
Operating Temperature:	0 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C

Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
KV16217	TKV-068-CFK-MODUL-PS/2-US	None	IP65	300 x 125 x 25	640 g
KV16219	TKV-068-CFK-MODUL-USB-US	None	IP65	300 x 125 x 25	640 g
KV16225	TKV-068-TB38-CFK-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	375 x 125 x 30	800 g
KV16227	TKV-068-TB38-CFK-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	375 x 125 x 30	800 g
KV16332	TKV-068-TOUCH-CFK-MODUL-PS/2-US	Touchpad	IP65	375 x 125 x 27	900 g
KV16334	TKV-068-TOUCH-CFK-MODUL-USB-US	Touchpad	IP65	375 x 125 x 27	900 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C

[3] IP65 (front), IP54 (dynam.)

TKV-068-CFK-TB38V-MODUL with integrated 25-mm trackball

TKV-068-CFK-TOUCH-MODUL with integrated touchpad


InduDur
www.indukey.com

TKG Series

TKG Series

The Perfect Combination of Form and Function

These keyboards are equipped with a robust front panel and a silicone switching mat that is positioned beneath. The keys of the silicone mat are inserted through precisely milled openings in the front panel. The electrical switching impulse is triggered by carbon pills on the bottom of the silicone keys. When the key is pressed, the pill hits the contact point of the gold-plated printed circuit board beneath. The models of this category are available as compact versions or as versions with an integrated trackball or touchpad.

Keyboards of the TKG series are commonly used in the following industrial sectors:

- Robust Operation Terminals
- Military Engineering
- Control and Observation Stations
- POS / Booth Construction
- Digital Signage Technology
- Indoor Conveying Systems

TKG-083b-(TB38/TOUCH)-MGEH

TKG-083b-(TB38/TOUCH)-MGEH
Version with Metal Housing - MGEH

The keyboards of the TKG Series are equipped with a solid and rugged metal housing. An intended feature of the silicone keys which are used in this keyboard is a soft and almost noiseless keystroke. The keys provide good tactility for the user and are easy to use.

Available as version with 38-mm trackball or touchpad A01

TKG-083b-(TB38/TOUCH)-MODUL

TKG-083b-(TB38/TOUCH)-MODUL
Version for Front Panel Mounting - MODUL

This front panel version is equipped with threaded bolts on the rear side for the easy installation into systems. Orientation is simplified by the distinctly coloured keys. The keyboard also includes an embedded numeric keypad which can be toggled on and off as required.

Available as version with 38-mm trackball or touchpad A02

TKG-083b-(TB38/TOUCH)-MODUL-SILVER

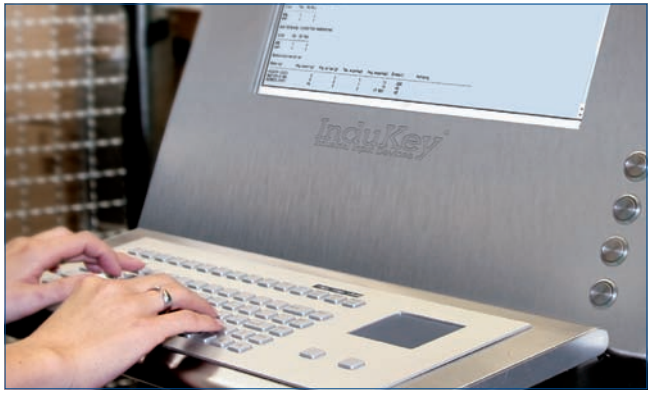
TKG-083b-(TB38/TOUCH)-MODUL-SILVER
Front Mounted Panel Version in Silver - SILVER

This keyboard has been designed as an economically priced alternative to a stainless steel keyboard. Nevertheless, this keyboard is of comparable product quality. With their attractive silver appearance, the models of the SILVER series offer robustness, input comfort and an appealing design.

Available as version with 38-mm trackball or touchpad A03

Technical Data

Switching Technology:	Carbon Contact Technology
Switching Force:	1.2 N
Switch Travel:	1.2 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Front Panel Material:	Aluminium
Housing Design:	Metal Housing; Front Panel with Threaded Bolts
Operating Temperature:	-25 °C to + 70 °C [1]
Storage Temperature:	-25 °C to + 80 °C



Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KG15005	TKG-083b-MGEH-PS/2-US	None	IP65	345 x 165 x 35	1900 g
A01	KG15007	TKG-083b-MGEH-USB-US	None	IP65	345 x 165 x 35	1900 g
A01	KG14031	TKG-083b-TB38-MGEH-PS/2-US	Trackball, 38 mm	IP65 [2]	435 x 165 x 45	2450 g
A01	KG14033	TKG-083b-TB38-MGEH-USB-US	Trackball, 38 mm	IP65 [2]	435 x 165 x 45	2450 g
A01	KG14035	TKG-083b-TOUCH-MGEH-PS/2-US	Touchpad	IP65	435 x 165 x 35	2250 g
A01	KG14037	TKG-083b-TOUCH-MGEH-USB-US	Touchpad	IP65	435 x 165 x 35	2250 g
A02	KG14015	TKG-083b-MODUL-PS/2-US	None	IP65	305 x 135 x 20	500 g
A02	KG14017	TKG-083b-MODUL-USB-US	None	IP65	305 x 135 x 20	500 g
A02	KG14023	TKG-083b-TB38-MODUL-PS/2-US	Trackball, 38 mm	IP65 [2]	405 x 135 x 28	650 g
A02	KG14025	TKG-083b-TB38-MODUL-USB-US	Trackball, 38 mm	IP65 [2]	405 x 135 x 28	650 g
A02	KG14027	TKG-083b-TOUCH-MODUL-PS/2-US	Touchpad	IP65	405 x 135 x 20	600 g
A02	KG14029	TKG-083b-TOUCH-MODUL-USB-US	Touchpad	IP65	405 x 135 x 20	600 g
A03	KG00201	TKG-083-MODUL-SILVER-PS/2-US	None	IP65	305 x 135 x 20	500 g
A03	KG00203	TKG-083-MODUL-SILVER-USB-US	None	IP65	305 x 135 x 20	500 g
A03	KG00205	TKG-083-TB38-MODUL-SILVER-PS/2-US	Trackball, 38 mm	IP65 [2]	405 x 135 x 25	650 g
A03	KG00207	TKG-083-TB38-MODUL-SILVER-USB-US	Trackball, 38 mm	IP65 [2]	405 x 135 x 25	650 g
A03	KG00209	TKG-083-TOUCH-MODUL-SILVER-PS/2-US	Touchpad	IP65	405 x 135 x 20	600 g
A03	KG00211	TKG-083-TOUCH-MODUL-SILVER-USB-US	Touchpad	IP65	405 x 135 x 20	600 g

Other layouts, configurations and interfaces on request

[1] Keyboards with pointing device: 0 °C to +70 °C [2] IP65 (static), IP54 (dynam.)

Other industrial keyboards:

Operating Terminal in Aerospace Exhibition

Shown above in a multi-user-terminal, the keyboard provides access to interactive presentations. In a virtual spaceship, the user can rapidly set his course for the different planets, perform adventurous landing manoeuvres or get information about the celestial bodies he is headed towards.

TKL Series

TKL Series

The Perfect Combination of Form and Function

Models from this series combine the keystroke comfort of a usual office keyboard with the specific robust and reliable construction requirements needed in various industrial environments. Some of the long-travel keyboards meet the requirements of a higher IP classification, others have compact dimensions or dimmable backlighted keys as a feature.

For some of the models there are options with trackballs or touchpads as a built-in pointing device. Keyboard protection foil is available for various models on request which prevents dust, dirt or fluids affecting the performance of the electronic system.

Additionally, there are long-travel keyboards available in push-loading drawers for a comfortable installation in 19” racks. They are used when a vast amount of data input has to be managed and a high level of resistance against dust and fluids is required.

105

IP 65

TKL-105-IP68-KGEH-BLACK / GREY-OEM

The TKL-105-IP68-KGEH-OEM is a modern office keyboard for cleanliness at your desktop. With its flat, upfront chamfered keys the board is easy to clean – especially when you flush it or wipe it with a gloth or soft brush.
The keyboard can stay up to 30 minutes in the water, even when you use eudermic detergents. Whilst in use, it is yet secured through integrated drains, which would transport even spilled coffee of the board.

Technical Data

Switching Technology:	Membrane
Switching Cycles:	Approx. 20 Mio. (per key)
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	0 °C to + 50 °C
Storage Temperature:	-20 °C to + 60 °C
Dimensions:	451 x 160 x 23 mm
Weight:	500 g
Interface:	USB

Cat. No.	Product Description	Dimensions	Protection Level	Colour	Weight
KL19297	TKL-105-IP68-KGEH-BLACK-OEM-USB-US	451 x 160 x 23 mm	IP68	black	500 g
KL19296	TKL-105-IP68-KGEH-GREY-OEM-USB-US	451 x 160 x 23 mm	IP68	grey	500 g

Other layouts, configurations and interfaces on request

At the rear of the keyboard, underneath, there is a pair of these adjustable feet to raise the back of the keyboard an additional half-inch for comfort and ergonomics.

TKL-104-TOUCH-KGEH-BLACK / GREY-OEM

TKL-104-TOUCH-SCHUBL-KGEH-BLACK-OEM

This console hosts a high quality keyboard in notebook format with integrated touchpad and number pad. The spacy touchpad enables even untrained users to easily and precisely move the mouse cursor. Optionally there is a drawer available for the installation in 19” rack systems.

Technical Data

Switching Technology:	Long Travel Keys with Scissors Technology
Switching Force:	0.55 N
Switch Travel:	2.5 mm
Housing Design:	Desktop; Drawer
Housing Material:	ABS
Operating Temperature:	0 °C to + 50 °C
Storage Temperature:	-20 °C to + 60 °C
Interface:	PS/2; USB
Weight:	900 g; 3700 g

Cat. No.	Product Description	Pointing Device	Design	Colour	Weight
KL19220	TKL-104-TOUCH-KGEH-BLACK-PS/2-US	Touchpad	Desktop	black	900 g
KL19221	TKL-104-TOUCH-KGEH-BLACK-USB-US	Touchpad	Desktop	black	900 g
KL19222	TKL-104-TOUCH-KGEH-GREY-PS/2-US	Touchpad	Desktop	grey	900 g
KL19223	TKL-104-TOUCH-KGEH-GREY-USB-US	Touchpad	Desktop	grey	900 g
KL19230	TKL-104-TOUCH-SCHUBL-BLACK-OEM-PS/2-US	Touchpad	Drawer	black	3700 g
KL19231	TKL-104-TOUCH-SCHUBL-BLACK-OEM-USB-US	Touchpad	Drawer	black	3700 g

Other layouts, configurations and interfaces on request

Other industrial keyboards:

Long Travel Keys with Scissors Technology

105

TKL-083-KGEH-BLACK-OEM

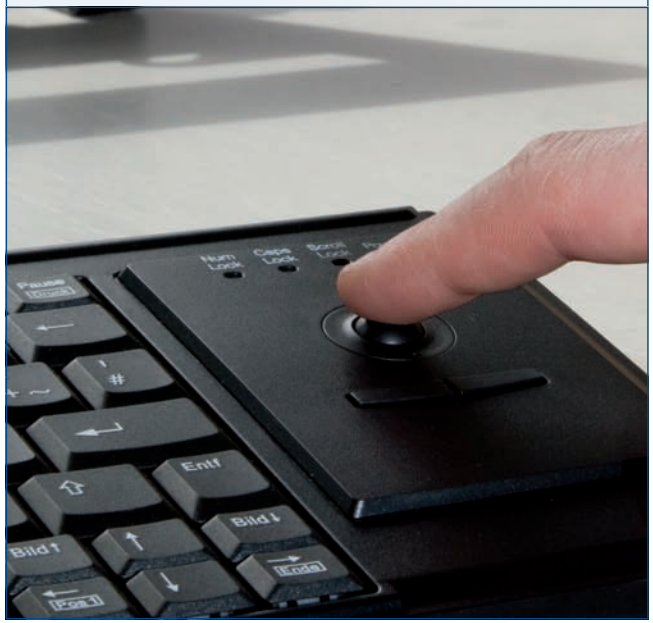
TKL-083-KGEH-WHITE-OEM

TKL series keyboards were developed for the industry and for kiosks. Their keys are led through a specifically developed scissors mechanism with four access points. It is easy and accurate to use, because each key now has a “soft pressure point”, which makes it very comfortable to write. That comfort was not available with other current technologies so far. Having almost the same layout than a common desktop keyboard, it may be used in office environments as well.

- Notebook keyboard layout with 83 keys
- Compact dimensions and very low overall build height, ideal for restricted spaces
- Ultra silent keystroke
- Long travel keys with scissors technology

Technical Data TKL-083-KGEH:

Switching Technology:	Long Travel Keys with Scissors Technology
Switching Force:	0.55 N
Switch Travel:	2.5 mm
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	0 °C to + 50 °C
Storage Temperature:	-20 °C to + 60 °C
Dimensions:	282 x 132 x 25 mm
Weight:	500 g
Interface:	PS/2; USB



TKL-086-TB19-KGEH-BLACK/WHITE-OEM

- Notebook keyboard layout with 86 keys
- Ultra silent keystroke
- Self-cleaning 19-mm-trackball
- Ergonomic design

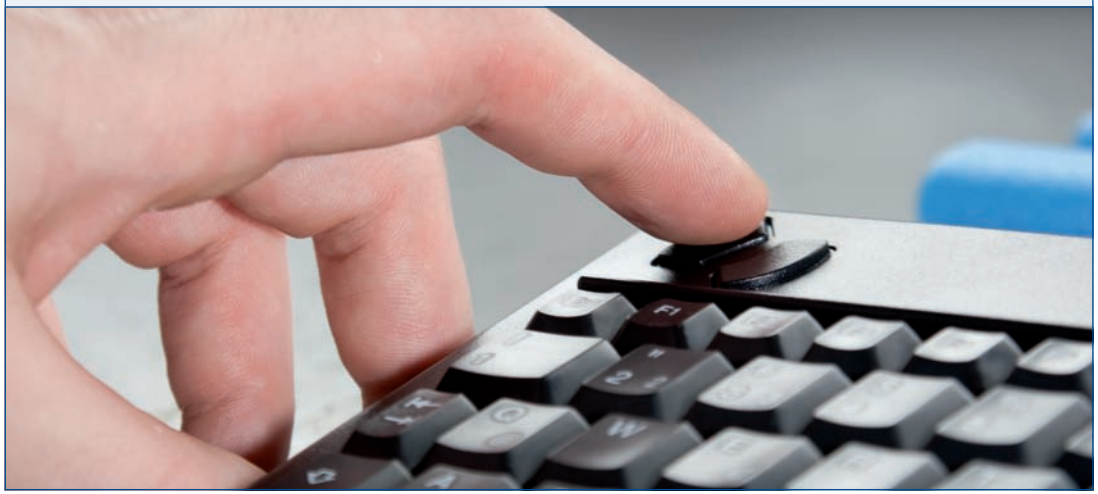
Cat. No.	Product Description	Pointing Device	Colour
KL19289	TKL-083-KGEH-BLACK-OEM-PS/2-US	None	black
KL19288	TKL-083-KGEH-BLACK-OEM-USB-US	None	black
KL19276	TKL-083-KGEH-WHITE-OEM-PS/2-US	None	white
KL19277	TKL-083-KGEH-WHITE-OEM-USB-US	None	white
KL19285	TKL-083-TB14-KGEH-BLACK-OEM-PS/2-US	Trackball, 14 mm	black
KL19284	TKL-083-TB14-KGEH-BLACK-OEM-USB-US	Trackball, 14 mm	black
KL19282	TKL-083-TB14-KGEH-WHITE-OEM-PS/2-US	Trackball, 14 mm	white
KL19283	TKL-083-TB14-KGEH-WHITE-OEM-USB-US	Trackball, 14 mm	white
KL19287	TKL-083-TOUCH-KGEH-BLACK-OEM-PS/2-US	Touchpad	black
KL19286	TKL-083-TOUCH-KGEH-BLACK-OEM-USB-US	Touchpad	black
KL19280	TKL-083-TOUCH-KGEH-WHITE-OEM-PS/2-US	Touchpad	white
KL19281	TKL-083-TOUCH-KGEH-WHITE-OEM-USB-US	Touchpad	white
KL19278	TKL-086-TB19-KGEH-BLACK-OEM-PS/2-US	Trackball, 19 mm	black
KL19279	TKL-086-TB19-KGEH-BLACK-OEM-USB-US	Trackball, 19 mm	black
KL19291	TKL-086-TB19-KGEH-WHITE-OEM-USB-US	Trackball, 19 mm	white

Other layouts, configurations and interfaces on request

Technical Data TKL-086-KGEH:

- Notebook keyboard layout with 86 keys
- Compact dimensions and very low overall build height, ideal for restricted spaces
- Ultra silent keystroke
- Self-cleaning 19-mm-trackball
- Ergonomic design

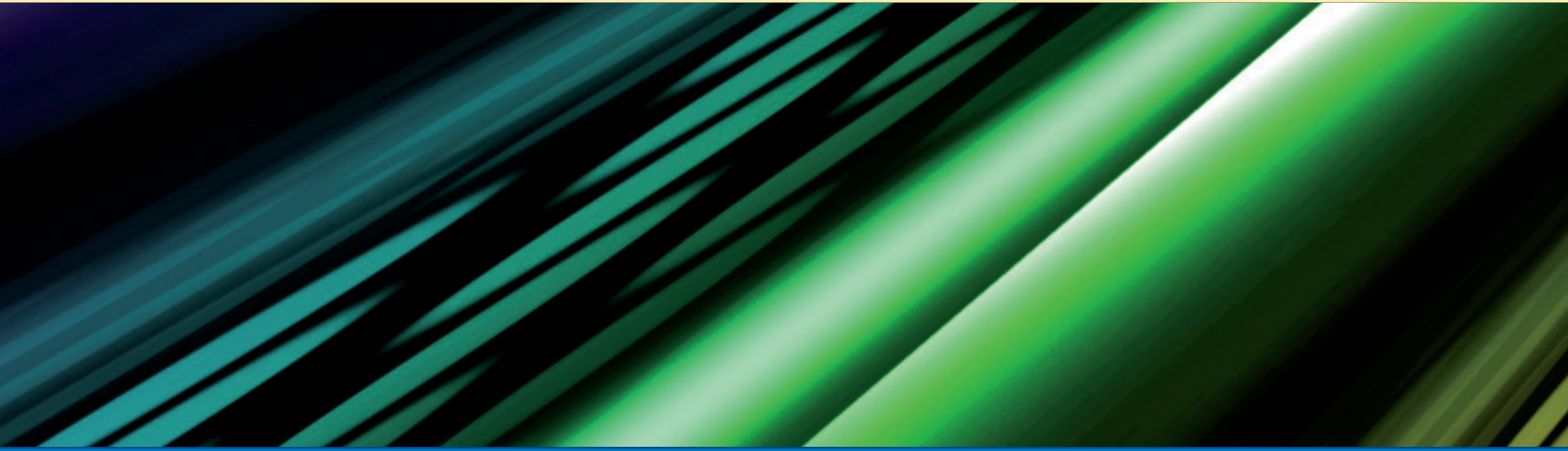
Switching Technology:	Membrane
Switching Cycles:	Approx. 20 Mio. (per key)
Housing Design:	Plastic Housing (KGEH)
Housing Material:	ABS
Operating Temperature:	0 °C to + 50 °C
Storage Temperature:	-20 °C to + 60 °C
Dimensions:	292 x 165 x 35 mm
Weight:	600 g
Interface:	PS/2; USB



TKH Series

Possibilities of Industrial Cursor Control

Cursor control systems for rugged environments must be designed differently than for office applications. They can include rugged mice, mechanical and optical trackballs, touchpads, mouse buttons and joysticks. For all the above cursor control technologies, customized solutions are also offered to meet the unique requirements of any application.



Trackball

Trackballs can either be directly integrated into the system or they can be used as stand-alone components for a corresponding application. The selection is determined by the user and depends on the respective operational environment. Our range includes mechanical and optical trackballs which are available as plastic or metal versions. We also offer different variants with regard to the protection level rating of the device. Using a trackball is the most popular alternative to the computer mouse.

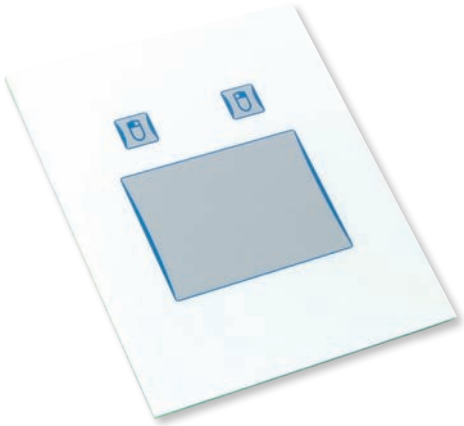
Joystick

Another cursor control option is the OEM joystick. The standard version of the joystick features two axes, a cursor stick with integrated mouse button and a compact and robust housing which is rated at protection level IP65. Due to the extremely precise navigation afforded by a joystick, the device is ideally suited for applications in medical engineering, automation, as well as in control systems of monitoring cameras. Whether a joystick is ultimately appropriate depends on two distinct factors: First, the technical requirements, and second, on the operating preferences of the user.

Touchpad

For notebook users, touchpads offer a familiar tactile interaction. Touchpads also permit the highest degree of protection, since the complete surface is sealed.

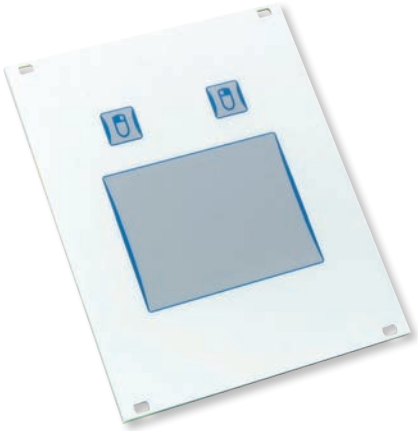
TKH-TB38b-MODUL with integrated 38-mm trackball (Front Mounting Version) A01



TKH-TOUCHb-MODUL with integrated touchpad (Front Mounting Version) A02

TKH-JSTb-MODUL with integrated joystick (Front Mounting Version) A03

TKH-TB38b-FP with integrated 38-mm trackball (Rack Mounting Version) A04



TKH-TOUCHb-FP with integrated Touchpad (Rack Mounting Version) A05

TKH-TB50-AL-NAT-FP with integrated 50 mm trackball (Rack Mounting Version) A06

Technical Data for Trackball, Touchpad & Joystick Version:

Switching Technology:		Gold Plated domes
Switching Force:		3.0 N
Switch Travel:		0.6 mm
Switching Cycles:		Approx. 1 Mio. (per key)
Trackball Lifetime:		3 Mio. Revolutions
Mounting Type:	FP:	Front Panel with Mounting Boreholes for 19" Cassette-mounting
	MODUL:	Front Panel with Threaded Bolts
Front Panel Material:		FR4 (Epoxy glass resin)
Operating Temperature:		0 °C to +70 °C
Storage Temperature:		0 °C to +80 °C

Technical Data for 50-mm Trackball Version

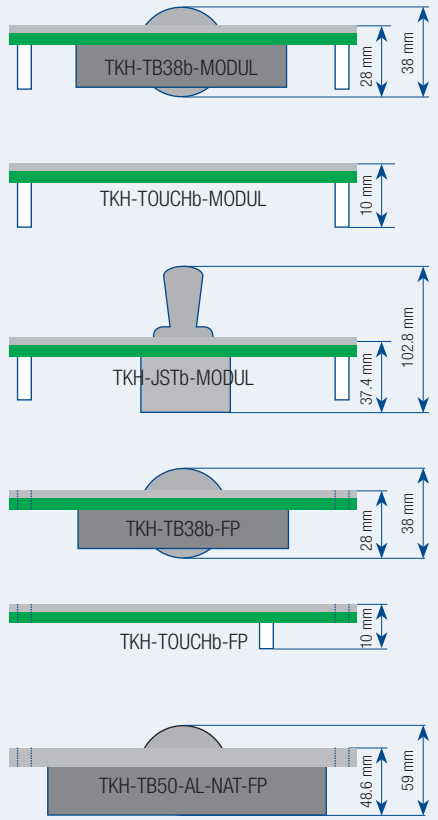
Switching Technology:	Carbon Contact Technology
Switching Force:	1.2 N
Switch Travel:	1.2 mm
Switching Cycles:	Approx. 3 Mio. (per key)
Trackball Lifetime:	3 Mio. Revolutions
Mounting Type:	Front Panel with Mounting Boreholes for 19" Cassette-mounting
Front Panel Material:	Aluminium
Operating Temperature:	0 °C to +70 °C
Storage Temperature:	0 °C to +80 °C

Pict.	Cat. No.	Product Description	Pointing Device	Protection Level	Dimensions (mm)	Weight
A01	KH02005	TKH-TB38b-MODUL-PS/2	Trackball, 38 mm	IP65 [1]	135 x 110 x 28	260 g
A01	KH02006	TKH-TB38b-MODUL-USB	Trackball, 38 mm	IP65 [1]	135 x 110 x 28	260 g
A02	KH02009	TKH-TOUCHb-MODUL-PS/2	Touchpad	IP65	135 x 110 x 10	150 g
A02	KH02010	TKH-TOUCHb-MODUL-USB	Touchpad	IP65	135 x 110 x 10	150 g
A03	KH16209	TKH-JSTb-MODUL-USB	Joystick	IP65	135 x 110 x 37.4	280 g
A04	KH02003	TKH-TB38b-FP-PS/2	Trackball, 38 mm	IP65 [1]	135 x 110 x 28	260 g
A04	KH02004	TKH-TB38b-FP-USB	Trackball, 38 mm	IP65 [1]	135 x 110 x 28	260 g
A05	KH02007	TKH-TOUCHb-FP-PS/2	Touchpad	IP65	135 x 110 x 10	150 g
A05	KH02008	TKH-TOUCHb-FP-USB	Touchpad	IP65	135 x 110 x 10	150 g
A06	KH06521	TKH-TB50-AL-NAT-FP-PS/2	Trackball, 50 mm	IP65	128.4 x 160.3 x 48.6	600 g
A06	KH09433	TKH-TB50-AL-NAT-FP-USB	Trackball, 50 mm	IP65	128.4 x 160.3 x 48.6	600 g

Other layouts, configurations and interfaces on request

[1] IP65 (static), IP54 (dynam.)

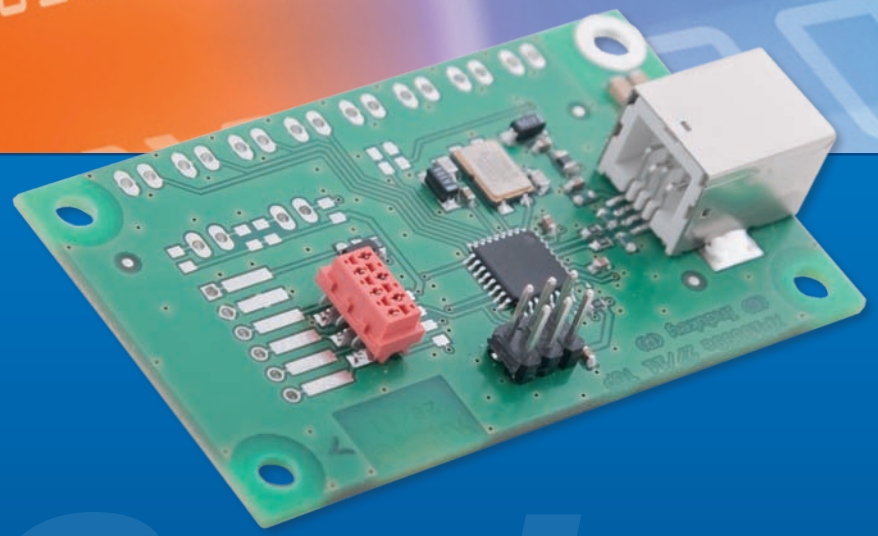
Side views (sketched representation):



Technical data of the integrated Touchpad

Operating Principle:	*Capacitive*
Resolution:	*100-300 dpi*
Dimensions:	*65 x 49 mm*
Active Surface:	*59 x 42 mm*

TKC Series



TKC Series

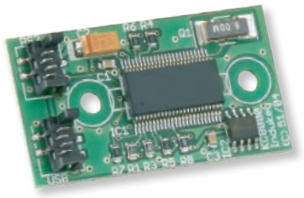
Decoder & Accessories

This category includes not only keyboard and trackball controllers, as well as terminal controllers for establishing a new control station.

Controllers are the electronic interfaces between the key matrix of the keyboard and the PC. The function of these components is to identify the keys being pressed by using special software. Internal code tables contain the corresponding country layouts and the interfaces to be activated.

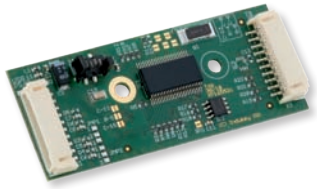
Freely programmable keyboard controllers and decoders allow for specific individual configuration of the single keys (multiple functions are possible as well). For this, an easy-to-use software is available.

TKC-8000



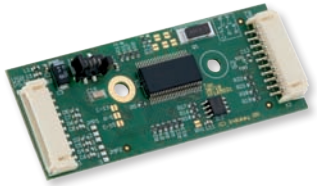
Freely programmable decoder

TKC-18210



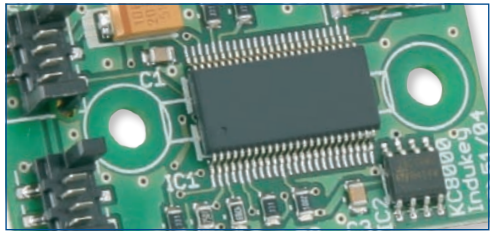
Freely programmable decoder with trackball function

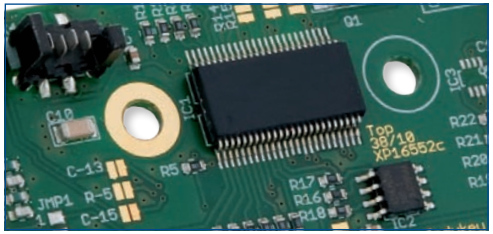
TKC-18220



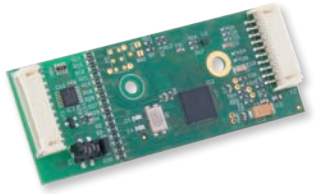
Freely programmable decoder with mousebutton function

	TKC-8000	TKC18210	TKC18220
Interface	USB, PS/2, AT	USB, PS/2	USB, PS/2, AT
Max. Number of Keys per Level	128 (16 x 8 Matrix)	128 (16 x 8 Matrix)	128 (16 x 8 Matrix)
Number of Levels	2	2	2
Plug-in Connector Key Matrix	2 x 16 pole, RM 1.27	2 x 16 pole, RM 1.27	2 x 16 pole, RM 1.27
Plug-in Connector Interfaces	MICS / SMD4 or Picoflex	USB / PS/2: JST 10-pol. RM 2.54 X/Y-Trackball: JST 10-pol. RM 2.54	USB / PS/2: JST 10-pol. RM 2.54 Joystick: Solder pads
Operating Voltage	5 V DC ± 5%	5 V DC ± 5%	5 V DC ± 5%
Current Consumption	ca. 40 mA	ca. 40 mA	ca. 40 mA
Operating Temperature	0 °C to +70 °C	0 °C to +70 °C	0 °C to +70 °C
Dimensions	45 x 25 x 11 mm	77 x 32 x 13 mm	77 x 32 x 13 mm
Cat. No.	KC08000	KC18210	KC18220
Product Description	TKC-8000-USB-PS/2	TKC-18210-TB-USB-PS/2	TKC-18220-JST-USB-PS/2





TKC-17600

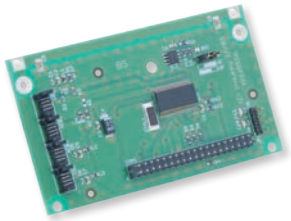


Freely programmable decoder with trackball function

TKC-14000

Hard-wired keyboard decoder

TKC-6800

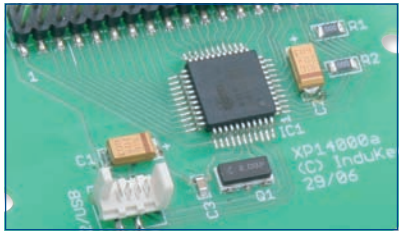


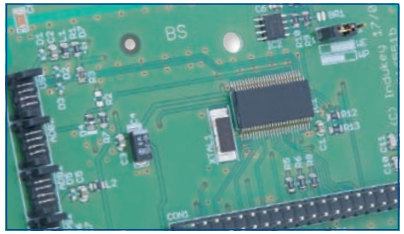
Freely programmable decoder with trackball function

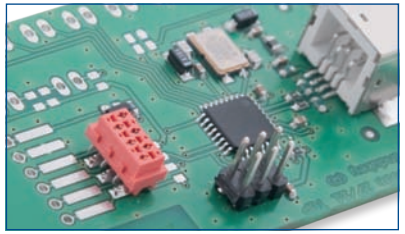
TKC-19200

Freely programmable decoder with rotary encoder function

TKC-17600	TKC-14000	TKC-6800	TKC-19200	
USB	USB + PS/2 (Combo)	USB, PS/2, AT	USB	Interface
128 (16 x 8 Matrix)	142	128 (16 x 8 Matrix)	8	Max. Number of Keys per Level
3	2	2	1	Number of Levels
2 x 16 pole, RM 1.27	2 x 17 pole, RM 2.54	2 x 20 pole, RM 2.54	Single key -> Solder pad	Plug-in Connector Key Matrix
MICS4, JST 10-pol. RM 2.54, USB: JST 10-pol. RM 2.54	MICS / SMD4	MICS / SMD4 or Picoflex	USB (B-Connector)	Plug-in Connector Interfaces
5 V DC ± 5%	5 V DC ± 5%	5 V DC ± 5%	5 V DC ± 5%	Operating Voltage
35 mA (typ), 100 mA (max)	10 mA	ca. 25 mA	ca. 25 mA	Current Consumption
0 °C to +70 °C	0 °C to +70 °C	0 °C to +70 °C	0 °C to +70 °C	Operating Temperature
82 x 33 x 33 mm	65 x 50 x 10 mm	98 x 58 x 25 mm	72 x 40 x 14 mm	Dimensions
KC17600	KC14000	KC06800	KC19200	Cat. No.
TKC-17600-USB	TKC-14000-PS/2-USB	TKC-6800-USB-ADB-PS2	TKC-19200-DREHGEBER	Product Description







TKA-MONTAGE-SET

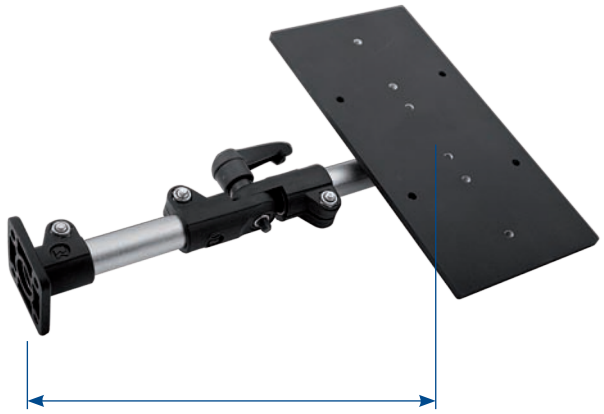
This universal solution is suitable for mount keyboards to either the wall or table.

Cat. No.	Product Description	Weight
KA16201	TKA-MONTAGE-SET	500 g

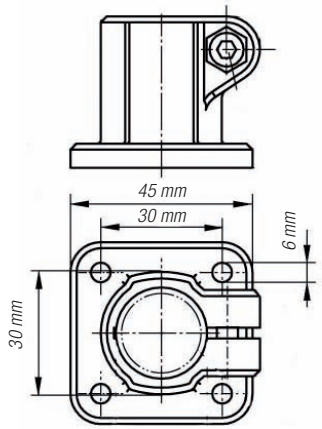
Other tube lengths and hole circles are available on request.

Mounting-Set

- *Adjustable by means of a clamping lever and locking screws*
- *Infinite rotation and inclination up to 180° in all directions*
- *Carrier plate with fastening holes according to VESA standard (75 x 75 mm); Aluminium, black, anodised*
- *Length: 245 mm (distance between wall and centre of carrier plate)*
- *Maximum load capacity 5 kg (temp. loading up to 10 kg)*
- *Weight 0.5 kg*
- *Wall mounting screws not included*



Length: 245 mm (distance between wall and centre of carrier plate)



Infinite rotation and inclination up to 180° in all directions

Technologies

Technologies

The general trend towards the differentiation of technical systems calls for the differentiation of the necessary components as well. Correspondingly, systems which are manufactured in small and medium quantities according to the exact specifications of the customer require customized data input devices.

Data input systems and components are particularly subject to this dynamic. The starting-point of design and development takes into account the following considerations: shape, switching technology, functionality and design. By means of a combination of those criteria, which are uncompromisingly focused to take into accounts the unique desires of the customer and the demands of the application, the customer gets the best possible data input solution. This process starts with the idea, continues with the conceptualisation, development and manufacture and finally leads to the commissioning of the device. A technically mature and if needed reproducible unique product is the ideal result of a customer-specific system.

The InduKey business division „Customized Data Input Devices“ has a track rerord of hundreds of successful „Made-to-Measure“ projects in various applications and industries. Drivers of success of this strategic business division are technical know-how, a strict adherence on the needs of the customer, and a solution philosophy that comes through when addressing any task.

Industrial Areas

Dust, oil, sparks, heat, cold, moisture – any device used on the shop floor has to resist all those hazards as well as working precisely and consistently. In some areas even explosion prevention and protection or enclosed bodies are required.

Industrial PCs

Apart from all other requirements in industrial applications components for industrial PCs have to fit perfectly into the machine.
The made-to-measure integration is vital for a continuous performance and reliable functioning of the device.

Food and Beverage Production

Organic matter can have a significant impact on the functionality of components and systems used in food or beverage production. As such, they have to be resistant against various acids and bases, salt, fat and so forth. This must be achieved without compromising the other requirement in these environments, which is a high level of hygiene and cleanliness to ensure food safety.

Toolbuilding

Any machine not fixed to the floor can be defined as a tool. It has its independent functionality and is in most cases constructed consolidated and handy. Those applications demand a high level of flexibility, a continuous quality and an ongoing accuracy in day-to-day handling.

Transport and Traffic

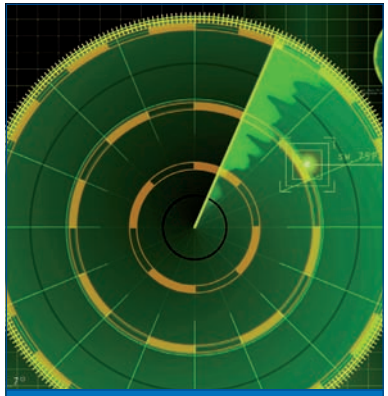
Handling of goods, time of dispatch, carriage of passengers – any process in the transport and traffic sector is facing increasing performance demands, having to run faster and to manage more volume. Especially in networked systems any device has to work dependably and on the spot. If even the weakest link in the chain fails, the entire system could collapse, so there are no unimportant systems.

Public Areas

Devices in public areas are exposed to a wide range of hazards. Unfortunately we are in a time where vandalism and willful damage of property is commonplace and unavoidable in public areas despite the best counter-efforts. In addition there is always the problems of dust and dirt which can amass and work there way into devices with wind. As such, electronic systems used in such areas have to be tough and durable. In addition, they must be designed to withstand abrasive, harsh and extensive cleaning processes – just think of what is required to remove graffiti, congealed spilled sugared drinks or chewing gum.

Security Systems

Any kind of control devices comes underneath that topic. The scope of these systems extends from front door entrance control systems right through to the control panel for movable cameras and security monitoring systems. In these demanding environments where performance is critical, all modules and components have to be long-living and function precisely.



Defence Technologies

The digital world has not altered the tough challenges that systems have to cope with in the military sector. Vibrations, shocks, varying temperatures and dirt can all cause issues that aren't typically found in more mundane applications. Persistent, hard-wearing devices are a requirement for these types of environments. To meet the stringent requirements of most governments, the devices must be certified and tested to prove their long-term capabilities and endurance.

Medical Care

Hygiene and cleanliness are the major considerations for products used in medical care. Devices have to be fully sanitizable and easy to clean. Obviously, the construction and material used have to meet certain requirements e.g. chemical resistant, water proof and others.

Cleanroom Technology

Cleanrooms are closed environments where airborne substances are reduced to a minimum. In most cases, temperature, air humidity and pressure are constant in those rooms. To avoid devices bringing particles into the closed systems, they have to be cleaned beforehand, and not degrade to become a source of particulate matter inside the cleanroom.

Industrial Operating Systems: Configuration “On Demand“

Complete systems are a combination of different elements. Basically, they are subdivided into these four basic components:

- Housing or carrier element
- Data input unit
- Supplemental data input unit
- Data output unit and internal electronics

Variety of Variants

From this, variants of any number which are focused on the requirements of the operational environment can be created. This is how we design devices with closed housings as well as complex control panels for integration into existing systems.

We additionally equip output devices such as monitors or displays with the desired touch screen solution.

Realisation of Small and Medium Numbers of Items as well as Prototype Construction

Due to our flexible production structure, we also design operating units in smaller quantities. In the field of housing technology we mainly work with these variants:

- Plastic injection moulding
- Metal casting
- Tool-free housing production

Individual Configuration of Control Panels: Stainless steel front panel for front mounting, with stainless steel keys, monitor, touch screen and touch pad

1. *Base Carrier*
2. *Central Data Input Device / Stainless Steel Keyboard*
3. *Supplemental Data input Unit / Touchpad*
4. *Data Output Unit*
5. *Touchscreen*

Touchscreen Technologies

The functional principle of a touchscreen is relatively simple. A rectangular glass surface is equipped with an electronic system which detects the position of a finger or another element which touches this surface. The resulting signal is transmitted to the data-processing system via a controller. From this perspective, a touchscreen can be compared with an oversized touchpad.

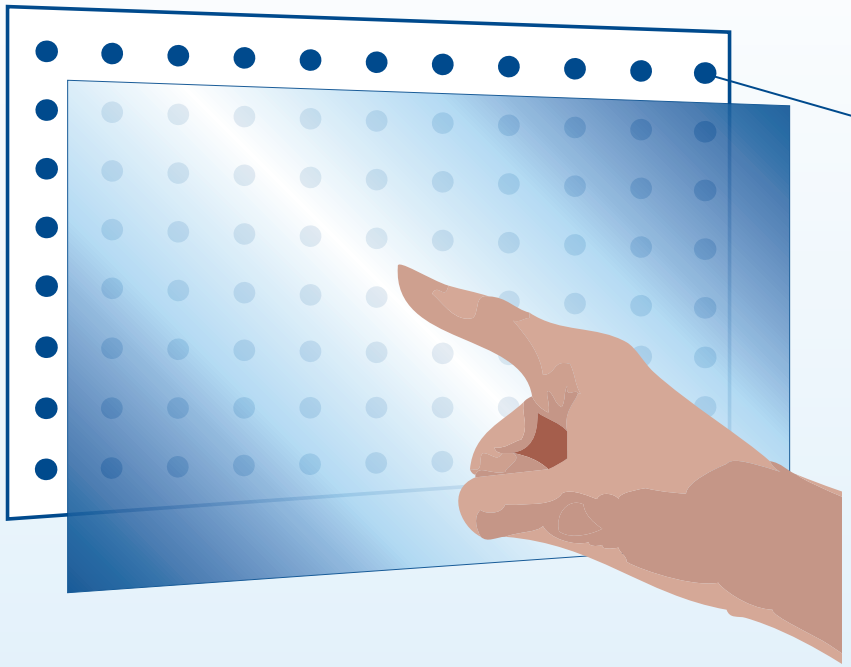
The touchscreen technology yields an advantage as it is also a monitor. The transparent touchscreen, which is installed in front of the user and congruent to the monitor, creates a sensitive surface. Via this you have access to all graphic elements, which are displayed on the monitor. This means that the entire user interface is created in a completely free and variable way on the monitor. In contrast to conventional keyboards, where operating elements are set in the form of keys, here, every interface configuration is possible via the software level.

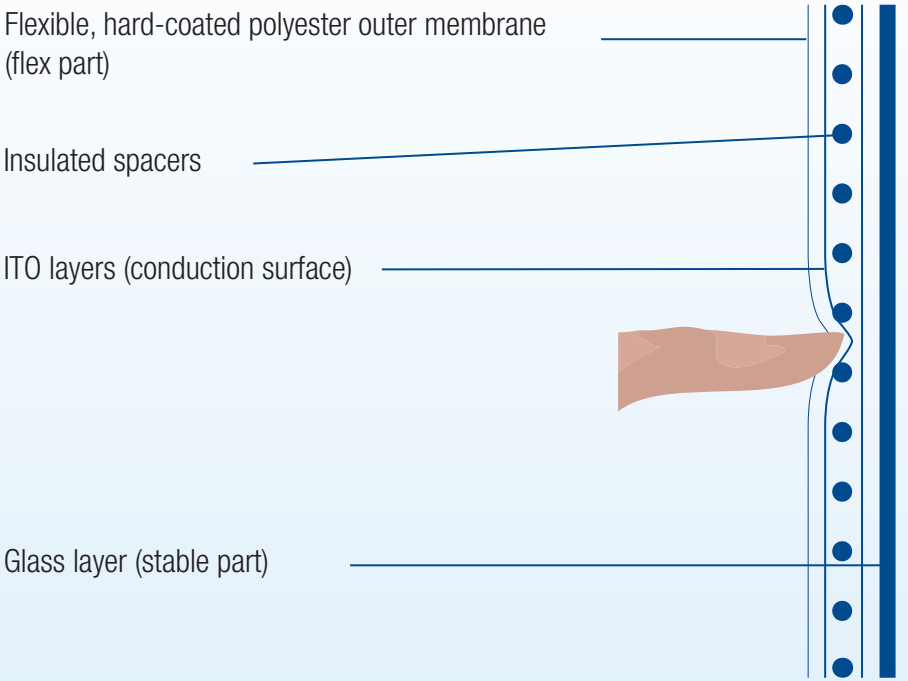
Due to different application environments and user preferences, various types of touchscreens are available. On the following pages we give you an overview of all current technologies that we use in our systems.

Decisive Technology Advantages

- Flat design
- Easy to clean
- Operation with any type of soft object, e.g. fingers, pen tips
- High light transmission
- Contamination of the surface has no influence on technical principle of operation
- Different sizes can be selected
- With analogue or digital principle of operation
- Possibility of via on the terminal lug – all connections on one side
- Available as a complete device with housing and other control elements

Resistive Touch Technology





Resistive Touch Technology

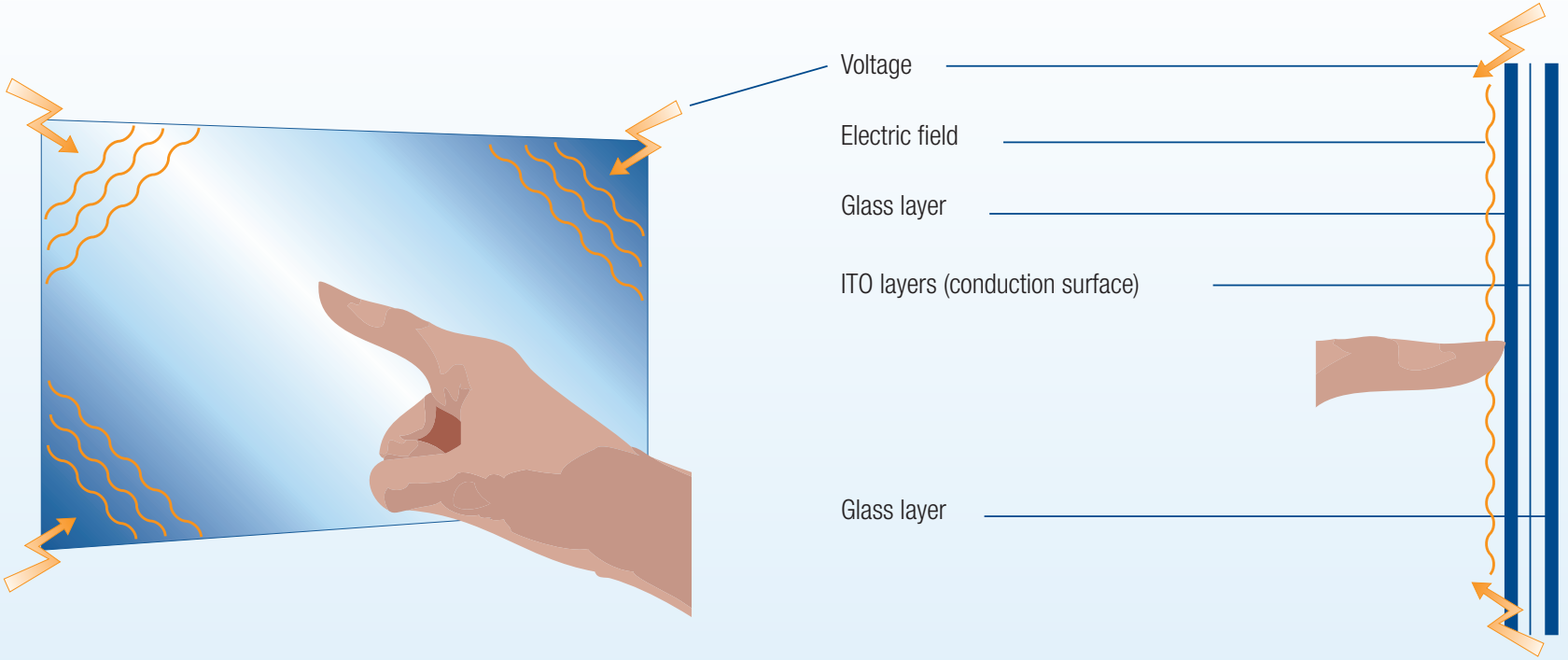
These touchscreens essentially consist of two surface-coated elements: the so-called stable part, usually made of glass, and the flex part, a plastic foil. Both have an ITO (indium tin oxide) layer.

The ITO layers are separated by very small printed spacers and mounted opposite to each other. Contact causes a resistance and its position is located by means of the voltage field.

Application

- *Medical operating devices*
- *Electro automation*
- *Machine and plant control*
- *Transport and traffic*

Capacitive Touch Technology



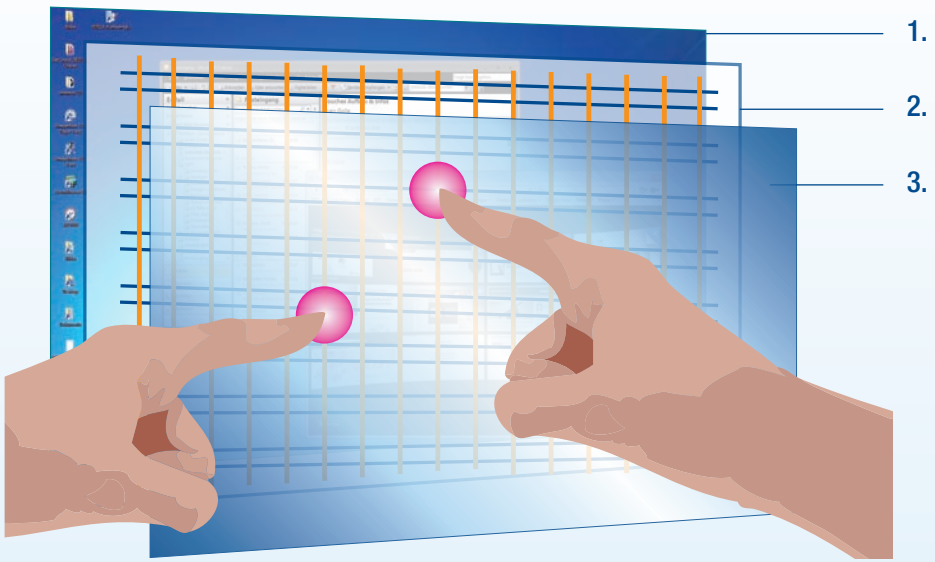
Capacitive Touch Technology

Analogous to the resistive touch technology, here a conductive coating with a transparent surface, usually glass, is used. AC voltage is applied to the corners and generates a weak capacitive field. Placing the finger causes a voltage drop and thus a current flow between the corners of the touchscreen and the point of operation. The controller measures this proportion and determines the position of operation.

Applications

- *POS / POI terminals*
- *Register systems*
- *ATMs*
- *Home entertainment*

Multi-Touch Technology

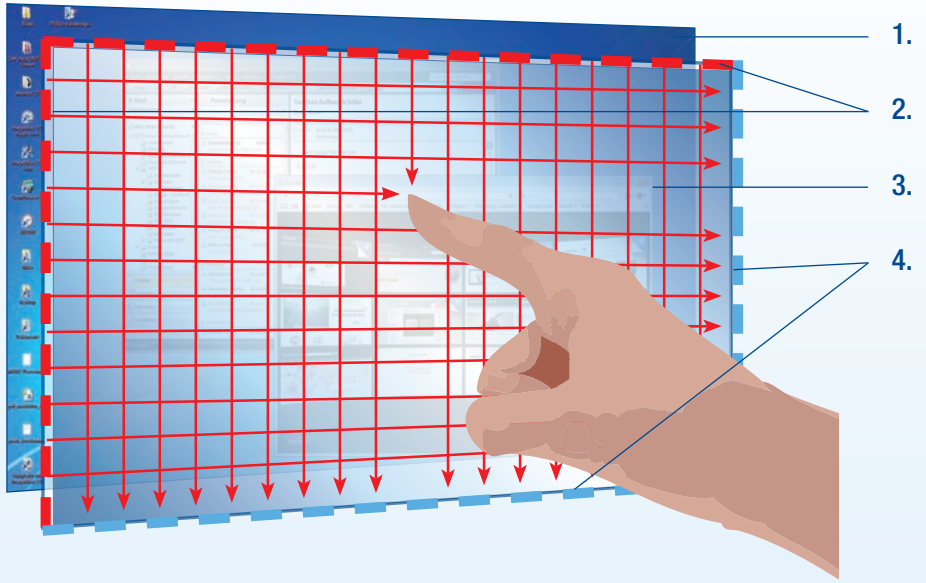


1. Display
2. Capacitor plate (grid like matrix)
3. Protective layer

Operation with multiple fingers

Multi-touch inputs are based amongst others on the capacitive touch technology. The capacitor plate has an electric field which consists of several intersecting transmitter and receiver electrodes. This grid-like matrix in turn acts at the intersection points like single capacitors, where voltage changes can be measured and analysed independently from each other.

IR Touch Technology

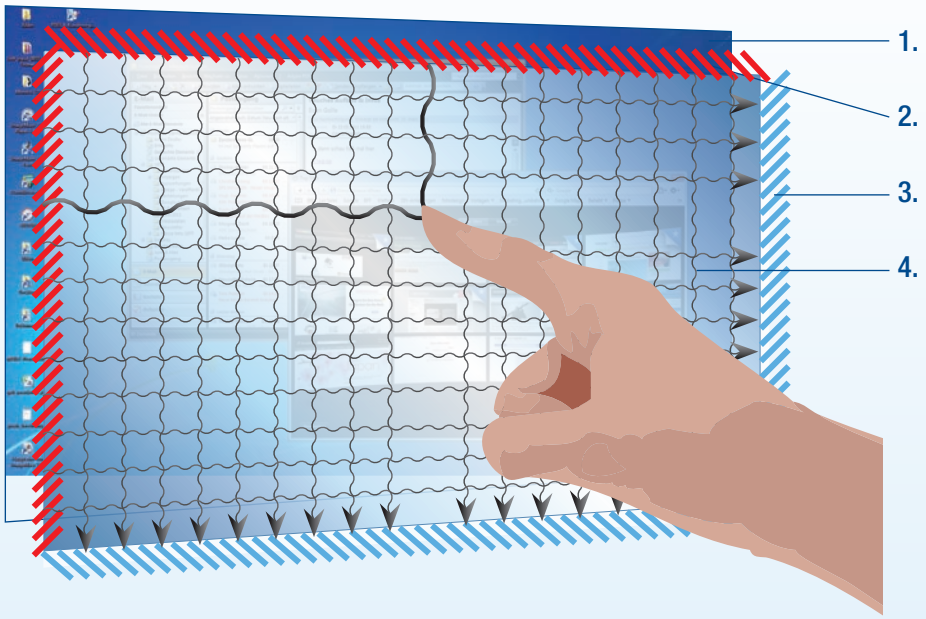


1. Display
2. Diode bar
3. Infrared grid
4. Phototransistors

Infrared waves

By means of diodes, which serve as transmitters, an infrared grid is generated. On the respectively opposite side, phototransistors are installed. By touching the surface, the grid is interrupted and the receiver sends a signal for x/y direction to the controller. The controller calculates the position of the interruption and the corresponding operating command can be executed.

Surface Acoustic Wave Technologie

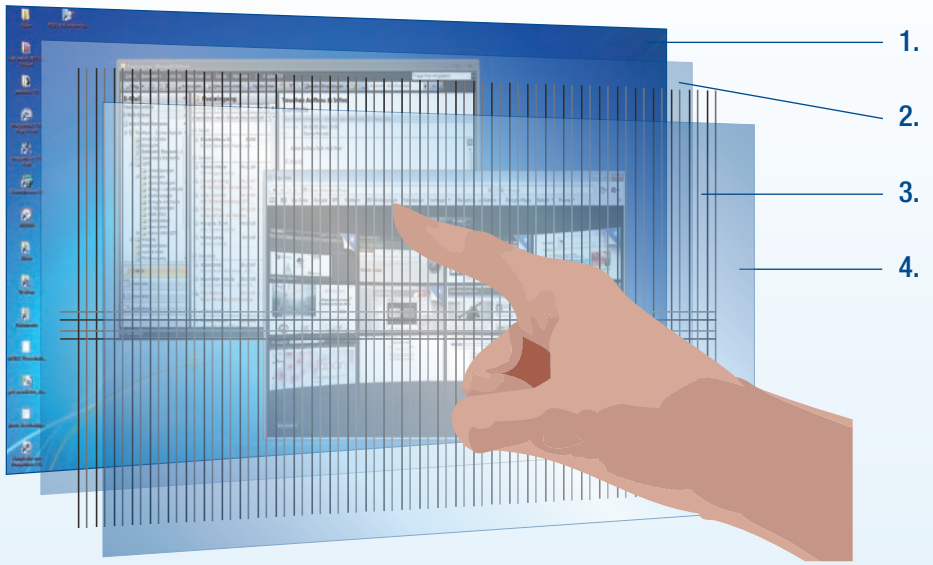


1. Display
2. Signal generator
3. Sensors
4. Ultrasonic waves

Sound waves

Surface acoustic wave (SAW) works on the basis of surface waves, i.e. with the help of a signal generator ultrasonic waves are emitted in x/y direction and their amplitude is measured by sensors on the opposite side. Touching the screen changes the tone of the ultrasonic wave. A controller determines correspondingly the change in amplitude of the wave and calculates the exact coordinates of the point of contact.

Projected Capacitive Touch



1. Display
2. Glass layer
3. Electrode grid
4. Glass layer

Capacitive field

Projected capacitive touch is an advanced form of the capacitive touch screen technology. A grid is formed in x-y alignment by micro fine electrodes. This grid layer is embedded between to glass surfaces. If the display is touched, an electrical capacitance is created between the finger and the respective electrode of the grid. A controller processes the electrical contact information and calculates the coordinates.

Capacitive Keyboards

A fully functioning, plug-and-play-capacitive keyboard consists of a printed circuit board, which has been equipped with capacitive sensors and the evaluation electronics; the elements are connected via PCB tracks. In the process, the capacitive sensors simulate the single keys. This means that the entire keyboard layout is represented by the quantity and arrangement of the sensors. After the keyboard has been connected to a computer, the sensors generate a capacitive field.

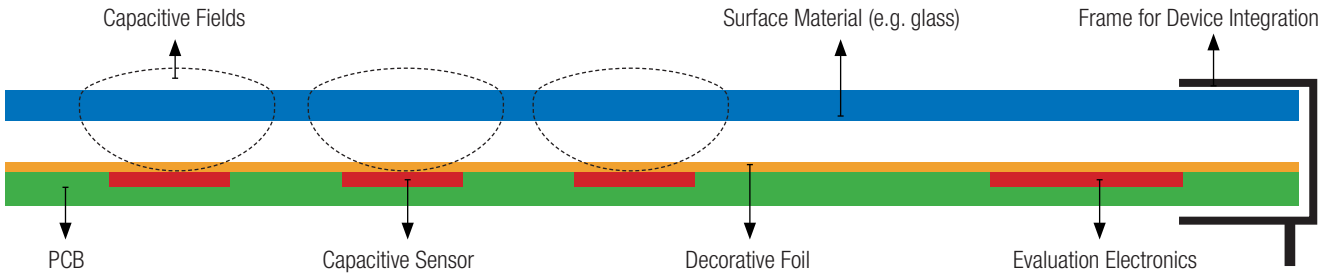
When the finger changes this field, the capacity is inevitably changed. This change is the basis in order to generate and trigger a signal, which is then sent to the evaluation electronics.

During the further development, the PCB is covered with a decorative foil, which is graphically designed and contains the user elements. As far as possible, the design can be freely determined by the customer.

The element on top of the structure is the actual user interface, which can consist of any non-conductive material. In the practice, mostly glass and plexiglass are used. The thickness of the material can reach up to 10 mm.

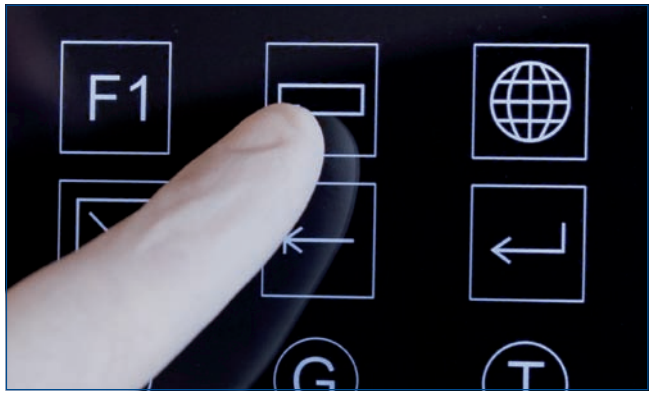
Further operating effects are the partial graving of the surface material or the backlight in various colours via LEDs.

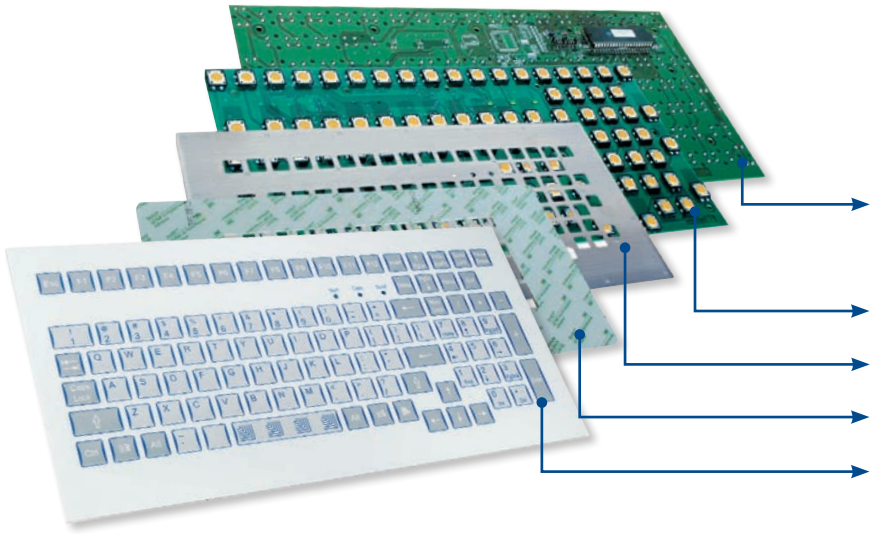
The Technology in Cross-Section



The Difference Between a Touchscreen and a Capacitive Keyboard

Touchscreen	Capacitive Keyboard
Sensitivity of the entire touchscreen surface	Selective sensitivity of specific defined areas
Data input elements are indicated via an output medium (monitor, display)	Data input elements are separated and controlled via PCB configuration
Data input elements are virtually generated via software	Data input elements are physically present as copper surfaces on the PCB
Touchscreen functionality is directly linked to computer and output unit	Capacitive keyboards have stand-alone functionality; plug-and-play mode
Touchscreen or touchscreen material is always the surface	Possibility of „creative“ surfaces (glass, plexiglass, plastic)
It is not possible to modify the surface	Possibility to modify the surface (graving, haptic varnish, lighting …)





Layer Structure of a Short Travel Keyboard

- Printed circuit board back
  (Pictured with integrated key controller)
- Printed circuit board (component side keys)
- Front panel (carrier plate)
- Adhesive foil
- Design foil

Short travel keyboard technology (foil keyswitches) has been proven for many years and offers a robust, long-lasting and functionally reliable data input solutions for a wide range of applications. Common applications are environments where the devices are exposed to all kinds of debris, detritus and emissions. This includes water, dust, dirt, oil, grease or chemical substances.

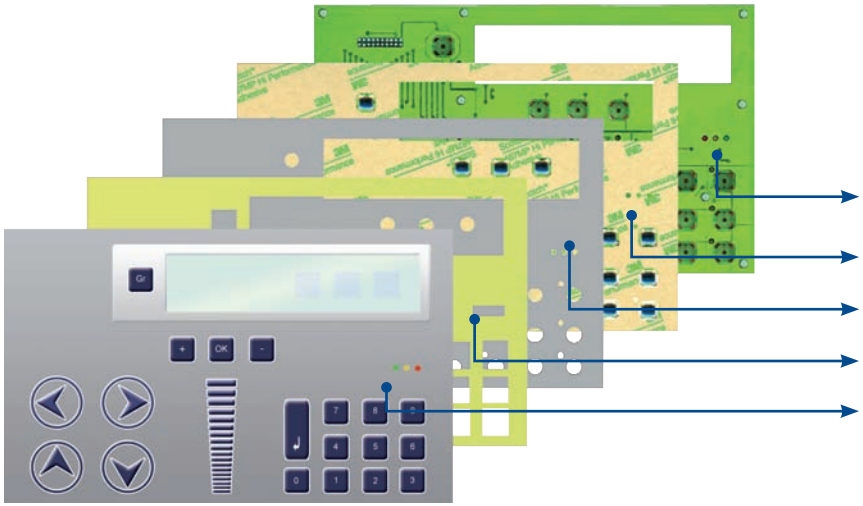
The closed operating interface and the robust carrier materials allow short travel keyboards to reliably withstand these harsh operating conditions. In this technology, high-quality short travel keys are used. Featuring a key drop of 0.3 millimeters and an operating force of 2.6 Newtons they offer a crisp tactile feedback during actuation.

The keys are mounted directly on the printed circuit board and above this is an aluminum plate with key slots attached. This reliably protects the electronics against mechanical influences. A polyester foil with the key labels and an embossed surface completes the keyboard and provides the surface that the user actually touches.

Short travel keyboards can be integrated into systems in different ways. The most common method is a front housing using stay bolts facing the rear. Installation by means of mounting holes on the side or keyboards integrated in the housing are also possible.

Decisive Technology Advantages

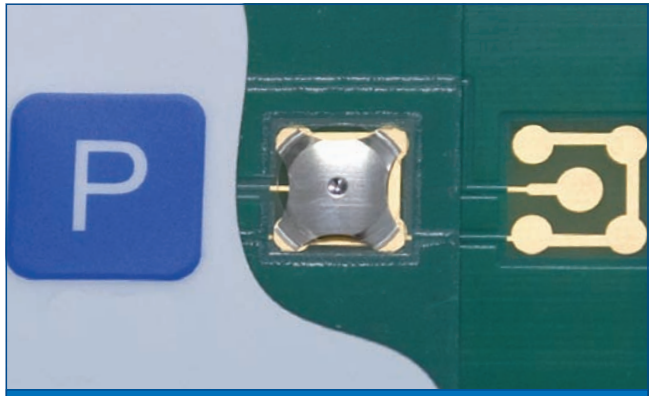
- High-quality, long-lasting control elements
- Excellent tactile feel
- Keys with spot or full illumination
- Keys in different sizes and shifting forces
- Front panel has a stabilizing effect
- Impervious to dirt, water and certain chemicals
- Tactile keys with edge or key embossing or foil relief
- Individual layout and colouring
- Relief coating
- Integration of display windows is possible
- EX-protection is possible
- Expandable with integrated keyboard controller



These keyboards are similar cosmetically to short travel keyboards. However, in contrast to them they do not use short-stroke keys but rather employ metal dome technology. Due to the low height of the keys it is possible to produce very flat designs.

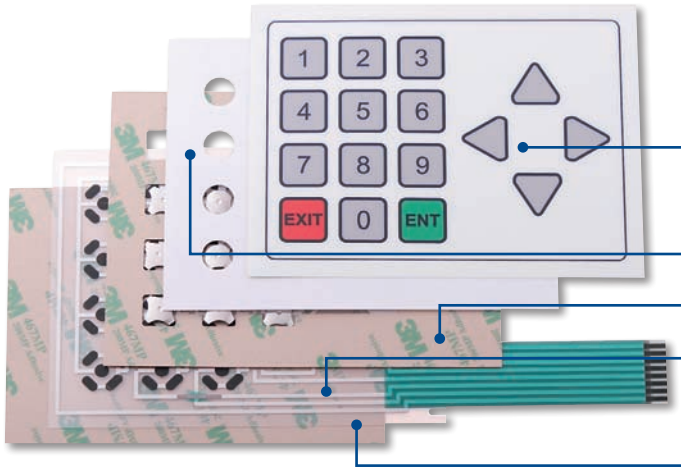
In this technology, a solid printed circuit board provides the lower switching element. Gold-plated contact points are situated at the key positions with domes located immediately above those locations. Upon operation of the bendable metal domes they are pressed against the underlying circuit board on the appropriate contact point; and as a result a switching signal is triggered.

The upper end of the layer structure is also in this case formed by multi-coloured polyester foils which allow an individual, creative design of the user interface. As a customer you have an almost unlimited design freedom. Due to their low construction height and their compact key grid, flat input keyboards are most suitable also for integration into devices and systems which require low construction heights. The use of these keyboards is also favourable in applications with limited space.



Decisive Technology Advantages

- Low construction height
- Dirt / splash water protected
- Changeable labels of the keys are possible (exchangeable text)
- Individual layout and colouring
- Compact design due to small key grids
- Key positions very tactile due to embossing
- Precise pressure point by use of metal dome
- Reduced risk of silver migration



Layer Structure

- Design foil
- Combination: protection foil / adhesive foil for design foil
- Spacer with air ducts
- Flexible printed circuit with integrated switching elements (switch membrane)
- Adhesive layer basis, adhesive back

The membrane foil keyboard is manufactured using a glued foil-layer system. Polyester foils with printed conductive silver lacquer are used as switch membranes. The lower and the upper switch membrane are kept apart at a specific distance by means of a spacer foil. The contact closes if pressure is applied on the upper design foil in the area of the key. Indukey flexible membrane keyboards are of higher quality than others and are equipped with spring snap-discs as the switching element. The design foil is located above the upper switch membrane and is transparent and has a smooth surface. Any desired colour or information can be printed on this foil.

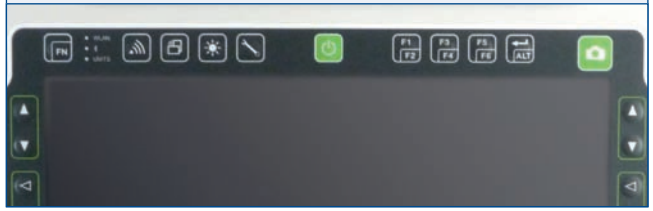
Tactile keys with edge, dome or key embossing create a positive tactile feedback and assist in targeting and keying efficiency.

Application examples

- Equipment and apparatus construction
- Consumer products of all kinds
- Mass products
- Computer games and electronic toys
- Mobile data collection terminals
- Medical and analytical technology

Decisive Technology Advantages

- Easy to clean
- Suitable for industrial applications and flat
- Reliably protected against dust and moisture
- Individually suitable controllers can be supplied
- Convenient installation by gluing
- Polyester foil resistant to many chemicals
- Terminal lugs for ZIF connectors or crimped connectors
- Individual layout and colouring
- Tactile keys with edge, dome or surface embossing



Layer Structure

Aluminium panel

Design foil

Various switching elements, e.g.:

Buttons,

Control lamps,

Emergency stop button

Design Foils

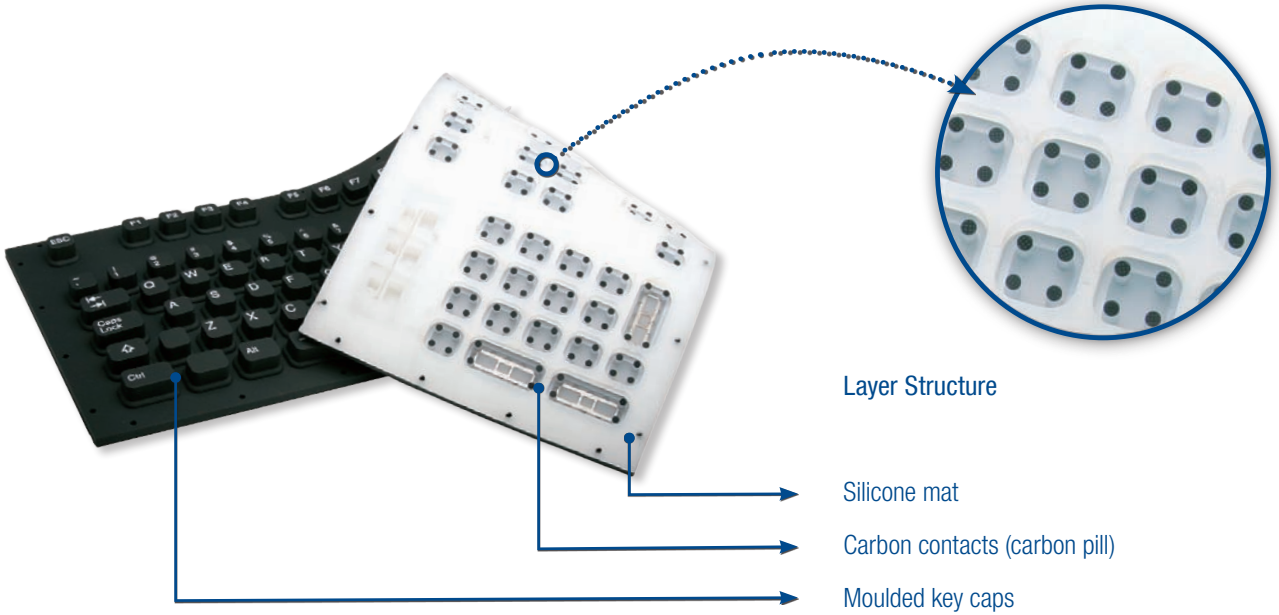
Design foils are primarily based on special transparent polyester. These foils are highly transparent and the surface can be very smooth, if desired. However, several embossing methods are available to change the surface texture. In order to protect the colour against environmental influences and abrasion, the printing is on the underside of the foils. Special glues and spacers create the connection to the lower foil layers or carrier plates. A spacer between foil and carrier plate makes it possible to insert exchangeable labeling strips. Design foils with edge or key embossing provide the best possible usability and an improved tactile feel.

Front Panels

The front panels made of aluminum, carbon or Plexiglass are drilled with all necessary holes and outlines on our modern CNC 3D drilling, milling and engraving systems. Larger series are produced using more economical production methods. The addition of threaded bolds or other mechanical elements result in the creation of robust mechanical components.

Decisive Technology Advantages

- Individual layout, colouring and text labels of the foils
- Clear and multi-colour prints
- Different embossings improve tactile feel
- Separate front panels without design foils available
- Simple and complex shapes
- Available as a design foil with adhesive foil or laminated on front panel or housing
- Flexible installation design



Compared to other keyboard technologies, silicone mats have a particularly attractive price when large quantities are produced. They are resistant, reliable and offer almost unlimited design possibilities. Shapes and colours of the keycaps can be freely chosen.
Silicone mats are made of highly flexible, toxin-free silicon caoutchouc (India Rubber or elastomer). The mats are created by moulding connectable base materials at a defined temperature and pressure. A special tool is required for every different design.
At the underside, there is usually a conductive carbon pill for each key. The lower contact part is normally formed by conductor tracks based on foils or printed circuit boards.

Tools for Silicone Switching Mats

The tool for every silicone switching mat is made of a special alloy. It is produced by means of highly precise CNC milling and erosion machine. Several silicone mats can be produced with one mould in an optimal way, taking into account later production optimization when producing the tool.

Decisive Technology Advantages

- Very good chemical resistance
- Insensitive to dirt and water
- Good feeling of the single key
- Safe contacting on the printed circuit board
- Almost unlimited design possibilities
- Coating on the silicone is possible
- Can be optionally supplied with plastic caps
- Matching houses can be supplied
- Several colours of one silicone mat are possible
- Illuminated versions are possible
- Convenient prices in case of serial production

Layer Structure

- Printed circuit board
- Keys
- Support plate (optional)
- Key caps

For data input devices in an office environment, customized keyboards with the long-stroke technology are suitable. Separate keycaps are mounted on unobtrusive electromechanical single keys. The switch travel is typically 2.5 (comparable to a laptop keyboard) to 4 mm (comparable to most standard office membrane or rubber dome keyboards). These long-stroke keyboards are available as modular components without housing or integrated in special customized housings. The layout of the keys, the colours and the print of the keycaps are designed as determined after consultation with the customer. By using high-quality key modules, a maximum MTBF (Mean Time Between Failure) of >10 millions of operation cycles is possible.

Labelling of Long Travel Keys

Depending on the required quantity and desired colour combinations between the base colour of the keycaps and the lettering colour, there are five different labeling technologies to choose from:

- Engraving
- Pad printing
- Sublimation print
- Two-colour injection moulding
- Laser marking

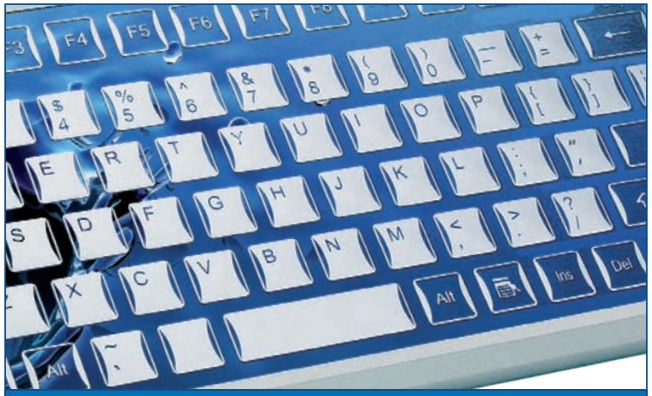
Decisive Technology Advantages

- Gold Crosspoint mechanical keyswitch technology
- Safe key contacts
- Glare-free surfaces
- Different forms of key caps
- Flexible key prints
- High abrasion resistance of key prints (protective lacquer)
- Similarity in feel to conventional PC keyboards
- Low operating force due to long key drop
- Special housings are possible

InduClean - The Lotus Effect for Keyboards

The InduClean technology is a dirt and liquid repellent coating system inspired by the very high water repellence exhibited by the leaves of the lotus flower. It is applied with the lacquer method and absolutely transparent, thus obtaining a durable protection of the keyboard against stubborn dirt. This simplifies the cleaning significantly.

This technology can be used for all operating interfaces with foil cover. Typical applications would be for example membrane keyboards in paint shops (easy removal of paint and lacquer residues) or in public areas (anti-graffiti).



InduPrint - Photorealistic Design

InduPrint refers to a digital printing method which allows an individual photographic design of membrane keyboards (see large image above). The user can select whatever ‚look' is desired be e.g. corporate colours, photos and high resolution images. The design could also complement existing terminal and kiosk systems.

The warranty for maximum abrasion resistance is used to protect the ‚look' as well as using the proven method of background printing.

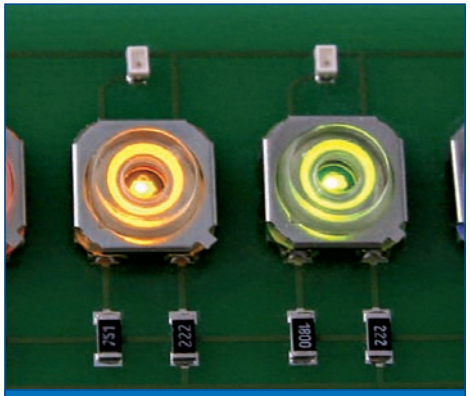
InduSense - Relief Elements

InduSense technology is tactile or haptic printing, i.e. a 3-D relief printing method, which creates a textured foil surface. Due to the printing, single function keys, key combinations or area frames, e.g. for a touchpad, can be clearly highlighted, so the user gets a clear indication by touch from the surface.

There are diverse design possibilities and they can be customized as per the specifications of the customer.
As it is transparent material, the print automatically adapts to the surrounding / background colours.

Combined Surface Functions

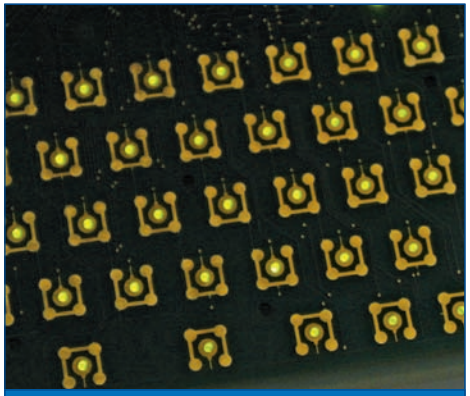
The different surface structures options can also be combined to great effect. For example, a photorealistic print with a liquid repelling effect (the combination InduPrint and InduClean) is just as possible as the combination InduPrint with an individual relief surface (InduSense).



LED Keys

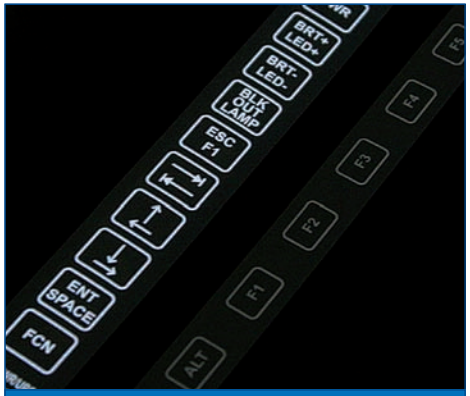
When this design feature is used, the required lighting element is directly integrated into the key. In most cases, the lighting elements are LED's which have a service life of approximately 50,000 hours. These LED's are available in a wide variety of colours. Due to the transparency of the surface material of many industrial keyboards, the keys can be illuminated effectively. As surface material, both foil and silicone can be backlit due to their partial transparency. As illuminated keys, both short travel and long travel keys can be used.

The advantage of this method is that there are no setup costs as the keys can be assembled onto the board in the conventional way and without additional cost or effort.



Free LED

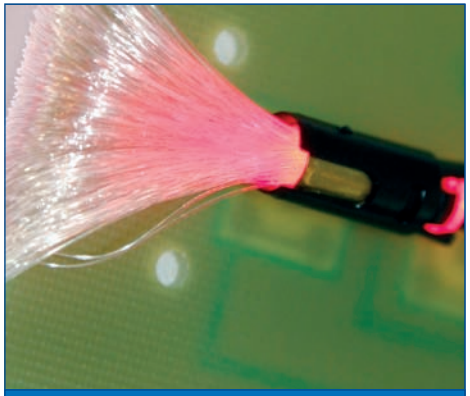
In case of this technology, the LED's are not physically attached to the key. They are either placed beneath or below the key, or they are position-independently placed as signal indicators (e.g. caps lock key). The latter function is the one which is more frequently used with regard to this technology. The most common application of this option are to provide visual status indicators for On/Off-modes. „Standalone LEDs" also can be used to indirectly illuminate keys without having to integrate the light into the respective key. On silicone keyboards without mechanical switching elements, for example, the LED's are positioned directly below the key. By using this method, plated domes can also be illuminated without having to integrate the LED's into the keyswitch itself. The LED is fixed below the key instead.



EL foil

This interesting lighting method is based on energy transformed into light when AC voltage is applied (electroluminescence). The entire „EL foil", which is located below the actual operating/decor foil, can be illuminated. All cutouts on the foil are not illuminated. This allows for the manufacture of almost layout independent lighting options for operating surfaces. Here, compared to the option of LED's, fixed non-recurring costs will arise due to the individual adjustment.

However, the half life of the luminance is not as high as with the other technologies. After 10,000 hours, the luminance will decline to roughly half of the original value



Plastic Light Ducts

In this option, as in others, an LED is used as light source. However, in contrast to other technologies, the light is emitted into light ducts made from plastic. Those light ducts have been abraded by means of chemical processes, so that the light is emitted there.

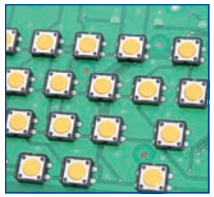
This so called fiberlight-method is very versatile; due to the light scattering and the individual length of the light ducts, operating surfaces of all sizes are backlightable. Due to the respective specific modification required, fixed non-recurring setup costs will arise when this backlighting option is selected.

The protection class with the two-digit IP codes (1st digit, 2nd digit) indicates the suitability of systems for different environmental conditions. According to DIN the abbreviation IP stands for International Protection.

IP 68

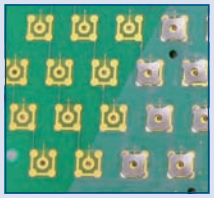
1st digit	Protection against contact	Protection against foreign objects	
0	no protection	no protection	
1	with large-area body parts (back of the hand)	large foreign objects	ø bigger than 50 mm
2	with the fingers	mid-size foreign objects	ø bigger than 12 mm
3	with tools and wires, ø bigger than 2.5 mm	small foreign objects	ø bigger than 2.5 mm
4	with tools and wires, ø bigger than 1.0 mm	granular foreign objects	ø bigger than 1.0 mm
5	complete protection	dust deposit	
6	complete protection	dust entry	

2nd digit	Protection against water
0	no protection
1	vertically falling dripping water
2	diagonally falling dripping water
3	diagonally falling dripping water up to 15° relative to vertical line
4	spray water up to 60° relative to vertical line
5	splash water from all sides
6	jet water
7	strong jet water
8	temporary immersion



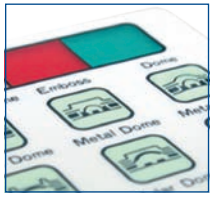
Short Travel Keys

Mechanical switch elements used in industrial keyboards with a key travel of 0.3 mm and an actuation force of 3.0 N. These rugged keys are rated for up to 3 million operations per key. Short travel keys are used in all models of the TKS series as well as in special models of other series.



Gold Plated Domes

Mechanical switch elements that are composed of as slightly convex curved metal domes and make contact with the PCB when being actuated. The advantage of the metal domes is their low height. This allows for a very flat keyboard design. The keyboards can be installed in extremely flat panels.



Flexible Membrane Keys

Flexible membrane keyboards are equipped with polyester foils printed with conductive silver paste. The upper and lower switch membranes are separated by means of spacer foil. A palpable key separation due to rim or key embossing ensures a tactile feedback when pressing keys.

Metal Key Caps

Metal keys which are primarily used for the TKV series are actually silicone keys. The difference is that silicone keys are provided with metal key caps which cannot be pried or levered out. This is ensured by a brim on the bottom side of the cap, which anchors the cap firmly to the front panel.

Silicone Keys

Silicone keys have carbon pills on the underside that make contact with the PCB after being actuated. The keys provide a pleasant tactile feedback and a very low noise level. Silicone keys are available in different shapes, colours and with different actuation forces and key travels. When mass produced in large quantities they are very cost-efficient.

Long Travel Keys

Long travel keys are used as mechanical switch elements in high-quality conventional PC keyboards. These keys have a key travel of 2.5 - 4.0 mm. They require a very low actuation force of only 0.6 N. These keyboards are suited for the input of large amounts of data.

Housing Version

Desktop versions can be used as standalone versions. They are suited for places where a stable flat surface exists. Due to the plastic knobs on the bottom side of the device, they are skid-proof. One of the advantages of desktop versions is their application flexibility. They can be connected to systems with standard interfaces (USB, PS/2) without any problems.

Front Mounting Version

The most frequently used integration method for keyboards and cursor controls is the MODUL variant. The studs on the rear side allow a comfortable installation into almost every system of any type. Due to the seals (included in delivery) located underneath, a high IP protection level is guaranteed.

Rack Mounted Version (Front Panel)

Front panel versions are mainly used for integrating data input devices into 19-inch racks. The mounting holes on the sides of the front panel allow a comfortable installation of the device. The keyboards are standardized according to the RU (Rack units; 1 RU = 44.45 mm) of the 19“ system (1” = 25.40 mm).

Drawer Version

In the product line of foil covered industrial keyboards, keyboard / drawer systems are available. Due to their compact size they are suited for the application in 19-inch mounting systems. The low mounting height of 1 RU (1 RU = 44.45 mm) is thinner than most other options. The extracted drawer has an angle of about 15° degrees allowing for comfortable operation in standing position.

VESA Version

The mounting of electronic devices to the wall, the ceiling or to panels is subject to the VESA standard. The back of the device is equipped with four insert nuts for installing the bolts. The distance between the mounting holes corresponds to a standardized matrix (usually 75 x 75 mm). This mounting method includes the assembly and system integration of desktop devices.

Manufacturing Services

From the initial concept to the delivery of the final finished product, all manufacturing stages are performed at *InduKey®*. Our proven protocols and processes are particularly tailored to electrotechnical / electromechanical systems and HMI-components / devices.

However, on request products for other areas and applications can be manufactured. Due to a reliable and responsive configuration of all potential issues and required technical skills and equipment, we are able to manufacture the most diverse and complex systems even in small and medium sized quantities.

Producing

In the area of production, the components are assembled in order to manufacture the finished product. By means of the in-house milling shop, cutting plotter department, screen printing, and assembly, the delivery routes are very short. As a result, a quick, efficient and uncomplicated production line can be ensured.

In the assembly department itself, we work in a highly flexible manner by applying the multiple-shift system. Thanks to an experienced and qualified team, we are able to adjust production to accommodate production requirements on short notice in a quick and reliable manner.

Quality Management System

The quality management system used by *InduKey®* meets the DIN EN ISO 9001:2008 standards. Clearly structured and organized inspection processes ensure a continuing high quality of our products. These established processes are also applied at outsourced production locations.
In 2010, the re-certification according to DIN EN ISO 9001:2008 was successfully achieved. In addition, further certification processes such as internal audits or system audits by major customers take place.

Made-in-Germany - All *InduKey®* products are manufactured at our plant in Treuen, Germany.

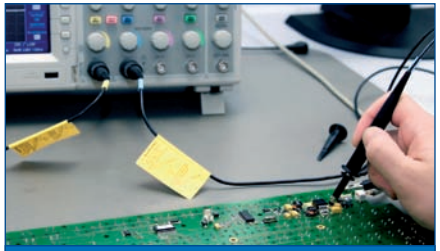
OEM product assembly for all areas in large quantities

Guangzhou *InduKey®* Assembly Ltd. in Guangzhou, China, offers many years of experience from consulting, OEM manufacture and logistics to transportation.

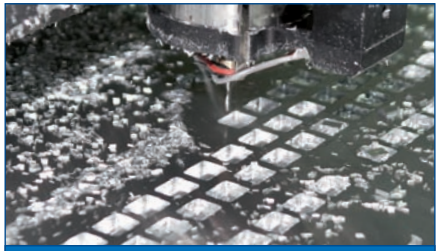
- Products for the computer periphery
- Electronic gift articles and promotional items
- Sports and leisure time electronics
- Consumer electronics

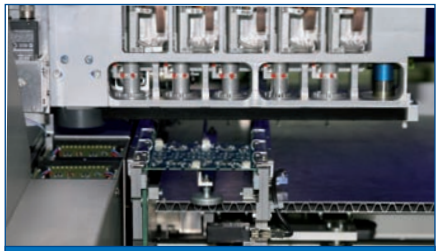
Technical Know-How

- Support by our experienced development engineers
- Fastest manufacture of approved prototypes
- Many years of experience in OEM-manufacture

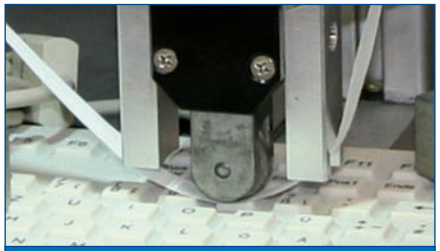

Development


Screen Printing


CNC Milling


Assembling


Producing


Quality Controlling

Worldwide Partnership

From its German location, *InduKey®* maintains a large network of distribution partners. The company has partners on all continents. In cooperation with the partners, *InduKey®* ensures that its products and services are globally available. On our homepage you will find an up-to-date list of our international offices. Please feel free to contact the representative in your region – they will be happy to respond to your inquiry quickly and without obligation.

Service and Support

We support you in many ways. Our sales and consulting team will help you to find the best data input solution for your application. We also provide you with comprehensive support during the commissioning of a product. You always have the ability to directly communicate with the manufacturer on any clarification, concern or problem. What could be time-consuming communication via third parties is therefore avoided. This is an efficient solution for both parties.

Delivery dates

The standard products are available „off-the-shelf“ and usually available within three weeks.

Complaints

In case of complaints, please call the number of our technical support department or send an e-mail to support@indukey.com.

Copyright

Catalogue number: KW19201. Errors and omissions exceptet

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Your authorised distribution partner:

KW19201