

Keyboards and Input Devices

for industrial,
medical
and commercial applications

2008

Table of content

Variant Diversity of the TKS Series	Page 3
Industrial Short Travel Keyboards	Page 4
Foil Covered Dome-Switch Keyboards	Page 28
Intrinsically Safe Keyboards	Page 42
IP68-Keyboards and Mice	Page 48
Stainless Steel Keyboards	Page 56
Silicone Keyboards	Page 62
Cursor Control Devices	Page 70
Electronic Access Control	Page 74
Keyboard Controller and Accessories	Page 76
Technical Information	Page 82

The products in this catalogue are accompanied by one or more symbols. These visualizations provide information about the different features and additional functions. On this page we will explain to you the meaning of this symbols.



This symbol indicates special product features or modifications. It also provides information on the possible application areas of the respective product. This indication also applies to the daughter products.



This sign indicates keyboards with antimicrobial surfaces. The material of this surfaces contains substances which prevent the growth of bacteria and germs.



This icon stands for a higher IP level, from IP65 upwards (see explanation on page 51). All products marked with this symbol are particularly suited for the application in rugged environments.



This sign stands for the wireless data transmission from the data input unit to the RF-based system. Thus, the input systems can be used in a flexible and mobile way.



This symbol marks all data input devices with illumination feature. The backlight illumination of the control panel allows for an enhanced visibility of the keys and its markings in dark environments.



This icon refers to the biometric recognition used for system access control. As an integrated or stand-alone device, the software provided scans and identifies fingerprints.

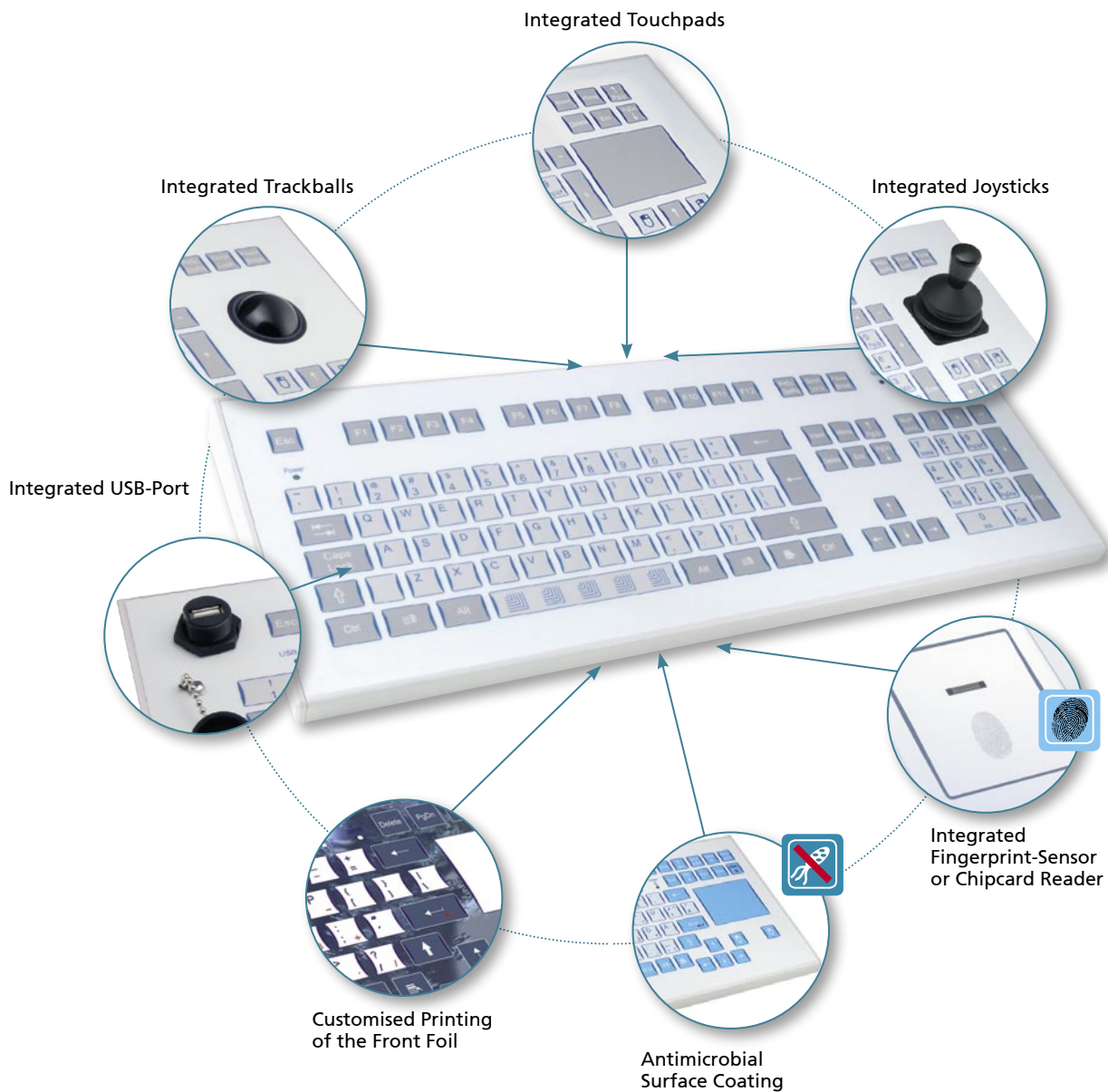


This symbol refers to devices which can be applied in potentially explosive environments. Due to their strict testing and certification, these devices comply with the so-called EX standard.



This symbol marks all new products and all product modifications.

Even more individual and application-relevant: In addition to the standard models available at any time, the foil keyboards of the TKS series offer a vast range of modification possibilities. For more information on the individual possibilities, contact our consultants.





Short Travel Keyboards

All Short Travel Keyboards use high quality OMRON mechanical switches soldered to a rugged PCB which also contains the keyboard controller. A 3 mm thick aluminium plate with cut-outs for the keys and LEDs is placed over the top and protects the keys and PCB from any heavy impact. The 150 µm thick Autotex polyester frontsheet is wear and tear resistant as the legends are printed on the reverse side and is also resistant to most industrial chemicals. The keyboards are available as desktop, 19 inch rack-mount or panel-mount versions. Our Short Travel Keyboards are sealed to IP65 and are available with mechanical trackball, IP68 optical trackball, capacitive touchpad or joystick. Interfaces available as PS/2 or USB. We offer semi or full customisation on all Short Travel Keyboards.

Features and benefits:

- Highly reliable OMRON mechanical switches
- Positive tactile feedback and key embossing
- Integrated trackball, touchpad or joystick
- PS/2 and USB compatible
- Integratable fingerprint sensor on request
- 19 inch 1U drawer compatible units
- Desktop and panel-mount versions available
- Rugged construction for reliable functionality
- Chemical, abrasion and scratch resistant frontsheet
- Ergonomic design
- > IP65 (NEMA 4x) sealing
- > 3 million operations per key
- Activation force 2.6 N, key travel 0,3 mm
- Semi- or full customisation available

TKS-105a-KGEH



Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65, NEMA 4x
Mounting Type:	desktop
Dimensions:	480 x 182 x 34 mm 18.89" x 7.16" x 1.34"
Weight:	1600 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

Cat.-No.	Product Name	
KS07211	TKS-105a-KGEH-PS/2-US	PS/2; US-Layout
KS09451	TKS-105a-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-105a-TB38-KGEH

Specification

Dimensions: 480 x 182 x 43 mm
18.89" x 7.16" x 1.69"

Weight: 1800 g

Basic Specification: see page 8

Specification Trackball

Ball Diameter: 38 mm / 1.5"

Actuation Force: 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: IP54 dynamic; NEMA 3



Cat.-No.	Product Name	
KS08271	TKS-105a-TB38-KGEH-PS/2-US	PS/2; US-Layout
KS09453	TKS-105a-TB38-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-105a-TOUCH-KGEH

Specification

Dimensions: 480 x 182 x 34 mm
18.89" x 7.16" x 1.34"

Weight: 1600 g

Basic Specification: see page 8

Specification Touchpad

Motion Detection Method: capacitive

Resolution: 40 counts / mm



Cat.-No.	Product Name	
KS07216	TKS-105a-TOUCH-KGEH-PS/2-US	PS/2; US-Layout
KS09455	TKS-105a-TOUCH-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-105a-MGEH



- MGEH-versions with stainless steel enclosure

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65, NEMA 4x
Mounting Type:	desktop
Dimensions:	505 x 198 x 35 mm 19.88" x 7.79" x 1.38"
Weight:	2800 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	stainless steel

Cat.-No.	Product Name	
KS14014	TKS-105a-MGEH-PS/2-US	PS/2; US-Layout
KS14016	TKS-105a-MGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-105a-TB38-MGEH

Specification

Dimensions: 505 x 198 x 45 mm
19.88" x 7.79" x 1.77"

Weight: 3000 g

Basic Specification: see page 10

Specification Trackball

Ball Diameter: 38 mm / 1.5"

Actuation Force: 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: IP54 dynamic; NEMA 3



Cat.-No.	Product Name	
KS14018	TKS-105a-TB38-MGEH-PS/2-US	PS/2; US-Layout
KS14020	TKS-105a-TB38-MGEH-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKS-105a-TOUCH-MGEH

Specification

Dimensions: 505 x 198 x 35 mm
19.88" x 7.79" x 1.38"

Weight: 2800 g

Basic Specification: see page 10

Specification Touchpad

Motion Detection Method: capacitive

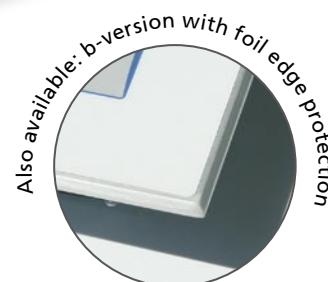
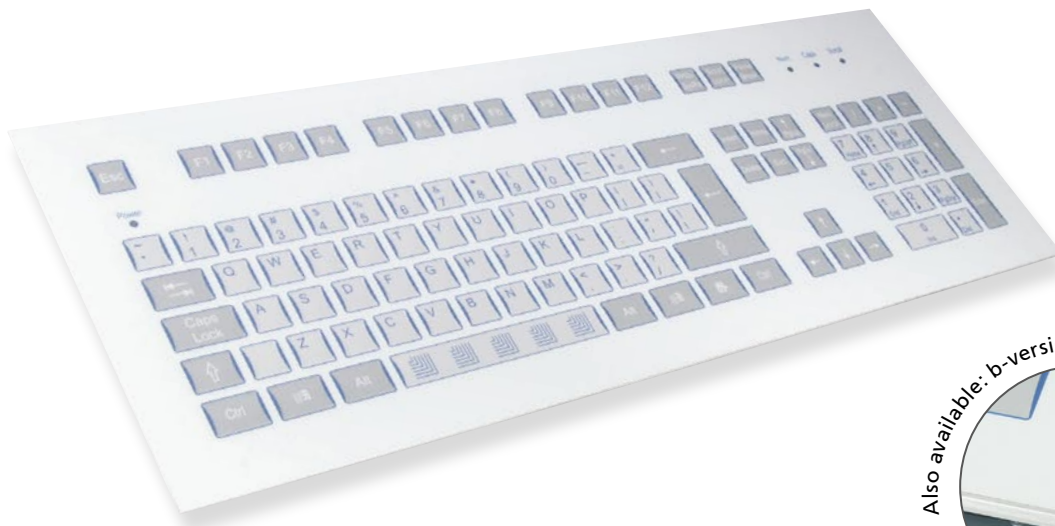
Resolution: 40 counts / mm



Cat.-No.	Product Name	
KS14022	TKS-105a-TOUCH-MGEH-PS/2-US	PS/2; US-Layout
KS14024	TKS-105a-TOUCH-MGEH-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request

TKS-105a/b-MODUL



- TKS-105b-versions with foil edge protection

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65, NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	482.6 x 177.8 x 23 mm 19" x 7" x 0.90"
Weight:	1500 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Front Panel Material:	aluminium

Cat.-No.	Product Name	
KS07241	TKS-105a-MODUL-PS/2 -US	PS/2; US-Layout
KS09490	TKS-105a-MODUL-USB-US	USB; US-Layout
KS13021	TKS-105b-MODUL-PS/2 -US	PS/2; US-Layout
KS13023	TKS-105b-MODUL-USB -US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-105a/b-TBxx-MODUL

Specification

TKS-105a/b-TB38-MODUL

Dimensions: 482.6 x 177.8 x 48 mm
19" x 7" x 2.125"

Weight: 1600 g

Ball Diameter: 38 mm / 1.5"

Actuation Force : 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level IP65 static; IP54 dynamic;
NEMA 3 (front)

TKS-105a/b-TB50oF80-MODUL

Weight: 1900 g

Ball Diameter: 50 mm / 2"

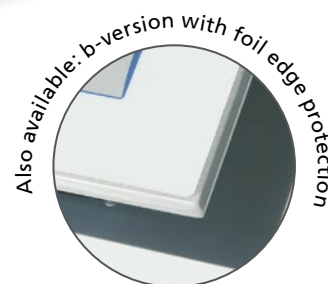
Actuation Force: 80 g

Protection Level: *IP65; NEMA 6 (front)

Basic Specification: see page 12

Cat.-No.	Product Name	
KS08308	TKS-105a-TB38-MODUL-PS/2-US	PS/2; US-Layout
KS09498	TKS-105a-TB38-MODUL-USB-US	USB; US-Layout
KS01201	TKS-105a-TB50oF80-MODUL-PS/2-US	PS/2; US-Layout
KS01203	TKS-105a-TB50oF80-MODUL-USB-US	USB; US-Layout
KS13026	TKS-105b-TB38-MODUL-PS/2-US	PS/2; US-Layout
KS13028	TKS-105b-TB38-MODUL-USB-US	USB; US-Layout
KS14006	TKS-105b-TB50oF80-MODUL-PS/2-US	PS/2; US-Layout
KS14008	TKS-105b-TB50oF80-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



Also available: b-version with foil edge protection



TKS-105a/b-TOUCH-MODUL

Specification

Dimensions: 482.6 x 177.8 x 23 mm
19" x 7" x 0.905"

Weight: 1500 g

Basic Specification: see page 12

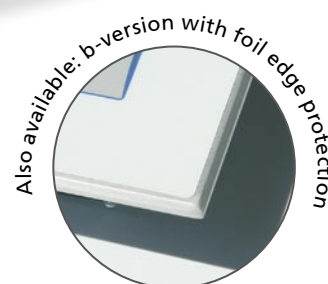
Specification Touchpad

Motion Detection Method: capacitive

Resolution: 40 counts / mm

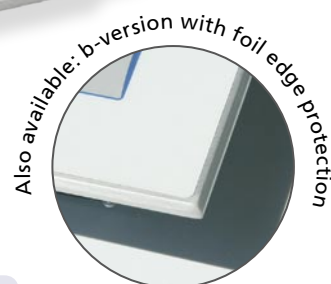
Cat.-No.	Product Name	
KS07246	TKS-105a-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS09502	TKS-105a-TOUCH-MODUL-USB-US	USB; US-Layout
KS13031	TKS-105b-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS13033	TKS-105b-TOUCH-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



Also available: b-version with foil edge protection

TKS-105a/b-JSTb-MODUL



- New user-friendly joystick
- TKS-105b-version available with foil edge protection

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65, NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	482.6 x 177.8 x 23 mm 19" x 7" x 0.90"
Weight:	2000 g
Operating Temperature:	0 °C to +50 °C 32 °F to 122 °F
Front Panel Material:	aluminium

Specification Joystick JSTb

Stick Length	63 mm
Activation Force:	2,25 N
Operation Angle:	+/- 18 °

Cat.-No.	Product Name
KS15003	TKS-105a-JSTb-MODUL-PS/2-US PS/2; US-Layout
KS15005	TKS-105a-JSTb-MODUL-USB-US USB; US-Layout
KS15007	TKS-105b-JSTb-MODUL-PS/2-US PS/2; US-Layout
KS15009	TKS-105b-JSTb-MODUL-USB-US USB; US-Layout
Other language versions/interfaces/configuration available on request	



TKS-105a-TB38-RF-KGEH



- First wireless industrial keyboard with integrated trackball
- 2.4 GHz with a range of up to 10 meters



Specification Keyboard

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil operations
Mounting Type:	desktop
Dimensions:	480 x 182 x 40 mm 18.89" x 7.16" x 1.57"
Weight:	1600 g
Operation Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

Specification Trackball

Ball Diameter:	38 mm / 1.5"
Actuation Force:	50 g
Trackball Lifetime:	> 6 mil. revolutions
Protection Level:	IP54 dynamic; NEMA 3

Specification RF-interface

Transmission Range:	typ. 10 m
Frequency:	2.4 GHz
Electronic Interface:	USB

Cat.-No.	Product Name
KS14026	TKS-105a-TB38-RF-KGEH-USB-US
Other language versions/interfaces/configuration available on request	

TKS-105a-FP-3HE



- FP-series contains front mounting drills for easy rack-mount integration

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65, NEMA 4x (front)
Mounting Type:	19" rack mount
Dimensions:	482.6 x 133.5 (3U) x 38 mm 19.0" x 5.26" x 1.5"
Weight:	1100 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Front Panel Material:	aluminium

Cat.-No.	Product Name	
KS09404	TKS-105a-FP-3HE-PS/2-US	PS/2; US-Layout
KS09461	TKS-105a-FP-3HE-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-105a-TB38-FP-3HE

Specification

Dimensions: 482.6 x 133.5 (3 U) x 38 mm
19" x 5.26" x 1.5"

Weight: 1300 g

Basic Specification: see page 16

Specification Trackball

Ball Diameter: 38 mm / 1.5"

Actuation Force : 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: IP54 dynamic;
NEMA 3 (front)



Cat.-No.	Product Name	
KS09204	TKS-105a-TB38-FP-3HE-PS/2-US	PS/2; US-Layout
KS09474	TKS-105a-TB38-FP-3HE-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-105a-TOUCH-FP-3HE

Specification

Dimensions: 482.6 x 133.5 (3U) x 38 mm
19" x 5.26" x 1.5"

Weight: 1100 g

Basic Specification: see page 16

Specification Touchpad

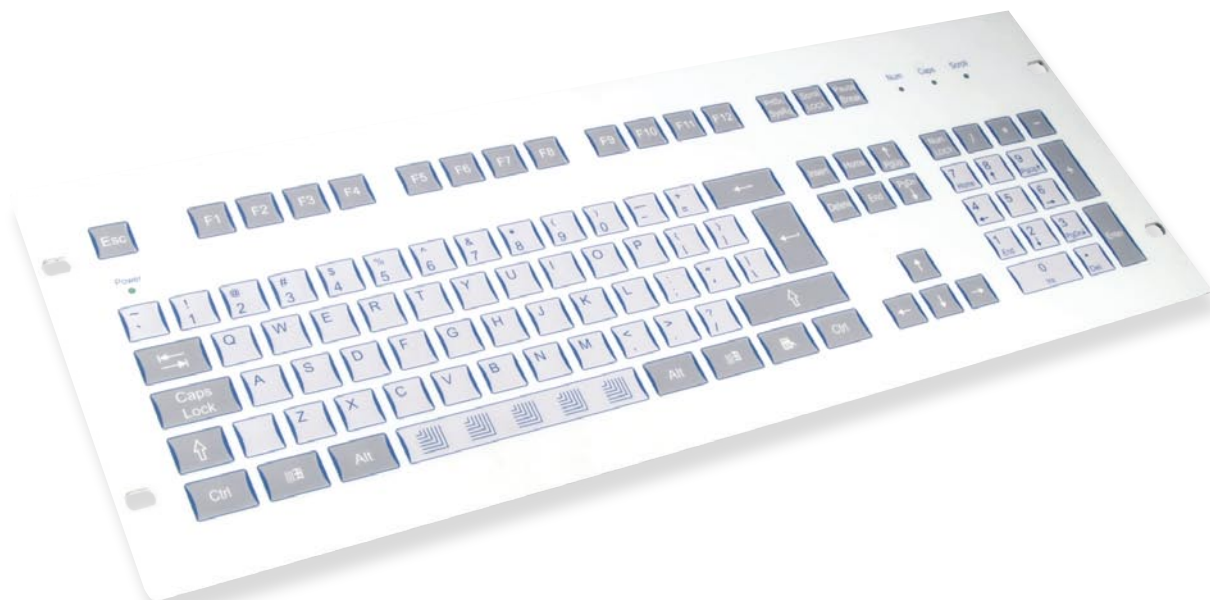
Motion Detection Method: capacitive

Resolution: 40 counts / mm



Cat.-No.	Product Name	
KS09405	TKS-105a-TOUCH-FP-3HE-PS/2-US	PS/2; US-Layout
KS09482	TKS-105a-TOUCH-FP-3HE-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-105a-FP-4HE



- FP-series contains front mounting drills for easy rack-mount integration

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	19" rack mount
Dimensions:	482.6 x 177.8 x 23 mm 19" x 7" x 0.90" (19"; 4 U)
Weight:	1500 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Front Panel Material:	aluminium

Cat.-No.	Product Name	
KS07221	TKS-105a-FP-PS/2-US	PS/2; US-Layout
KS09457	TKS-105a-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-105a-TBxx-FP-4HE

Specification

TKS-105a-TB38-FP

Dimensions: 482.6 x 177.8 x 48 mm
19" x 7" x 1.88"

Weight: 1600 g

Ball Diameter: 38 mm / 1.5"

Actuation Force : 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: IP54 dynamic; NEMA 3 (front)

TKS-105a-TB50oF80-FP

Dimensions: 482.6 x 177.8 x 48 mm
19" x 7" x 1.88"

Weight: 1900 g

Ball Diameter: 50 mm / 2"

Actuation Force: 80 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: *IP65; NEMA 6 (front)

Basic Specification: see page 18

Cat.-No.	Product Name	
KS08304	TKS-105a-TB38-FP-PS/2-US	PS/2; US-Layout
KS09470	TKS-105a-TB38-FP-USB-US	USB; US-Layout
KS01205	TKS-105a-TB50oF80-FP-PS/2-US	PS/2; US-Layout
KS01207	TKS-105a-TB50oF80-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-105a-TOUCH-FP-4HE

Specification

Dimensions: 482.6 x 177.8 x 23 mm
19" x 7" x 0.905"

Weight: 1500 g

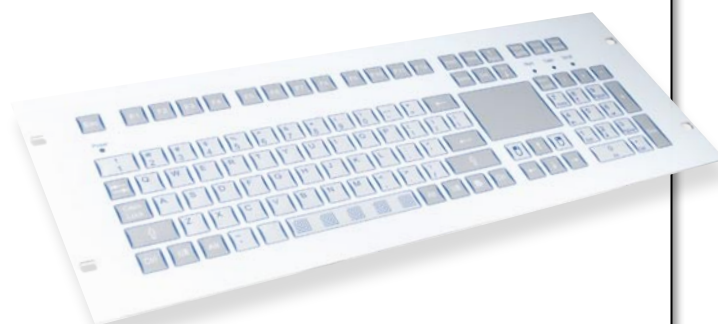
Basic Specification: see page 18

Specification Touchpad

Motion Detection Method: capacitive

Resolution: 40 counts / mm

Cat.-No.	Product Name	
KS07226	TKS-105a-TOUCH-FP-PS/2-US	PS/2; US-Layout
KS09478	TKS-105a-TOUCH-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-104a-KGEH



- A space saving Desktop version of the TKS series

Specification

Number of Keys:	104
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	desktop
Dimensions:	372 x 182 x 34 mm 14.64" x 7.16" x 1.34"
Weight:	1300 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

Cat.-No.	Product Name	
KS07201	TKS-104a-KGEH-PS/2-US	PS/2; US-Layout
KS09506	TKS-104a-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-088a-TB38-KGEH

Specification

Number of Keys: 88
 Dimensions: 372 x 182 x 43 mm
 14.64" x 7.16" x 1.7"
 Weight: 1500 g
 Basic Specification: see page 20

Specification Trackball

Ball Diameter: 38 mm / 1.5"
 Actuation Force : 50 g
 Trackball Lifetime: > 6 mil. revolutions
 Protection Level: IP65 static;
 IP54 dynamic;
 NEMA 3 (front)



Cat.-No.	Product Name	
KS08261	TKS-088a-TB38-KGEH-PS/2-US	PS/2; US-Layout
KS09508	TKS-088a-TB38-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-088a-TOUCH-KGEH

Specification

Number of Keys: 88
 Dimensions: 372 x 182 x 34 mm
 14.64" x 7.16" x 1.34"
 Weight: 1400 g
 Basic Specification: see page 20

Specification Touchpad

Motion Detection Method: capacitive
 Resolution: 40 counts / mm



Cat.-No.	Product Name	
KS07206	TKS-088a-TOUCH-KGEH-PS/2-US	PS/2; US-Layout
KS09510	TKS-088a-TOUCH-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-104a/b-MODUL



NEW



- TKS-105b-versions with foil edge protection

Specification

Number of Keys:	104
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	370 x 180 x 23 mm 14.56" x 7.08" x 0.905"
Weight:	1400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Front Panel Material:	aluminium

Cat.-No.	Product Name	
KS07231	TKS-104a-MODUL-PS/2-US	PS/2; US-Layout
KS09512	TKS-104a-MODUL-USB-US	USB; US-Layout
KS15011	TKS-104b-MODUL-PS/2-US	PS/2; US-Layout
KS15013	TKS-104b-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-088a/b-TB38-MODUL

Specification

Number of Keys:	88
Dimensions:	370 x 180 x 43 mm 14.56" x 7.08" x 1.7"
Weight:	1500 g
Basic Specification:	see page 22

Specification Trackball

Ball Diameter:	38 mm / 1.5"
Actuation Force :	50 g
Trackball Lifetime:	> 6 mil. revolutions
Protection Level:	IP65 static; IP54 dynamic; NEMA 3 (front)

Cat.-No.	Product Name	
KS08312	TKS-088a-TB38-MODUL-PS/2-US	PS/2; US-Layout
KS09520	TKS-088a-TB38-MODUL-USB-US	USB; US-Layout
KS15015	TKS-088b-TB38-MODUL-PS/2-US	PS/2; US-Layout
KS15017	TKS-088b-TB38-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



Also available: b-version with foil edge protection

NEW



TKS-088a/b-TOUCH-MODUL

Specification

Number of Keys:	88
Dimensions:	370 x 180 x 23 mm 14.56" x 7.08" x 0.905"
Weight:	1400 g
Basic Specifications:	see page 22

Specification Touchpad

Motion Detection Method:	capacitive
Resolution:	40 counts / mm

Cat.-No.	Product Name	
KS07236	TKS-088a-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS09524	TKS-088a-TOUCH-MODUL-USB-US	USB; US-Layout
KS15019	TKS-088b-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS15021	TKS-088b-TOUCH-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



Also available: b-version with foil edge protection

NEW

TKS-088b-TOUCH-AM-KGEH



INDUMEDICAL™



- Polyester front sheet with antimicrobial properties
- For an added level of protection against harmful microbes
- Still 99% efficiency after a simulated 15-year-use

Specification

Number of Keys:	88
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	desktop
Dimensions:	372 x 182 x 34 mm 14.645" x 7.165" x 1.33"
Weight:	1400 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

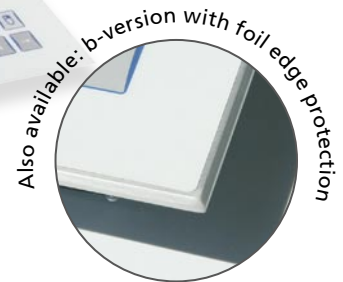
Specification Touchpad

Motion Detection Method:	capacitive
Resolution:	40 counts / mm

Cat.-No.	Product Name	
KS03213	TKS-088b-TOUCH-AM-KGEH-PS/2-US	PS/2; US-Layout
KS13209	TKS-088b-TOUCH-AM-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

NEW

TKS-105a/b-TB38-MODUL-USBPORT



- Keyboard front equipped with USB port
- Integrated 38mm-Trackball
- TKS-105b-version available with foil edge protection



Specification

Number of Keys:	88
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	desktop
Dimensions:	482,6 x 177,8 x 48 mm 19" x 7" x 1.89"
Weight:	1400 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

Specification USB Port

Version:	1.1
Power Supply:	100mA (PC connection)
Protection Level:	IP65; NEMA 4x

Specification Trackball

Ball Diameter:	38 mm / 1.5"
Actuation Force :	50 g
Trackball Lifetime:	> 6 mil. revolutions
Protection Level:	IP65 static; IP54 dynamic; NEMA 3 (front)

Cat.-No.	Product Name	
KS15023	TKS-105a-TB38-MODUL-USBPORT-USB-US	USB; US-Layout
KS15001	TKS-105b-TB38-MODUL-USBPORT-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-104a-SCHUBL



- The compact-size versions in a 19" drawer with only 1 U height
- Bend angle of 15° (pulled out)

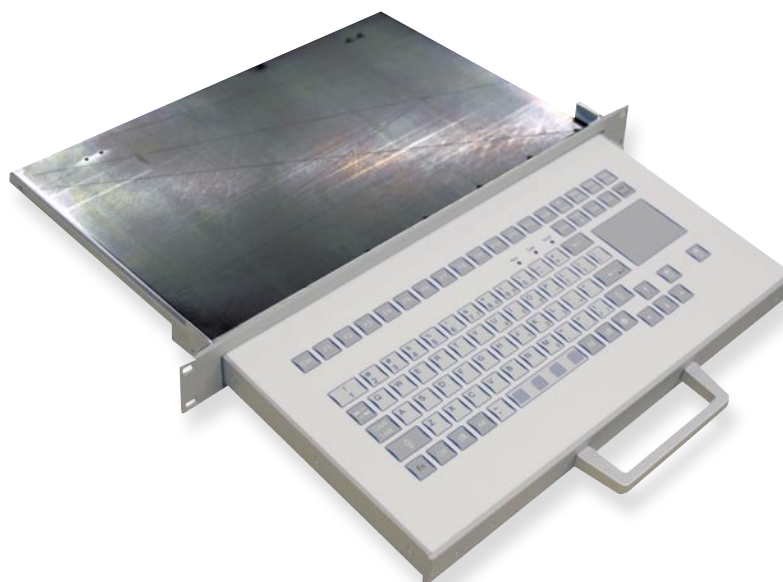
Specification

Number of Keys:	104
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4 (front)
Mounting Type:	19" rack mount
Dimensions:	482.6 x 43.5 x 280 mm (19"; 1U) 19" x 1.71" x 11.02"
Weight:	5000 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F

Cat.-No.	Product Name	
KS07426	TKS-104a-SCHUBL-PS/2-US	PS/2; US-Layout
KS09528	TKS-104a-SCHUBL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-088a-TOUCH-SCHUBL



- The compact-size versions in a 19" drawer with only 1 U height
- Bend angle of 15° (pulled out)



Specification

Number of Keys:	88
Dimensions:	482.6 x 43.5 x 280 mm (19"; 1U) 19" x 1.71" x 11.02"
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Basic Specification:	see page 26

Specification Touchpad

Motion Detection Method:	capacitive
Resolution:	40 counts / mm

Cat.-No.	Product Name	
KS07421	TKS-088a-TOUCH-SCHUBL-PS/2-US	PS/2; US-Layout
KS09530	TKS-088a-TOUCH-SCHUBL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-030-KGEH



Specification

Number of Keys:	30
Keyswitch Technology:	short travel keys
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	desktop
Dimensions:	125 x 150 x 31 mm 4.92" x 5.9" x 1.22"
Weight:	400 g
Operating Temperature:	0 °C to 50 °C 32 °F to 122 °F
Enclosure material:	polystyrene



Cat.-No.	Product Name	
KS07351	TKS-030-KGEH-PS/2-US	PS/2; US-Layout
KS07352	TKS-030-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKS-030-TOUCH-KGEH



Specification

Dimensions:	151 x 196 x 28 mm 5.94" x 7.7" x 1.1"
Weight:	400 g
Basic Specification:	see above

Specification Touchpad

Motion Detection Method:	capacitive
Active Area:	60 x 44 mm 2.36" x 1.73"



Cat.-No.	Product Name	
KS09222	TKS-030-TOUCH-KGEH-PS/2-US	PS/2; US-Layout
KS14003	TKS-030-TOUCH-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKS-030/030b-MODUL

- The b-versions with protected foil edge

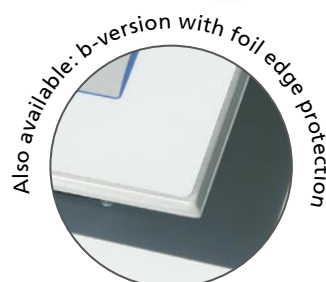
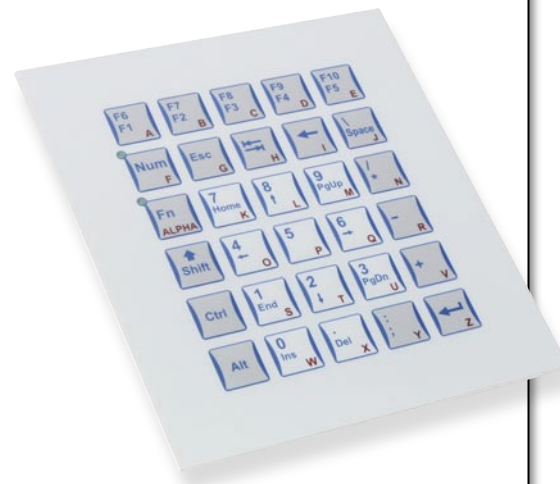


Specification

Number of Keys:	30
Keyswitch Technology:	short travel keys
Actuation Force/-Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Dimensions: -TKS-030...-	137.3 x 154 x 25 mm 5.40" x 6.06" x 0.98"
-TKS-030b...-	141 x 157 x 25 mm 5.55" x 6.18" x 0.98"
Weight:	260 g
Operating Temperature:	0 °C to 50 °C 32 °F to 122 °F
Frontpanel:	aluminium

Cat.-No.	Product Name	
KS08461	TKS-030-MODUL-PS/2-US	PS/2; US-Layout
KS08466	TKS-030-MODUL-USB-US	USB; US-Layout
KS14028	TKS-030b-MODUL-PS/2-US	PS/2; US-Layout
KS14030	TKS-030b-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKS-030/030b-TOUCH-MODUL

- The b-versions with protected foil edge



Specification

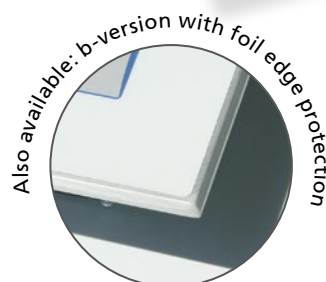
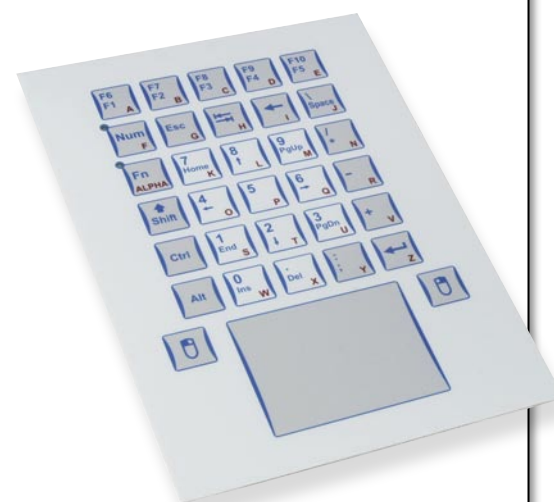
Dimensions: -TKS-030...-	140 x 195 x 25 mm 5.51" x 7.67" x 0.98"
-TKS-030b...-	141 x 196 x 25 mm 5.55" x 7.71" x 0.98"
Weight:	360 g
Basic Specification:	see above

Specification Touchpad

Motion Detection Method:	capacitive
Active Area:	60 x 44 mm 2.36" x 1.73"

Cat.-No.	Product Name	
KS02031	TKS-030-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS14001	TKS-030-TOUCH-MODUL-USB-US	USB; US-Layout
KS14032	TKS-030b-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KS14034	TKS-030b-TOUCH-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKS-030-FP



- Numpad with F-keys contains front mounting drills for easy rack-mount integration

Specification

Number of Keys:	30
Keyswitch Technology:	short travel keys
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Dimensions:	150 x 125 x 30 mm 5.9" x 4.92" x 1.18"
Weight:	400 g
Operating Temperature:	0 °C to 50 °C 32 °F to 122 °F
Enclosure material:	polystyrene

Cat.-No.	Product Name	
KS08460	TKS-030-FP-PS/2-US	PS/2; US-Layout
KS08464	TKS-030-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



Gold-on-Gold Dome Keyboards

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

Features and benefits:

- Gold-on-gold keys consisting of a gold metal dome on gold PCB-contact
- Positive tactile feedback and key embossing
- Integrated trackball, touchpad or joystick
- PS/2 and USB compatible
- 19 inch 1U drawer compatible units
- Desktop and panel-mount versions available
- Rugged construction for reliable functionality
- Chemical, abrasion and scratch resistant frontsheet
- Ergonomic design
- IP65 (NEMA 4x) sealing
- > 1 million operations per key
- Semi or full customisation available
- Activation force 3 N / key travel 0,55 mm
- Reinforced PCB (FR4- material) for mechanical stability
- Cost-effective
- Backlit versions available

TKF-085c-MGEH



InduStyle™



Only 15.5 mm height



- Only 15.5 mm height
- Solid aluminium enclosure
- VESA-mounting available on request

Specification

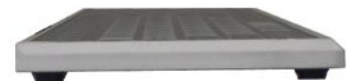
Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Activation Force/ -Travel	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65
Mounting Type:	desktop
Dimensions:	261 x 116 x 15.5 mm 10.27" x 4.56" x 0.61"
Weight:	900 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Material:	milled solid aluminium

Cat.-No.	Product Name	
KF02061	TKF-085c-MGEH-PS/2-US	PS/2; US-Layout
KF02063	TKF-085c-MGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

InduStyle™



TKF-085c-TOUCH-MGEH



Only 15.5 mm height

- Only 15.5 mm height
- Solid aluminium enclosure
- VESA-mounting available on request
- With integrated touchpad



Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Activation Force/ -Travel	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65
Mounting Type:	desktop
Dimensions:	335.5 x 116 x 15.5 mm 13.20" x 4.56" x 0.61"
Weight:	1100 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Material:	milled solid aluminium

Specification Touchpad

Motion Detection Method:	capacitive
Active Area:	23.6" x 17.3"

Cat.-No.	Product Name	
KF02067	TKF-085c-TOUCH-MGEH-PS/2-US	PS/2; US-Layout
KF02069	TKF-085c-TOUCH-MGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-KGEH



- VESA-mounting available on request
- Very small dimensions

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	desktop
Dimensions:	275 x 139 x 35 mm 10.83" x 5.47" x 1.38"
Weight:	700 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Material:	polystyrene

Cat.-No.	Product Name	
KF08289	TKF-085a-KGEH-PS/2-US	PS/2; US-Layout
KF09451	TKF-085a-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-TB38-KGEH

- VESA-mounting available on request



Specification

Dimensions: 350 x 139 x 38 mm
13.78" x 5.47" x 1.5"

Weight: 700g

Basic Specification: see page 34

Specification Trackball

Ball Diameter: TB38: 38 mm (1.5")
Actuation Force: TB38: 50 g
Trackball Lifetime: > 6 mil. revolutions
Protection Level: IP65 static; NEMA 4x (front);
IP54 dynamic; NEMA 3/13



Cat.-No.	Product Name	
KF08281	TKF-085a-TB38-KGEH-PS/2-US	TB38; PS/2; US-Layout
KF09447	TKF-085a-TB38-KGEH-USB-US	TB38; USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKF-085a-TOUCH-KGEH

- VESA-mounting available on request



Specification

Dimensions: 350 x 139 x 38 mm
13.78" x 5.47" x 1.5"

Weight: 700 g

Basic Specification: see page 34

Specification Touchpad

Motion Detection Method: capacitive
Active Area: 60 x 44 mm



Cat.-No.	Product Name	
KF08285	TKF-085a-TOUCH-KGEH-PS/2-US	PS/2; US-Layout
KF09449	TKF-085a-TOUCH-KGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-MODUL



- Very flat keyboard with rugged edge protection

Specification

Number of keys:	85
Keyswitch Technology:	gold-on-gold-domes
Actuation Force/ -Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Electronic Interface:	PS/2, USB
Dimensions:	244 x 108 x 15 mm 9.60" x 4.25" x 0.59"
Weight:	375 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium

Cat.-No.	Product Name	
KF08266	TKF-085a-MODUL-PS/2-US	PS/2; US-Layout
KF09433	TKF-085a-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-TB38-MODUL

- Very flat keyboard with rugged edge protection



Specification

Ball Diameter:	38 mm (1.5")
Actuation Force:	50 g
Trackball Lifetime:	> 6 mil. Revolutions
Protection Level:	IP65 static; NEMA 4x (front); IP54 dynamic; NEMA 3/13
Mounting Type:	panel mount
Electronic Interface:	PS/2, USB
Dimensions:	365 x 135 x 30 mm 14.37" x 5.31" x 1.18"
Weight:	550 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium
Basic Specification:	see page 36



Cat.-No.	Product Name	
KF08258	TKF-085a-TB38-MODUL-PS/2-US	PS/2; US-Layout
KF09439	TKF-085a-TB38-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKF-085a-TOUCH-MODUL

- Very flat keyboard with rugged edge protection



Specification

Motion Detection Method:	Capacitive
Resolution:	40 counts / mm
Protection level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Electronic Interface:	PS/2, USB
Dimensions:	365 x 135 x 20 mm 14.37" x 5.31" x 0.78"
Weight:	500 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium
Basic Specification:	see page 36



Cat.-No.	Product Name	
KF08262	TKF-085a-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KF09443	TKF-085a-TOUCH-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-FP



- Very flat front panel keyboard with rugged edge protection

Specification

Number of keys:	85
Keyswitch Technology:	gold-on-gold-domes
Actuation Force/ -Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Electronic Interface:	PS/2, USB
Dimensions:	244 x 108 x 15 mm 9.60" x 4.25" x 0.59"
Weight:	375 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium

Cat.-No.	Product Name	
KF08231	TKF-085a-FP-PS/2-US	PS/2; US-Layout
KF09405	TKF-085a-FP-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request

TKF-085a-TB38-FP

- Very flat front panel keyboard with rugged edge protection



Specification

Ball Diameter:	38 mm (1.5")
Actuation Force:	50 g
Trackball Lifetime:	> 6 mil. Revolutions
Protection Level:	IP65 static; NEMA 4x (front); IP54 dynamic (NEMA 3/13)
Mounting Type:	rack mount
Electronic Interface:	PS/2, USB
Dimensions:	365 x 135 x 30 mm 14.37" x 5.31" x 1.18"
Weight:	550 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium
Basic Specification:	see page 38



Cat.-No.	Product Name	
KF08248	TKF-085a-TB38-FP-PS/2-US	PS/2; US-Layout
KF09425	TKF-085a-TB38-FP-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKF-085a-TOUCH-FP

- Very flat front panel keyboard with rugged edge protection



Specification

Motion Detection Method:	capacitive
Resolution:	40 counts / mm
Protection level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Electronic Interface:	PS/2, USB
Dimensions:	365 x 135 x 20 mm 14.37" x 5.31" x 0.78"
Weight:	500 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontpanel Material:	aluminium
Basic Specification:	see page 38



Cat.-No.	Product Name	
KF08252	TKF-085a-TOUCH-FP-PS/2-US	PS/2; US-Layout
KF09429	TKF-085a-TOUCH-FP-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request

TKF-085b-MODUL



Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	274 x 135 x 20 mm 10.78" x 5.31" x 0.78"
Weight:	400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB material, FR4

Cat.-No.	Product Name	
KF02001	TKF-085b-MODUL-PS/2-US	PS/2; US-Layout
KF02003	TKF-085b-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085b-TB38-MODUL

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type	panel mount
Dimensions:	365 x 135 x 30 mm 14.37" x 5.31" x 1.18"
Weight:	450 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB-material, FR4
Specification Trackball:	see page 37



Cat.-No.	Product Name	
KF02021	TKF-085b-TB38-MODUL-PS/2-US	PS/2; US-Layout
KF02023	TKF-085b-TB38-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKF-085b-TOUCH-MODUL

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	365 x 135 x 20 mm 14.37" x 5.31" x 0.787"
Weight:	350 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB-material, FR4
Specification Touchpad:	see page 37



Cat.-No.	Product Name	
KF02031	TKF-085b-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KF02033	TKF-085b-TOUCH-MODUL-USB-US	USB; US-Layout

Other language versions/interfaces/configuration available on request

TKF-085b-FP



- FP-series contains front mounting drills for easy rack-mount integration

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Dimensions:	263.9 (52 U) x 128.4 (3U) x 20 mm 10.39" x 5.05" x 0.79"
Weight:	400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB material, FR4

Cat.-No.	Product Name	
KF02011	TKF-085b-FP-PS/2-US	PS/2; US-Layout
KF02013	TKF-085b-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085b-TB38-FP

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Dimensions:	340.6 x 128.4 x 16 mm 13.4" x 5.05" x 0.62"
Weight:	400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB-material, FR4
Specification Trackball:	see page 37



Cat.-No.	Product Name	
KF15001	TKF-085b-TB38-FP-PS/2-US	PS/2; US-Layout
KF15003	TKF-085b-TB38-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKF-085b-TOUCH-FP

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	rack mount
Dimensions:	340.6 x 128.4 x 16 mm 13.4" x 5.05" x 0.62"
Weight:	400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:	PCB-material, FR4
Specification Touchpad:	see page 37



Cat.-No.	Product Name	
KF02041	TKF-085b-TOUCH-FP-PS/2-US	PS/2; US-Layout
KF02043	TKF-085b-TOUCH-FP-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKF-085a-OEM



- Keyboard for flexible mounting by an adhesive backing

Specification

Number of Keys:	85
Keyswitch Technology:	gold-on-gold domes
Actuation Force/-Travel:	3 N / 0.55 mm
Keyswitch Lifetime:	2 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	adhesive backing
Dimensions:	244 x 108 x 15 mm 9.60" x 4.25" x 0.59"
Weight:	300 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontpanel-Material:	PCB material, FR4

Cat.-No.	Product Name	
KF08226	TKF-085a-OEM-PS/2-US	PS/2; US-Layout
KF13001	TKF-085a-OEM-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



Intrinsically Safe Keyboards

Intrinsically safe keyboards are ideal for systems that exist in potentially explosive environments. That does not only apply to the „classical“ potentially explosive areas such as tank farms and mines, but to an increasing extent also to industrial environments. There are two possibilities for avoiding explosions – either to prevent the development of an explosive atmosphere or to prevent the ignition of such an atmosphere. Often it is not possible to eliminate an explosive atmosphere. Consequently, the ignition of such an explosive mixture must be avoided. For this, any devices that are applied in potentially explosive environments and that may pose a potential source of ignition must be constructed in such a way that an ignition is made impossible.

TKS-105a-EX-MGEH



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)



- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Available in stainless-steel enclosure or aluminium front panel
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (frontside)
Mounting Type:	desktop
Electronic Interface:	PS/2 (Power supply unit)
Dimensions:	508 x 213 x 52 mm 20" x 8.38" x 2.05"
Weight:	5700 g
Operating Temperature:	0 °C to +50 °C 32 °F to 122 °F
Frontplate Material:	aluminium
Enclosure Material:	stainless steel

Cat.-No.	Product Name	
KS02011	TKS-105-EX-MGEH-US	Enclosed version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		



TKS-105a-EX-TB50-MGEH



- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Stainless-steel enclosure
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas

Specification

Dimensions: 508 x 213 x 52 mm
20" x 8.38" x 2.05"

Weight: 6000 g

Basic Specification: see page 46

Specification Trackball

Ball Diameter: 50 mm / 2"

Actuation Force : 50 g

Trackball Lifetime: > 6 mil. revolutions



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)

Cat.-No.	Product Name	
KS02013	TKS-105-EX-TB50-MGEH-US	Enclosed version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		



TKS-105a-EX-TOUCH-MGEH



- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Available in stainless-steel enclosure or aluminium front panel
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas

Specification

Dimensions: 508 x 213 x 52 mm
20" x 8.38" x 2.05"

Weight: 5800 g

Basic Specification: see page 46

Specification Touchpad

Motion Detection Method: capacitive

Resolution: 40 counts / mm



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)

Cat.-No.	Product Name	
KS02015	TKS-105-EX-TOUCH-MGEH-US	Enclosed version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		

TKS-105a-EX-MODUL



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)



- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas

Specification

Number of Keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	2.6 N / 0.3 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP65; NEMA 4x (frontside)
Mounting Type:	panel mount
Electronic Interface:	PS/2 (Power supply unit)
Dimensions:	482.6 x 177.8 x 15 mm 19" x 7" x 0.59"
Weight:	1500 g
Operating Temperature:	0 °C to +50 °C 32 °F to 122 °F
Frontplate Material:	aluminium

Cat.-No.	Product Name	
KS09216	TKS-105-EX-MODUL-US	Panel version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		



TKS-105a-EX-TB50-MODUL

- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas



Specification

Dimensions: 482.6 x 177.8 x 54 mm
19" x 7" x 2.125"

Weight: 1900 g

Basic Specification: see page 48

Specification Trackball

Ball Diameter: 50 mm / 2"

Actuation Force : 50 g

Trackball Lifetime: > 6 mil. revolutions

Cat.-No.	Product Name	
KS09220	TKS-105-EX-TB50-MODUL-US	Panel version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)



TKS-105a-EX-TOUCH-MODUL

- EX-approval II 2G, EEx ib IIC T4, DMT 01 ATEX E 177
- Power supply unit always necessary to fulfil the EX-approvals
- For use in Hazardous Areas



Specification

Dimensions: 482,6 x 177,8 x 23 mm
19" x 7" x 0.905"

Weight: 1400 g

Basic Specification: see page 48

Specification Touchpad

Motion Detection Method: capacitive

Resolution: 40 counts / mm

Cat.-No.	Product Name	
KS09218	TKS-105-EX-TOUCH-MODUL-US	Panel version; US-Layout
KA09210	TKA-EX-VERSORGUNG-TKS	Barrier (Power Supply Unit)
Other language versions/interfaces/configuration available on request		



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)

TKG-105-EX-IP68-GREY

TKH-MAUS-EX-IP68-GREY-OPT



TKA-EX-VERSORGUNG-TKS
(Power Supply Unit)



- Keyboard Ex-approval II 2 G EEx ia IIC T4 / II 2D T79°C IP68
- Mouse Ex-approval II 2 G EEx ia IIC T4 / II 2D T65°C IP68
- Power supply unit always necessary to fulfil the EX-approvals
- IP69k sealed
- For use in Hazardous Areas

Specification Keyboard

Number of keys:	105
Keyswitch Technology:	short travel keys
Actuation Force/ -Travel:	3.0 N / 0.3 mm
Keyswitch Lifetime:	3 mil operations
Protection Level:	IP69k; NEMA 6 + 6P
Mounting Type:	desktop
Electronic Interface:	PS/2
Dimensions:	387 x 150 x 20 mm 15.24" x 5.90" x 0.79"
Weight:	1400 g
Operation Temperature:	-20 °C to +50 °C -4 °F to +122 °F
Enclosure Material:	silicone; aluminium (rear side)

Specification Mouse

Number of keys:	2
Motion detection method:	optical
Resolution:	800 dpi
Protection level:	IP69k; NEMA 6 + 6P
Electronic Interface:	PS/2
Dimensions:	127 x 63 x 33 mm 5" x 2.48" x 1.3"
Weight:	200 g
Operation Temperature:	-20 °C to +50 °C -4 °F to +122 °F
Enclosure Material:	silicone, aluminium (rear side)

Cat.-No.	Product Name	
KG14046	TKG-105-EX-IP68-GREY-PS/2-US	PS/2; US-Layout
KH14001	TKH-MAUS-EX-IP68-GREY-OPT-PS/2	PS/2
KA08201	TKA-INTERFACE-EX	Barrier (Power Supply Unit)

Other language versions/interfaces/configuration available on request



IP68-Keyboards and Mice

These keyboards have been developed for industries where ease of cleaning or disinfecting is a must, e.g. medical, pharmaceutical, chemical and food manufacturing industries, as the rounded keytops of the InduProof² are easy to clean. The keyboards have a wear and tear resistant silicone surfacae with special Dura-coating for excellent mechanical and chemical resistance. The silicone mat is glued to a 3 mm thick aluminium base plate creating an IP68 protection. High quality switches assure accurate and tactile data input. The keyboards and mice are sealed to IP68 which means they can be submerged in up to 3 meters of liquid. Due to the functionality within an extreme temperature range of -40°C to +90°C the keyboards and mice a must in any hygiene critical medical environment. The mouse shows the same construction quality and can be used on almost any surface thanks to its reliable optical engine. The keyboards and mice are available in grey and black.

Features and benefits:

- OMRON mechanical switches (InduProof, InduProof²)
- Gold-on-Gold Domes (InduProof³)
- Carbon-on-gold-contact (InduProof^{med})
- Extreme temperature range of -40°C to +90°C
- Positive tactile feedback
- Integrated mouse button or separate optical mouse
- Antimicrobial surface
- 19 inch drawer compatible units
- Rugged construction for reliable functionality
- Special Dura-coating for excellent mechanical and chemical resistance
- Ergonomic design
- IP68 sealing, can be submerged in liquid
- Semi or full customisation available
- Backlit versions available

TKG-105-MED-IP68



InduProof^{med}



- An antimicrobial agent inhibits the growth of germs
- Completely clean- and disinfectable
- The keys are easy to press

Specification Keyboard

Number of keys:	105
Keyswitch Technology:	carbon-on-gold-contact
Actuation Force/ -Travel:	2 N / 1.0 mm
Keyswitch Lifetime:	5 mil operations
Protection Level:	IP68; NEMA 6P
Mounting Type:	desktop
Dimensions:	385 x 160 x 20 mm 15.10" x 6.3" x 0.79"
Weight:	1600 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	silicone
Enclosure Colour:	-BLACK- similar RAL9017 -GREY- similar RAL9002

Cat.-No.	Product Name	
KG14011	TKG-105-MED-IP68-GREY-PS/2-US	PS/2; US-Layout
KG14013	TKG-105-MED-IP68-GREY-USB-US	USB; US-Layout
KG15001	TKG-105-MED-IP68-BLACK-PS/2-US	PS/2; US-Layout
KG15003	TKG-105-MED-IP68-BLACK-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKH-MAUS-MED-IP68

InduMouse^{med}™



- An antimicrobial agent inhibits the growth of germs
- Completely clean- and disinfectable



Specification Mouse

Number of keys:	2
Motion detection method:	optical
Resolution:	800 dpi
Protection level:	IP68; NEMA 6P
Dimensions:	127 x 63 x 33 mm 5" x 2.48" x 1.3"
Weight:	200 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	silicone; aluminium (rear side)
Enclosure Colour:	-GREY- similar RAL9002 -BLACK- similar RAL9017

Cat.-No.	Product Name	
KH14007	TKH-MOUSE-MED-IP68-GREY-OPT-PS/2	PS/2
KH14008	TKH-MOUSE-MED-IP68-GREY-OPT-USB	USB
KH15001	TKH-MOUSE-MED-IP68-BLACK-OPT-PS/2	PS/2
KH15002	TKH-MOUSE-MED-IP68-BLACK-OPT-USB	USB
Other interfaces/configuration available on request		

TKG-086-MB-IP68


InduProof³™


- Easy to clean and disinfect
- With integrated Mousebutton
- Vesa mounting available on request

Specification Keyboard

Number of Keys:	86
Keyswitch Technology:	gold-on-gold domes
Activation Force/ -Travel:	3.5 N / 0.35 mm
Keyswitch Lifetime:	2 mil operations
Protection Level:	IP68; NEMA 6P
Mounting Type:	desktop
Dimensions:	320 x 145 x 20 mm 12.6" x 5.71" x 0.79"
Weight:	950 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017
Cursor motion detection:	hall sensor
Resolution:	800 dpi

Cat.-No.	Product Name	
KG13001	TKG-086-MB-IP68-GREY-PS/2-US	PS/2; US-Layout
KG13003	TKG-086-MB-IP68-GREY-USB-US	USB; US-Layout
KG13005	TKG-086-MB-IP68-BLACK-PS/2-US	PS/2; US-Layout
KG13007	TKG-086-MB-IP68-BLACK-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKG-086-MB-IP68-BACKL

InduProof³™



- LED powered backlight function with 8-level dimmer
- Long LED lifetime and low power consumption
- With integrated Mousebutton
- Vesa mounting available on request



Specification Keyboard

Number of Keys:	86
Keyswitch Technology:	gold-on-gold domes
Activation Force/ -Travel:	5.5 N / 0.35 mm
Keyswitch Lifetime:	2 mil operations
Protection Level:	IP68; NEMA 6P
Mounting Type:	desktop
Dimensions:	320 x 145 x 20 mm 12.6" x 5.71" x 0.79"
Weight:	950 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Colour: -BLACK:	similar RAL9017
Cursor motion detection:	hall sensor
Resolution:	800 dpi

Cat.-No.	Product Name	
KG13009	TKG-086-MB-IP68-BACKL-PS/2-US	BACKLIGHT; PS/2; US-Layout
KG13011	TKG-086-MB-IP68-BACKL-USB-US	BACKLIGHT; USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKG-105-IP68-GREY/BLACK



InduProof²™



- Complete MFII-Layout
- VESA-mounting available on request

Specification Keyboard

Number of Keys:	105
Keyswitch Technology:	short travel switches
Activation Force/ -Travel:	3.0 N / 0.35 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP68; NEMA 6P
Mounting Type:	desktop
Dimensions:	387 x 150 x 20 mm 15.24" x 5.90" x 0.79"
Weight:	1400 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017

Cat.-No.	Product Name	
KG02003	TKG-105-IP68-GREY-PS/2-US	grey; PS/2; US Layout
KG02005	TKG-105-IP68-GREY-USB-US	grey; USB; US Layout
KG02434	TKG-105-IP68-BLACK-PS/2-US	black; PS/2; US Layout
KG02435	TKG-105-IP68-BLACK-USB-US	black; USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKH-MOUSE-IP68-GREY/BLACK

InduMouse™



- Dura coating for excellent mechanical and chemical resistance
- Completely sealed
- Rugged construction



Specification Mouse

Number of keys:	2
Motion detection method:	optical
Resolution:	800 dpi
Protection Level:	IP68; NEMA 6P
Dimensions:	127 x 63 x 33 mm 5" x 2.48" x 1.3"
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Weight:	200 g
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017

Cat.-No.	Product Name	
KH01220	TKH-MOUSE-IP68-GREY-OPT-PS/2	PS/2; grey
KH01221	TKH-MOUSE-IP68-GREY-OPT-USB	USB; grey
KH02410	TKH-MOUSE-IP68-BLACK-OPT-PS/2	PS/2; black
KH02408	TKH-MOUSE-IP68-BLACK-OPT-USB	USB; black
Other interfaces/configuration available on request		

TKG-105-MB-IP68



InduProof™



- VESA-mounting available on request
- Integrated Mousebutton

Specification Keyboard

Number of Keys:	105 + 2 Mouse buttons
Keyswitch Technology:	short travel keys
Actuation Force/ Travel:	3.0 N / 0.35 mm
Keyswitch Lifetime:	3 mil. operations
Protection Level:	IP68; NEMA 6P
Mounting Type:	desktop
Dimensions:	387 x 145 x 28 mm 15.236" x 5.708" x 1.102"
Weight:	1500 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F

Specification Mousebutton

Motion Detection Method:	pressure mouse sensor
Protection Level:	IP68; NEMA 6P
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017

Cat.-No.	Product Name	
KG09203	TKG-105-MB-IP68-PS/2-US	PS/2; US Layout
KG09205	TKG-105-MB-IP68-USB-US	USB; US Layout
KG01416	TKG-105-MB-IP68-BLACK-PS/2-US	PS/2; US Layout
KG01418	TKG-105-MB-IP68-BLACK-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



Vandal Proof Stainless Steel Keyboards

These Stainless Steel Keyboards have been specially developed for the POI and heavy industrial markets. The stainless steel front plate and key caps protect the internal electronics from vandalism and heavy impact. A silicone membrane between the keycaps and the silicone switching elements prevents any ingress from liquid and dust and is sealed up to IP65 standards. In addition, the keyboard is also available with either a 25 mm respectively 38 mm stainless steel trackball or capacitive touchpad. The trackball is sealed to IP65 standards when static and IP54 when in motion. All legends are laser etched into the key caps which guarantees high wear and tear resistance.

Features and benefits:

- Robust and durable
- Silicone switching elements
- 25 or 38 mm stainless steel integrated trackball or touchpad available
- Black resin trackball available on request
- PS/2 and USB compatible
- Panel-mount version with mounting studs on rear side
- Laser engraved key legends for excellent durability
- Non removable keycaps
- High operating comfort and good tactile feedback
- IP65 (NEMA 4x) sealing, water and dust proof
- >10 million operations per key
- Activation force 1 N / key travel 1.5 mm
- Semi or full customisation available

TKV-105-TB38V-MODUL

InduSteel³™



- MFII-layout with integrated 38mm-trackball
- Ergonomical keytops

Specification

Number of Keys:	105
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Electronic Interface:	PS/2; USB
Dimensions:	446 x 145 x 36 mm 18.89" x 7.16" x 1.42"
Weight:	2650 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Specification Trackball

Ball Diameter:	38 mm (1.5")
Actuation Force:	65 g
Trackball Lifetime:	> 6 mil. revolutions
Protection Level:	IP65 static; NEMA 4x; IP54 dynamic (NEMA 3/13)

Cat.-No.	Product Name	
KV14006	TKV-105-TB38V-MODUL-PS/2-US	PS/2; US-Layout
KV14008	TKV-105-TB38V-MODUL-USB-US	USB; US-Layout
KY14205	TKV-105-TB38V-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		

InduSteel²™



- Kiosk designed web- and e-mail-hot keys



Specification

Number of Keys:	68
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Electronic Interface:	PS/2; USB
Dimensions:	375 x 125 x 33 mm 14.76" x 4.92" x 1.3"
Weight:	1600 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Specification Trackball

Ball Diameter:	38 mm (1.5")
Actuation Force:	65 g
Protection Level:	IP65 static; NEMA 4x; IP54 dynamic (NEMA 3/13)

Cat.-No.	Product Name	
KV03001	TKV-068-TB38V-MODUL-PS/2-US	PS/2; US-Layout
KV03003	TKV-068-TB38V-MODUL-USB-US	USB; US-Layout
KY13003	TKY-068-TB38V-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		

TKV-084-TB25V-MODUL

InduSteel™



- Compact dimensions for space saving applications

Specification

Number of Keys:	84
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	385 x 145 x 33 mm 15.15" x 5.70" x 1.3"
Weight:	1700 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Specification Trackball

Ball Diameter:	25 mm; 0.98"
Actuation Force:	65 g
Protection Level:	IP65 static (NEMA 4x); IP54 dynamic (NEMA 3/13)

Cat.-No.	Product Name	
KV01211	TKV-084-TB25V-MODUL-PS/2-US	PS/2; US-Layout
KV01217	TKV-084-TB25V-MODUL-USB-US	USB; US-Layout
KY13001	TKY-084-TB25V-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		



InduSteel™



- Metal keyboard with integrated touchpad



Specification

Number of Keys:	84
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	385 x 145 x 30 mm; 15.15" x 5.71" x 1.18"
Weight:	2000 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Specification Touchpad

Motion Detection Method:	capacitive
Active Area:	60 x 44 mm 2.36" x 1.73"
Protection Level:	IP65; NEMA 4x

Cat.-No.	Product Name	
KV13001	TKV-084-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KV13003	TKV-084-TOUCH-MODUL-USB-US	USB; US-Layout
KY13004	TKY-084-TOUCH-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		

TKV-084-MODUL



InduSteel™

Specification

Number of Keys:	84
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	295 x 145 x 30 mm 11.61" x 5.71" x 1.18"
Weight:	1700 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Cat.-No.	Product Name	
KV01209	TKV-084-MODUL-PS/2-US	PS/2; US-Layout
KV01215	TKV-084-MODUL-USB-US	USB; US-Layout
KY13000	TKY-084-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		

TKV-068-MODUL



InduSteel²™

Specification

Number of Keys:	68
Keyswitch Technology:	silicone switching element
Actuation Force/-Travel:	1 N / 1.5 mm
Keyswitch Lifetime:	10 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	300 x 125 x 26 mm 11.81" x 4.92" x 1.02"
Weight:	1600 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	stainless steel

Cat.-No.	Product Name	
KV03005	TKV-068-MODUL-PS/2-US	PS/2; US-Layout
KV03007	TKV-068-MODUL-USB-US	USB; US-Layout
KY13002	TKY-068-MODUL-GASKET	Gasket
Other language versions/interfaces/configuration available on request		



Silicone Keyboards

The TKS-083-Serie comes in two models: powder coated aluminium frontplate with silicone keys or anodized aluminium frontplate with metal coated silicone keys. Based on carbon-on-gold switching technology, these keyboards can be used in many different industries from laboratories to POI to noise sensitive environments. These ultra quiet keyboards allow multiple users to simultaneously use the keyboards where noise levels are required to be kept to a minimum. The anodized aluminium version with metal coated keys will aesthetically compliment any POI system and is strong enough to withstand heavy use. The keyboards are sealed to IP65 standards and are available as panel-mount or desktop. Pointing device options include 38 mm trackball or touchpad. We offer semi or full customisation on these keyboards.

Features and benefits:

- Carbon-on-gold switching elements
- Positive tactile feedback
- Integrated trackball or touchpad
- PS/2 and USB compatible
- Desktop or panel mount versions available
- Special Dura-coating on keys for excellent mechanical and chemical resistance
- Ergonomic design
- IP65 sealing, water and dust proof
- 10 million operations per key
- Semi- or full customisation available
- Activation force 1.2 N / key travel 1.2 mm
- Silver version is a low cost alternative for stainless steel keyboards

TKG-083-MODUL-SILVER



- The low-cost alternative for a stainless steel keyboard
- Metal look finish

Specification

Number of Keys:	83
Keyswitch Technology:	carbon-on-gold contact
Actuation Force/-Travel:	1.2 N / 1.2 mm
Keyswitch Lifetime:	5 mil. operations
Protection Level:	IP65; NEMA 4x (front)
Mounting Type:	panel mount
Dimensions:	305 x 134 x 10 mm 12" x 5.28" x 0.39"
Weight:	500 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Frontplate Material:	aluminium (anodized)

Cat.-No.	Product Name	
KG00201	TKG-083-MODUL-SILVER-PS/2-US	PS/2; US-Layout
KG00203	TKG-083-MODUL-SILVER-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKG-083-TB38-MODUL-SILVER

Specification

Dimensions: 405 x 135 x 45 mm
15.94" x 5.31" 1.77"

Weight: 650 g

Basic Specification see page 66

Specification Trackball

Ball Diameter: 38 mm (1.5")

Actuation Force: 50 g

Trackball Lifetime: > 6 mil. revolutions

Protection Level: IP65 static;
IP54 dynamic; NEMA 3



Cat.-No.	Product Name	
KG00205	TKG-083-TB38-MODUL-SILVER	PS/2; US-Layout
KG00207	TKG-083-TB38-MODUL-SILVER	USB; US-Layout

Other language versions/interfaces/configuration available on request



TKG-083-TOUCH-MODUL-SILVER

Specification

Dimensions: 405 x 135 x 15 mm
15.94" x 5.31" x 0.59"

Weight: 550 g

Basic Specification: see page 66

Specification Touchpad

Motion Detection Method: capacitive

Active Area: 60 x 44 mm

2.36" x 1.73"



Cat.-No.	Product Name	
KG00209	TKG-083-TOUCH-MODUL-SILVER	PS/2; US-Layout
KG00211	TKG-083-TOUCH-MODUL-SILVER	USB; US-Layout

Other language versions/interfaces/configuration available on request

TKG-083b-MGEH



- Robust stainless steel enclosure
- VESA-mounting available on request

Specification

Number of Keys:	83
Keyswitch Technology:	carbon-on-gold-contact
Actuation Force/Travel:	1.2 N / 1.2 mm
Keyswitch Lifetime:	5 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	345 x 190 x 50 mm 13.58" x 7.48" x 1.97"
Weight:	1900 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Front Material:	aluminium
Enclosure Material:	stainless steel

Cat.-No.	Product Name	
KG15005	TKG-083b-MGEH-PS/2-US	PS/2; US-Layout
KG15007	TKG-083b-MGEH-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKG-083b-TB38-MGEH

- Robust stainless steel enclosure
- VESA-mounting available on request



Specification

Ball Diameter: 38 mm; 1.5"
Actuation Force: 50 g
Protection Level: IP65 static;
 IP54 dynamic; NEMA3
Dimensions: 435 x 165 x 62 mm
 17.13" x 6.5" x 2.44"
Weight: 2350 g
Operating Temperature: -40 °C to 90 °C
 -40 °F to +194 °F
Enclosure Material: stainless steel
Basic Specification: see page 68



Cat.-No.	Product Name
KG14031	TKG-083b-TB38-MGEH-PS/2-US PS/2; US-Layout
KG14033	TKG-083b-TB38-MGEH-USB-US USB; US-Layout

Other language versions/interfaces/configuration available on request



TKG-083b-TOUCH-MGEH

- Robust stainless steel enclosure
- VESA-mounting available on request



Specification

Motion Detection Method: capacitive
Resolution: 40 counts / mm
Protection Level: IP65;
 NEMA 4x (frontside)
Dimensions: 435 x 165 x 44 mm
 17.13" x 6.5" x 1.73"
Weight: 2250 g
Operating Temperature: -40 °C to 90 °C
 -40 °F to +194 °F
Enclosure Material: stainless steel
Basic Specification: see page 68



Cat.-No.	Product Name
KG14035	TKG-083b-TOUCH-MGEH-PS/2-US PS/2; US-Layout
KG14037	TKG-083b-TOUCH-MGEH-USB-US USB; US-Layout

Other language versions/interfaces/configuration available on request

TKG-083b-MODUL



Specification

Number of Keys:	83
Keyswitch Technology:	carbon-on-gold-contact
Actuation Force/Travel:	1.2 N / 1.2 mm
Keyswitch Lifetime:	5 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	panel mount
Dimensions:	305 x 134 x 10 mm 12" x 5.28" x 0.39"
Weight:	500 g
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Front Material:	aluminium

Cat.-No.	Product Name	
KG14015	TKG-083b-MODUL-PS/2-US	PS/2; US-Layout
KG14017	TKG-083b-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKG-083b-TB38-MODUL

Specification

Dimensions: 405 x 135 x 45 mm
15.94" x 5.31" x 1.77"

Weight: 650g

Basic Specification: see page 70

Specification Trackball

Ball Diameter: 38 mm; 1.5"

Actuation Force: 50 g



Cat.-No.	Product Name	
KG14023	TKG-083b-TB38-MODUL-PS/2-US	PS/2; US-Layout
KG14025	TKG-083b-TB38-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		



TKG-083b-TOUCH-MODUL

Specification

Dimensions: 405 x 135 x 15 mm
15.94" x 5.31" x 0.59"

Weight: 550 g

Basic Specification: see page 70

Specification Touchpad

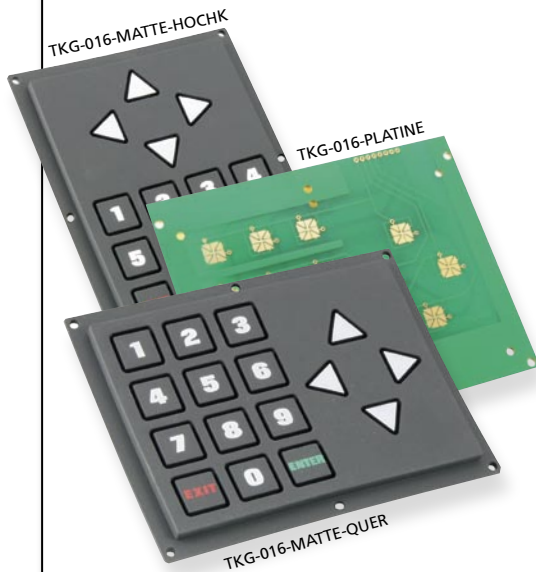
Motion Detection Method: capacitive

Resolution: 40 counts / mm



Cat.-No.	Product Name	
KG14027	TKG-083b-TOUCH-MODUL-PS/2-US	PS/2; US-Layout
KG14029	TKG-083b-TOUCH-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKG-016



Specification

Keyswitch Technology:	carbon-on-gold contact
Protection Level:	IP 65; NEMA 4x (front)
Dimensions:	128 x 98 x 6 mm 5.04" x 3.86" x 0.24"
Operating Temperature:	0 °C to 50 °C 32 °F to 122 °F
Weight:	200 g

Cat.-No.	Product Name	
KG01102	TKG-016-MATTE-QUER	Silicone keypad, across
KG02102	TKG-016-MATTE-HOCHK	Silicone keypad, upright
KG01104	TKG-016-PLATINE	PCB with Matrix
Extensions to an AT-PS/2-compatible system:		
KC05000	TKC-5000-AT	Keyb.-controller, AT-compatible
KP05023	PROGR-5000-5023-TKG-016-QUER	Program for TKG-016-QUER
KP05014	PROGR-5000-5014-TKG-016-HOCHK	Program for TKG-016-HOCHK
KA05023	TKA-5023-2102	Adaptor-PCB for TKG-016
KK00101	TKK-101	Connection KG1104 --> KC5000
KK05400	TKK-5400-PS/2	PS/2-Cable

TKG-113-MB-PAD/PCB-BLACK



- Including 20 function keys and numpad
- Integrated mousebutton
- USB/PS2-combi controller



Specification

Number of keys:	113 (incl. 20 function keys)
Keyswitch Technology:	carbon-on-gold-contact
Actuation Force/ -Travel:	2 N / 2.5 mm
Keyswitch Lifetime:	5 mil. operations
Protection Level:	IP65; NEMA 4x
Mounting Type:	backpanel mount
Electronic Interface:	PS/2, USB
Dimensions:	380 x 165 x 19 mm 15" x 6.5" x 0.75"
Weight:	300 g (pad); 275 g (pcb)
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F

Cat.-No.	Product Name	
KG13218	TKG-113-MB-PAD-BLACK-US	Keypad; US-Layout
KG13219	TKG-113-MB-PCB-BLACK-USB/PS2-US	PCB; USB/PS2; US-Layout
KK06810	TKK-6810-USB	USB connection cable
KK14204	TKK-14204-PS/2	PS/2 connection cable

Other language versions/interfaces/configuration available on request



Cursor Control Devices

Besides our reliable InduMouse we are offering the InduMouse series with an antimicrobial surface coating, such as the InduMouse^{med} which is ideally suited for applications in hygiene sensitive environments.

We also offers 38 mm (1.5") and 50 mm trackballs (2") as well as capacitive touchpads for many kinds of industrial applications.

Features and benefits:

- Dura coating for excellent mechanical and chemical resistance
- IP68 optical Mouse available with antimicrobial surface coating
- Rugged construction
- 38 mm-Trackball (1.5") available as modul or front panel version
- 50 mm-Trackball (2") as front panel version
- Capacitive Touchpad available as modul or front panel version
- PS/2 and USB compatible

TKH-MOUSE-MED-IP68



- Inhibits the growth of germs
- IP68-sealed



InduMouse^{med}™

Specification Mouse

Number of keys:	2
Motion detection method:	optical
Resolution:	800 dpi
Protection level:	IP68; NEMA 6P
Dimensions:	127 x 63 x 33 mm 5" x 2.48" x 1.3"
Weight:	200 g
Operating Temperature:	-40 °C to +90 °C -40 °F to +194 °F
Enclosure Material:	silicone; aluminium (rear side)
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017

Cat.-No.	Product Name	
KH14007	TKH-MOUSE-MED-IP68-GREY-OPT-PS/2	grey; PS/2
KH14008	TKH-MOUSE-MED-IP68-GREY-OPT-USB	grey; USB
KH15001	TKH-MOUSE-MED-IP68-BLACK-OPT-PS/2	black; PS/2
KH15002	TKH-MOUSE-MED-IP68-BLACK-OPT-USB	black; USB
Other interfaces/configuration available on request		

TKH-MOUSE-IP68-GREY/BLACK



- IP68-sealed
- Rugged construction



InduMouse[™]

Specification Mouse

Number of keys:	2
Motion detection method:	optical
Resolution:	800 dpi
Protection Level:	IP68; NEMA 6P
Dimensions:	127 x 63 x 33 mm 5" x 2.48" x 1.3"
Operating Temperature:	-40 °C to 90 °C -40 °F to +194 °F
Weight:	200 g
Enclosure Material:	silicone; aluminium (rear side)
Enclosure Colour:	-GREY: similar RAL9002 -BLACK: similar RAL9017

Cat.-No.	Product Name	
KH01220	TKH-MOUSE-IP68-GREY-OPT-PS/2	grey; PS/2
KH01221	TKH-MOUSE-IP68-GREY-OPT-USB	grey; USB
KH02410	TKH-MOUSE-IP68-BLACK-OPT-PS/2	black; PS/2
KH02408	TKH-MOUSE-IP68-BLACK-OPT-USB	black; USB
Other interfaces/configuration available on request		

TKH-TB38b-MODUL

TKH-TB38b-FP

Specification

Mounting Type:	- TKH-TB38b	panel mount
	- TKH-TB38b-FP	rack mount
Dimensions:	- TKH-TB38b	110 x 135 x 45 mm 4.33" x 5.31" x 1.18"
	- TKH-TB38b-FP	106.4 (21 TE) x 128.4 (3 U) x 38 mm 4.18" x 5.05" x 1.5"
Weight:		200 g
Operating Temperature:		-40 °C to 90 °C -40 °F to +194 °F
Frontpanel Material:		PCB-material; FR4
Ball Diameter:		38 mm (1.5")
Actuation Force:		50 g
Trackball Lifetime:		> 6 mil. revolutions
Protection Level:		IP65 static; NEMA 4x; IP54 dynamic (front)



Cat.-No.	Product Name	
KH02005	TKH-TB38b-MODUL-PS/2	PS/2
KH02006	TKH-TB38b-MODUL-USB	USB
KH02003	TKH-TB38b-FP-PS/2	PS/2
KH02004	TKH-TB38b-FP-USB	USB

TKH-TB50

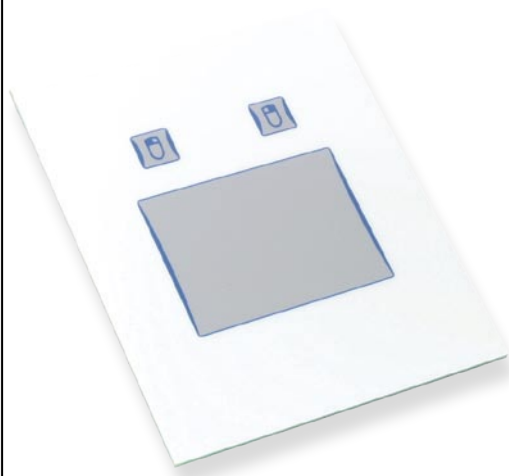
Specification

Ball Diameter:	50.8 mm; 2"
Actuation Force:	50 g
Number of Keys:	3 silicone switches
Protection Level:	IP65 static; IP54 dynamic; NEMA 3 (front)
Interface:	PS/2
Dimensions:	128.4 x 106.3 x 103 mm 5.05" x 4.18" x 4.05"
Weight:	650 g
Operating Temperature:	0 °C to 50 °C 32 °F to 122 °F
Ball Material:	phenolic resin
Resolution:	155 pulses/rev.



Cat.-No.	Product Name	
KH06521	TKH-TB50-AL-NAT-FP-PS/2	Aluminium; PS/2
KH09433	TKH-TB50-AL-NAT-FP-USB	Aluminium; USB

TKH-TOUCHb-MODUL



Specification

Dimensions: 110 x 135 x 20 mm
4.33" x 5.31" x 0.78"

Weight: 150 g

Specifications: see page 75

Available Modules

- Keyboard with 85 keys
- 38 mm trackball
- Capacitive touchpad

Specification TKH-TOUCHb-MODUL

Motion Detection Method: capacitive

Resolution: 40 counts / mm

Protection Level: IP65;
NEMA 4x (front)

Cat.-No.	Product Name	
KH02009	TKH-TOUCHb-MODUL-PS/2	PS/2
KH02010	TKH-TOUCHb-MODUL-USB	USB
Other interfaces/configuration available on request		

TKH-TOUCHb-FP



Specification

Dimensions: 106.4 (21 TE) x 128.4 (3 U) x 15 mm
4.18" x 5.05" x 0.59"

Specifications: see page 75

Available Modules

- Keyboard with 85 keys
- 38 mm trackball
- Capacitive touchpad

Cat.-No.	Product Name	
KH02007	TKH-TOUCHb-FP-PS/2	PS/2
KH02008	TKH-TOUCHb-FP-USB	USB
Other interfaces/configuration available on request		



Electronic Access control

Features and benefits:

- PS/2 and USB compatible
- Professional fingerprint reader to improve your IT-security
- Optional software for the PC-logon
- IP54 protection
- Biometric recognition

TKH-FPSa-MODUL



- Professional fingerprint reader to improve your IT-security
- Please note: Optional software for the PC-logon; available only by the company Upek under:
<http://www.upek.com/solutions/psql/chekpoint.asp>

Specification

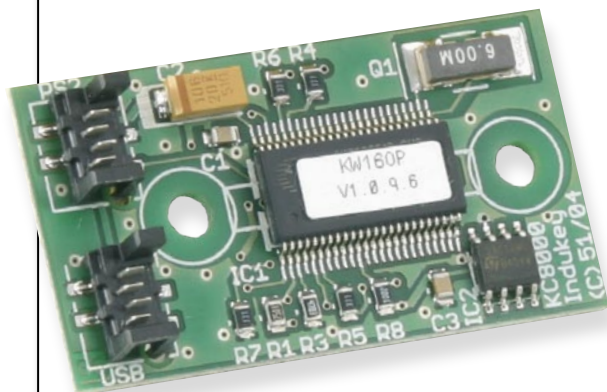
Image Resolution:	500 dpi
Protection level:	IP65; NEMA 4x
Electronic Interface:	USB
Dimensions:	110 x 135 x 15 mm 4.33" x 5.31" x 0.59"
Weight:	200 g
Operating Temperature:	0 °C to +70 °C 32 °F to 158 °F
Frontpanel Material:	aluminium

Cat.-No.	Product Name	
KH14010	TKF-FPSa-MODUL-USB-US	USB; US-Layout
Other language versions/interfaces/configuration available on request		

TKC-8000



- One of the smallest professional keyboard controllers
- Each key programmable in 2 layers



Specification

Max. Number of Keys: 128 (max. 8 x 16 Matrix)
Inputs: key matrix
= 128 Keys max.

Electronic Interfaces: USB-; PS/2-Keyboard-Port
Dimensions: 45 x 25 x 11 mm
1.77" x 0.98" x 0.43"

Weight: 10 g
Operating Temp: -40°C to +90°C
-40 °F to +194 °F

Cat.-No.	Product Name	
KC08000	TKC-8000-USB-PS/2	USB-PS/2-keyboard-decoder
KK05400	TKK-5400-PS/2	PS/2-cable TKC-8000
KK06810	TKK-6810-USB	USB-cable TKC-8000
KW08002	TKC-8000-MANUAL-US	Technical manual, US

TKC-6800



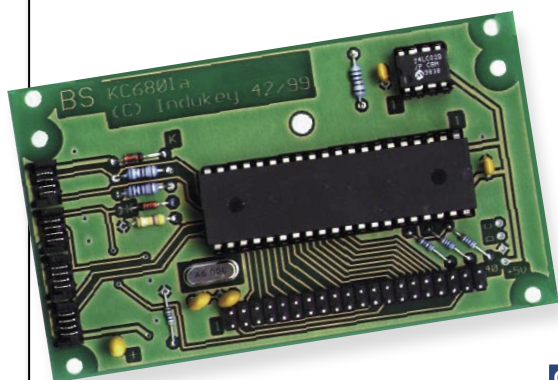
- Self programmable keyboard controller (via USB-interface)
- Maximum 128 keys, programmable in 2 layers (8 characters each)
- Outputs for Num-, Caps-, Scroll-Lock

Specification

Number of Keys: 128
Inputs: key matrix
= 128 Keys max.

Electronic Interfaces: USB-; PS/2-Keyboard-Port; 2x ADB
Dimensions: 98 x 58 x 12 mm
3.85" x 2.28" x 0.47"

Weight: 45 g
Operating Temp: -40°C to +90°C
-40 °F to +194 °F



Cat.-No.	Product Name	
KC06810	TKC-6800-USB-ADB-PS/2-SET	Controller, softw., EEPROM, manual
KC06800	TKC-6800-USB-ADB-PS/2-PLATINE	Universal keyboard controller
KC06802	TKC-CHIP-6800-V1.1	Firmware on chip version 1.1
KP06802	TKC-6802-EEPROM	Blank EEPROM
KP06800	PROGRAMM-TKC-6800-Software	Download-software on disk
KK05400	TKK-5400-PS/2	PS/2-cable
KK06810	TKK-6810-USB	USB-Cable
KW06803	TKC-6800-MANUAL-US	Technical manual, US

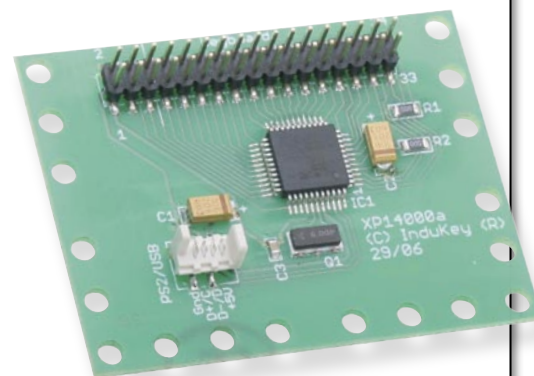
TKC-14000



- Pre-programmed keyboard controller with full key functionality

Specification

Max. Number of Keys:	144 (8 x 18)
Input:	Pin Header 2.54 (2-row)
Interfaces:	USB-; PS/2-Keyboard-Port
Dimensions:	65 x 50 x 10 mm 2.56" x 1.97" x 0.39"
Weight:	15 g
Operating Temperature:	-40°C to +90°C -40 °F to +194 °F



Cat.-No.	Product Name	
KC14000	TKC-14000-PS/2-USB	Controller
KK06810	TKK-6810-USB	USB-Cable
KK14400	TKK-14400-PS/2	PS/2-cable
KW14050	TKC-MANUAL-US	Technical manual, US

TKC-6000

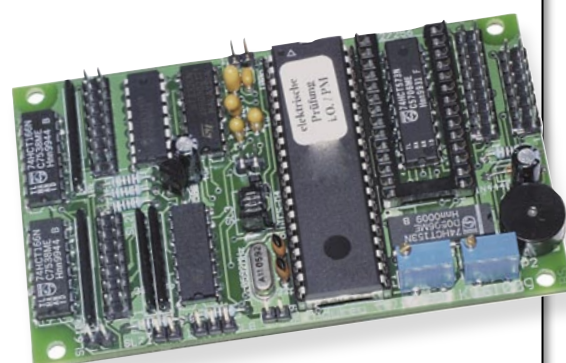


- RS232-terminal controller for up to 128 keys
- Programmable in up to 4 layers
- Output for Hitachi 44780-compatible LC-displays

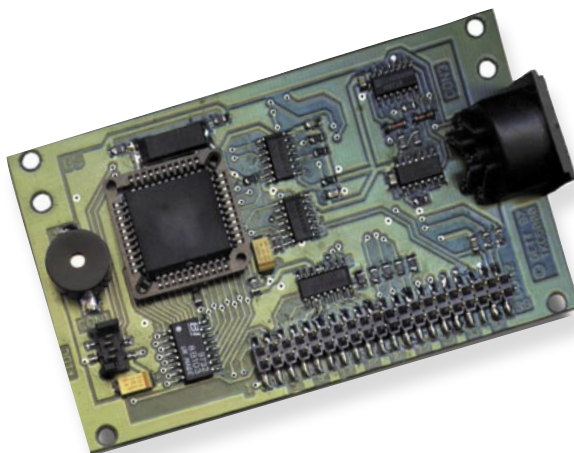
Specification

Inputs:	key-matrix 16 x 8 = 128 max.
Electronic Interfaces:	RS232 / V.24
Data Format:	Data line TxD und RxD; Full Duplex; 9600Bd/1/8/N1 (other parameters on request)
Display-Outputs:	2 pcs. Display 2x40 char. or 1 pcs. Display 4x40 char.
LED-Outputs:	8
Dimensions:	110 x 70 x 20 mm 4.33 x 2.75 x 0.78"
Power consumption:	350 mA (max.)

Cat.-No.	Product Name	
KC06100	TKC-6000-I/O-Controller	Miniterminal Controller
KK06102	TKK-6102 Kabel Keyboardmatrix	Cable keyboard matrix
KK06103	TKK-6103 Kabel TKC-6000-Display 2x7	Cable TKC-6100-Display 2 x 7
KK06101	TKK-6101 Kabel TKC-6100<->RS232	Cable TKC-6100 <-> RS232
KW06101	TKC-6100-MANUAL-US	Technical Manual, US



TKC-5000-AT



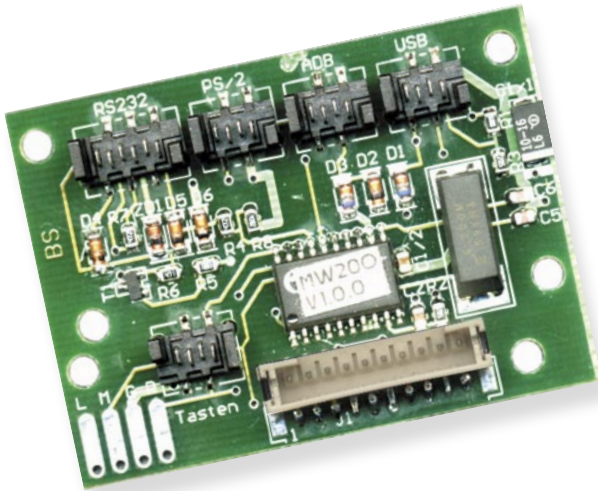
- Keyboardcontroller for up to 128 keys
- Version -W with connection for secondary keyboard
- Outputs for Num-, Caps-, Scroll-Lock

Specification

Max. Key-Nr.:	128
Inputs:	key matrix (only -W-version) additional keyboard
Interfaces:	AT; PS/2
Dimensions:	98 x 58 x 12 mm 3.85" x 2.28" x 0.47"
Weight:	40 g
Operating Temp:	-40°C to +90°C -40 °F to +194 °F

Cat.-No.	Product Name	
Hardware		
KC05000	TKC-5000-PS2/AT	Keyboard controller
KC05100	TKC-5000-AT-W	with electr. wedge
Software in processor EPROM (AT89C51):		
KP05000	PROG-5000	Keyboard code program (105 keys)
Accessories:		
KK04020	TKK-4020-KABEL-TASTATURMATRIX	Input cable for matrix 8x16
KK05400	TKK-5400-PS/2	PS/2-cable
KW05002	TKC-5000-MANUAL-US	Technical manual, US
KW05001	TKC-5000-MANUAL-GER	Technical manual, German
Programming of your matrix code table(Setup Costs)		
RK00001	RKC-GRUNDPREIS	Special programming basis charge
RK00002	RKC-EINTRAGSPREIS	Special programming per entry

TKC-7500-TRACK



- Trackball controller
- Suitable for trackballs without own electronic control
- For trackballs with x/y-output



Specification

Dimensions: 40 x 53.5 x 22 mm
1.57" x 2.11" x 0.87"

Input: x/y-Trackball signal

Output: PS/2; USB; RS232

Operating Temp: 0°C to +55 °C
32 °F to 131 °F

Supply Voltage: 5 V ± 0.25 V DC

Power consumption: 12 mA (typ.)
28 mA (max.)

Cat.-No.	Product Name	
Hardware		
KC07500	TKC-7500-Track	Trackball controller
KK07502	TKK-7502	Cable for trackball TK38 <--> controller
KK05400	TKK-5400-PS/2	Cable for PS/2 to KC7500
KK06810	TKK-6810-USB	Cable for USB to KC7500

TKH-3-ELEKTR



TKH-3-ELEKTR-PS/2
Electronic Switch for
2 PS/2-Keyboards into
1 PS/2-PC-Keyboard-Port

Electronic Switch Box to connect 2 Keyboards to 1 PC Keyboard Port

- Simultaneous connection of 2 keyboards into 1 keyboard
- Automatically controlled by the integrated port electronic

Type:	TKH-3-PS/2
Input1:	6-p. Mini-DIN-socket
Input2:	6-p. Mini-DIN-socket
Out-put:	6-p. Mini-DIN-plug
Dimensions:	70 x 36 x 30 mm, 2.75" x 1.41" x 1.18"
Cable length:	90mm, 3.54"

Cat.-No.	Product Name	
KH14000	TKH-3-ELEKTR-PS/2	PS/2

TKA-4500-BOOT



Phantom Keyboard Box

- Possibility of booting without connected keyboard
- Excellent for high security applications, such as banking
- No additional software driver necessary
- PS/2-Interface
- Ideal to avoid unauthorized access

Specification

Cable Length:	160 mm (min.)
Dimensions:	82.5 x 54 x 28.5 mm 3.248" x 2.125" x 1.122"
Power supply:	via keyboard interface

Cat.-No.	Product Name	
KA07403	TKA-4500-BOOT-PS/2	Phantom-Keyboard, PS/2



Technical Information

In this section you will find technical background information about the field of data input. Besides a specialized glossary, we also provide interesting insights into protection rating, installation variants and keyboard types.



Intrinsically Safe

Intrinsically safe keyboards are ideal for systems that exist in potentially explosive environments. That does not only apply to the „classical“ potentially explosive areas such as tank farms and mines, but to an increasing extent also to industrial environments. There are two possibilities for avoiding explosions – either to prevent the development of an explosive atmosphere or to prevent the ignition of such an atmosphere. Often it is not possible to eliminate an explosive atmosphere. Consequently, the ignition of such an explosive mixture must be avoided. For this, any devices that are applied in potentially explosive environments and that may pose a potential source of ignition must be constructed in such a way that an ignition is made impossible.

The keyboards in this category are completely certified and tested for the following protection zones:

Protection zone 1:

area where – in normal operation – a potentially explosive atmosphere in the form of a mixture of air and combustible gases, vapours or mists may occasionally occur.

Protection zone 2:

area where – in normal operation – a potentially explosive atmosphere in the form of a mixture of air and combustible gases, vapours or mists normally does not occur or only occurs for short periods of time.

Protection zone 22:

area where – in normal operation – a potentially explosive atmosphere in the form of a cloud of combustible dust that is contained in the air normally does not occur or only occurs for short periods of time.

IP-Protection-Rating

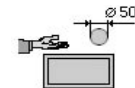
The IP classification system designates the degree of protection provided by a device against solid objects or water ingress.

Degree of Protection against solid objects

IP 1st Digit

0 Non-protected

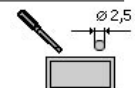
1 Protected against solid objects greater than 50mm, such as a hand



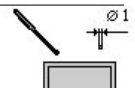
2 Protected against solid objects greater than 12.5mm, such as a finger



3 Protected against a solid object greater than 2.5mm, such as wire or a tool.



4 Protected against a solid object greater than 1.0mm, such as wire or thin strips



5 Dust-protected, prevents ingress of dust sufficient to cause harm



6 Dust tight, no ingress of dust



Degree of Protection against water

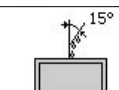
IP 2nd Digit

0 Non-protected

1 Protected against dripping water, falling straight up



2 Protected against dripping water when tilted up to 15°



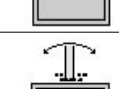
3 Protected against spraying water at an angle of up to 60°



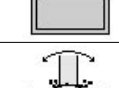
4 Protected against splashing water from any direction



5 Protected against jets of water from any direction



6 Protected against powerful jets of water, prevents ingress sufficient to cause harm

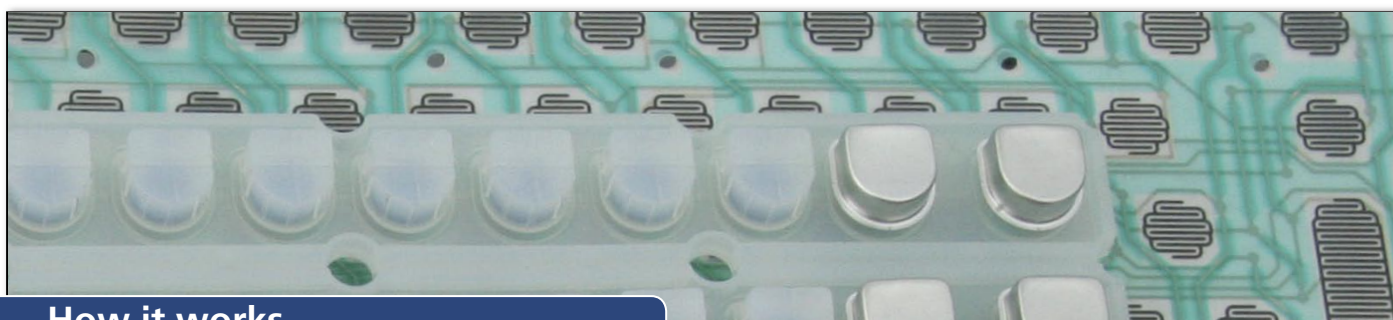


7 Protected against the effects of temporary immersion in water



8 Protected against the effects of continuous immersion in water





How it works



Short travel switches

Mechanical switch elements used in industrial keyboards with a key travel of 0.3 mm and an actuation force of 3 N. These rugged switches are rated for up to 3 million operations. Short travel switches are used in all models of the TKS series and also in special models of other series. As these switches can also be covered with foil they are primarily used in industrial keyboards.



Long travel switches

As mechanical switch elements they are used in conventional PC keyboards. The key travel of these switches is 4 mm and they require an actuation force of 0.6 N. Long travel switches are suitable for the input of large data quantities; they are conditionally suitable for application in industrial environments.



Silicone switches

Silicone switches have carbon elements on the bottom side that establish the contact with the PCB after being actuated. The keys provide a pleasant tactile feedback and a very low noise level [e.g. for military applications]. Only requiring an actuation force of 1.2 N, this keyboard technology is suitable for a high operation frequency.



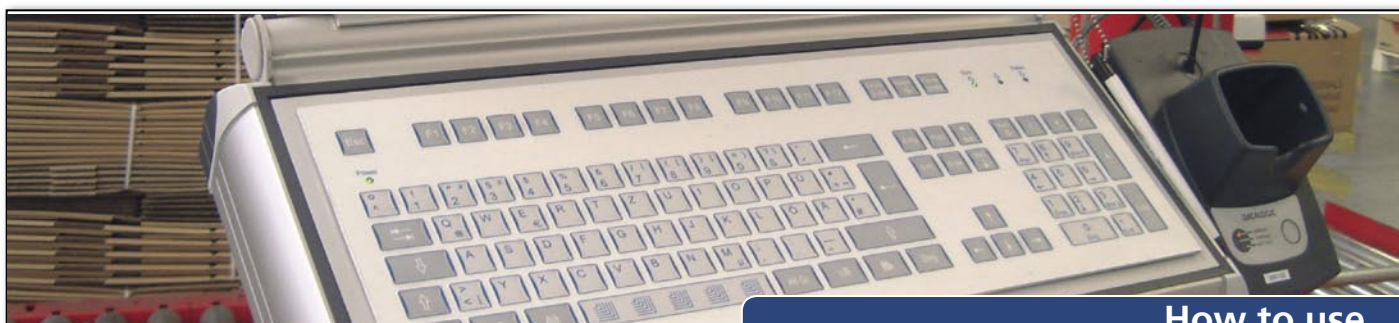
Dome switches [gold-on-gold switches]

Mechanical switch elements that – as slightly curved metal dome – establish the contact with the PCB after being actuated. One of the advantages of the dome switches is their low height. This allows for the very flat design of the models from the TKF series, which can also be installed in extremely flat panels. The actuation force for the keys is 2.0 N, the key travel is 0.3 mm. Like short travel switches, dome switches are usually covered with foil, which makes them suitable for industrial applications.



Metal switches

These metal switches primarily used for the TKV series are actually silicone switches. The difference is that such a silicone switch is equipped with a metal cap which makes it proof against being levered out. This is ensured by a brim on the bottom side of the cap, which anchors the cap firmly to the front panel.

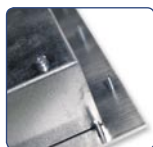


How to use



DESKTOP Version

Desktop versions can be used as so-called standalone versions. They are suited for places where a stable and even surface is available. 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 (PS/2, USB) without any problems.



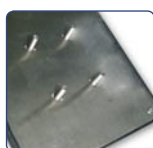
MODUL Version

The most often used integration method for keyboards and cursor controls is the so-called module 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) which are layed underneath, a high IP level is guaranteed. The installation depth varies depending on the series – the models of the TKS series have a larger installation depth than the models of the TKF series.



FP Version

Front panel versions are mainly used for integrating data input devices into 19-inch racks or 19-inch drawers. The mounting drillings on the sides of the front panel allow a comfortable installation of the device. Some of the keyboards from the TKS series are also available with HE indications (1 HE = 44,45 mm). HE is a standard unit in the field of 19-inch rack systems.



VESA Version

The mounting of electronic devices to the wall, the ceiling or to panels is subject to the so-called VESA standard. Thus, the back side of the devices is equipped with four threaded bolts with a thread lenght of 10 mm each for supporting bolts of different sizes. The distance between the mounting drillings corresponds to a standardized pattern (usually 75 x 75 mm). This installation method includes the assembly and system integration of desktop devices.

Adapters, Connections

Devices that allow the connection of PS/2 devices to USB connections or of USB devices to PS/2 connections.

DIN Standards (DIN, the German Institute for Standardization)

You will find further information on keyboard standards, amongst others, in the following provisions:

DIN 2137	Keyboards and key layouts
DIN 2139	Key arrangements
DIN 42115	Foil keyboards

Driver (Keyboard Driver)

Each country variant requires a separate keyboard driver (software). This driver is loaded in a memory-resistant way during the boot process. It receives the input scan codes and transforms them into the characters of the respective country.

Key Combination

The key combination (also hot key, key sequence, keyboard combination, short cut) refers to the action of pressing several keys simultaneously or successively in a certain order. The application of such combinations allows the transmission of certain control commands to a program (such as „open file“, „close window“, „finish program“ etc.) and also the direct call of certain functions of the operating system (e.g. „start a new program“ etc.). It is also possible to enter special signs, even if they are not printed on the keyboard.

Key Matrix

For the retrieval of a special number of single keys, this keys will be interconnected in a matrix with x columns and y rows. The connected keyboard controller makes a clocked control of the columns and a clocked reading of the rows (like a table). This process is called scanning. So the position of a pressed key can be identified.

Line Amplifier

Allows for bridging long distances between the system and the peripherals; range of up to 200 metres. The basic function of this device is to amplify input or output signals.

MF-102

Standard for multi-function keyboards with 101 and 102 keys, which was created by International Business Machines (IBM).

N-Key Rollover

By a clocking by diodes at the crossover points in the matrix the controller can realize if more than one key is pressed. So there accrue little „Ghost keys“. So, for keyboards with multi key usage decoupling diodes are necessary.

PS/2 Interface

The PS/2 interface is an often used serial interface for input devices such as keyboards and mice, in rare cases also for other pointing devices such as trackballs or digitizer tablets. This interface uses a six-pole Mini DIN plug whereas the interface of the former AT format was equipped with a larger five-pole DIN plug. The poles of the plugs have the following functions: data conduction, earth, voltage supply, clock signal, two poles are not wired (NC). For being able to connect and to operate PS/2 devices, the computer must normally be shut down and restarted after the connection has been established.

Scan Codes

The keyboard controller located in the keyboard scans the key matrix. If it identifies a key press, it reads from the intern code table the corresponding symbol and sends it to the computer. For IBM-XT-AT-PS/2-Systems the codes are called scan codes. One scan code is significant for a definite key position on a MF-102-keyboard, not for a definite symbol (see the table on the right).

Track Switch, Electronic

Devices that allow the connection of, for instance, two keyboards or of one keyboard and one mouse to an interface.

USB Interface

USB is a bit serial bus which means that the individual bits of a data packet are transferred successively. The data transfer is realized symmetrically by means of two twisted lines. One of them transfers the unaltered signal and the other one the inverted signal. The signal receiver creates the differential voltage between the two signals; thus the voltage increase between 1-level and 0-level is twice as high and interferences are eliminated to a large extent. The transmission liability is increased and common-mode interferences are prevented, which will also improve the electromagnetic compatibility. Two further lines are used for the power supply of the connected devices. USB is completely Plug&Play compatible, i.e. after the connection of a device to the USB interface, the DOS will identify the respective peripherals. It is possible to connect – via hubs – up to 256 USB devices.

