



Operating Instructions

KBD-USB Keyboards

Version KBD-USB-TB50-*

Version KBD-USB-M-*

Version KBD-USB-P-*

Version KBD-USB-J-*



THE STRONGEST LINK.

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Disclaimer

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We reserve the right to change our products and their specifications at any time, provided it is in the interest of technical progress. The information in the current manual (in the internet and on CD / DVD / USB stick) or in the operating instructions included with the keyboard applies.

Trademarks

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Specific markings

The markings in these operating instructions refer to specific features that must be noted.

In detail, these are:

 DANGER	This sign alerts users to hazards that will result in death or serious injury if ignored !
---	--

 WARNING	This sign alerts users to hazards that may result in death or serious injury if ignored !
--	---

 CAUTION	This sign alerts users to hazards that may damage machinery or equipment or result in injury if ignored !
--	---

 ATTENTION	Information highlighted by this symbol indicates measures for the prevention of damage to machinery or equipment !
--	--

 NOTICE	Information highlighted by this symbol indicates important information of which particular note should be taken !
--	---

 DOCUMENTATION	Information highlighted by this symbol refers to a different chapter or section in this manual or other documentation or a web-page !
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Warnings

	<p>Caution !</p> <p>In ambient temperatures exceeding +45 °C the surface of the devices may heat up. Caution when touching !</p>
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1 Preface

These operating instructions are intended for the safe installation of the KBD-USB-*. Furthermore, these operating instructions contain all necessary information for assembly and connection of the keyboards.

 **NOTICE**

For the correct operation of all associated components please note, in addition to these operating instructions, all other operating instructions enclosed in this delivery as well as the operating instructions of the additional equipment to be connected !

2 Keyboard function

The type KBD-USB-* keyboards are used to enter data, commands etc. on PCs and similar devices. In particular, they were designed for connection to HMI devices of the IT-xx7 series.

Power supply and data communication takes place via the USB interface. The keyboards are connected with a fixed cable.

Various keyboard versions are available that differ in their layout (German, US English, French, etc.) and in their design (PC keyboard with mouse, trackball, touchpad or with joystick).

The touchpad uses resistive technology and can therefore be operated with a touch pen or with gloved fingers.

The keyboards can be mounted inside a front panel or a desktop housing.

3 Type allocation

Since the beginning of 2013, the T-series devices have been allocated new type names according to the following pattern:

To avoid having to re-write certifications, the names in the certificates remain the same, but the devices receive new names.

In the interest of a clear link between device type and certificate, both device names are listed on the type plate from 01.04.2013 onwards.

3.1 Type marking

Old (certificate)	New
T-Ind-KB-TB*	KBD-USB-TB50*
T-Ind-KB-M*	KBD-USB-M*
T-Ind-KB-P*	KBD-USB-P*
T-Ind-KB-J*	KBD-USB-J*

* = alphanumeric or symbolic characters



For the exact new device name and model please refer to the type code.

4 Technical Data

Function / Equipment	KBD-USB-*
Power supply	via USB interface
MTBF	typically 50,000 h at 20 °C [68 °F]
Interfaces	1x USB for keyboard 1x USB for mouse, touch pad, trackball, joystick
Cable type	standard USB-A
Cable lengths	usually 1.8 m / [5.91 ft]
Enclosure	Steel / aluminium, installation enclosure
Enclosure protection type	
Front	IP65
Front with trackball module	statically IP65, dynamically IP54
Back	IP20
Keyboard foil	Polyester
Operating temperature range	
Operation	-30 °C ... +60 °C / [-22 °F ... +140 °F]
Storage temperature range	-30 °C ... +70 °C / [-22 °F ... +158 °F]
Relative humidity	10 to 90% at +40 °C / [104 °F], non-condensing
Dimensions (W x H x D) [mm] / [ft]	581 x 186 x 50 / [1.91] x [0.61] x [0.16]
Weight [kg] / [lbs]	3.0 / [6.6]

5 Conformity to standards

The KBD-USB-* keyboards comply with the following standards and directives:

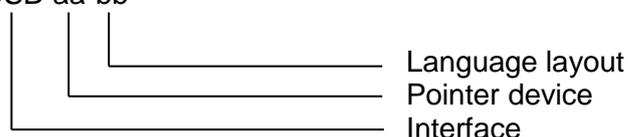
Electromagnetic compatibility	
Directive 2014/30/EU	
EN 61000-6-2 : 2005 + AC : 2005	Immunity
EN 61000-6-4 : 2007 + A1 : 2011	Emission
Low voltage directive	
Directive 2014/35/EU	
EN 62368-1 : 2016 IEC 62368-1 : 2014	Audio / video, information and communication technology equipment - Safety requirements
RoHS directive	
2011/65/EU	Classification
EN IEC 63000 : 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

6 Marking

Manufacturer	R. STAHL HMI Systems GmbH
Type code	KBD-USB-TB50* / KBD-USB-M* / KBD-USB-P* / KBD-USB-J*
CE classification:	CE 0158

7 Type code

KBD-USB-aa-bb



Product type:

Product key structure	Description
	Version
KBD-USB- TB50 -bb	Keyboard with integrated trackball
KBD-USB- TB50-VA -bb	Keyboard with integrated stainless steel trackball
KBD-USB- M -bb	Keyboard with integrated mouse
KBD-USB- P -bb	Keyboard with integrated touch pad
KBD-USB- J -bb	Keyboard with integrated joystick
KBD-USB-aa- DE	Language: German (QWERTZ)
KBD-USB-aa- US	Language: American (QUERTY)
KBD-USB-aa- FR	Language: French (AZERTY)
KBD-USB-aa- FR-BE	Language: French, Belgian version (AZERTY)
KBD-USB-aa- CH	Language: German, Swiss layout
KBD-USB-aa- ES	Language: Spanish

8 Safety information

8.1 General Safety Information

- All relevant accident prevention regulations and the rules for electric installations have to be observed during installation, maintenance and operations. All persons involved in installation, commission, maintenance and repairs of this device and its accessories must be qualified accordingly and must have familiarised themselves with this manual and any associated documentation.
- National safety and accident prevention rules apply.
- Use the device for its intended purpose only.
- No changes to the device are permitted. The enclosure may only be opened by R. STAHL HMI Systems GmbH.

8.2 Cautionary note



This is an EN 55022 Class A product.
In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

8.3 Installation safety information

- The national assembly and installation rules and the generally accepted technical rules must be observed. The device and its accessories must be connected and operated according to applicable standards, directives and installation guidelines. Only qualified personnel or personnel that has been instructed accordingly are allowed to install the device.
- Only appropriate tools must be used for the installation.
- The keyboards must be earthed via the bolt at the back of the device.
- We recommend you use screened cables with the keyboards. Routing of the cable may reduce performance.
- Before operating the keyboard you must ensure that it has been installed according to regulations and that its cables are undamaged.

8.4 Safety information for operation

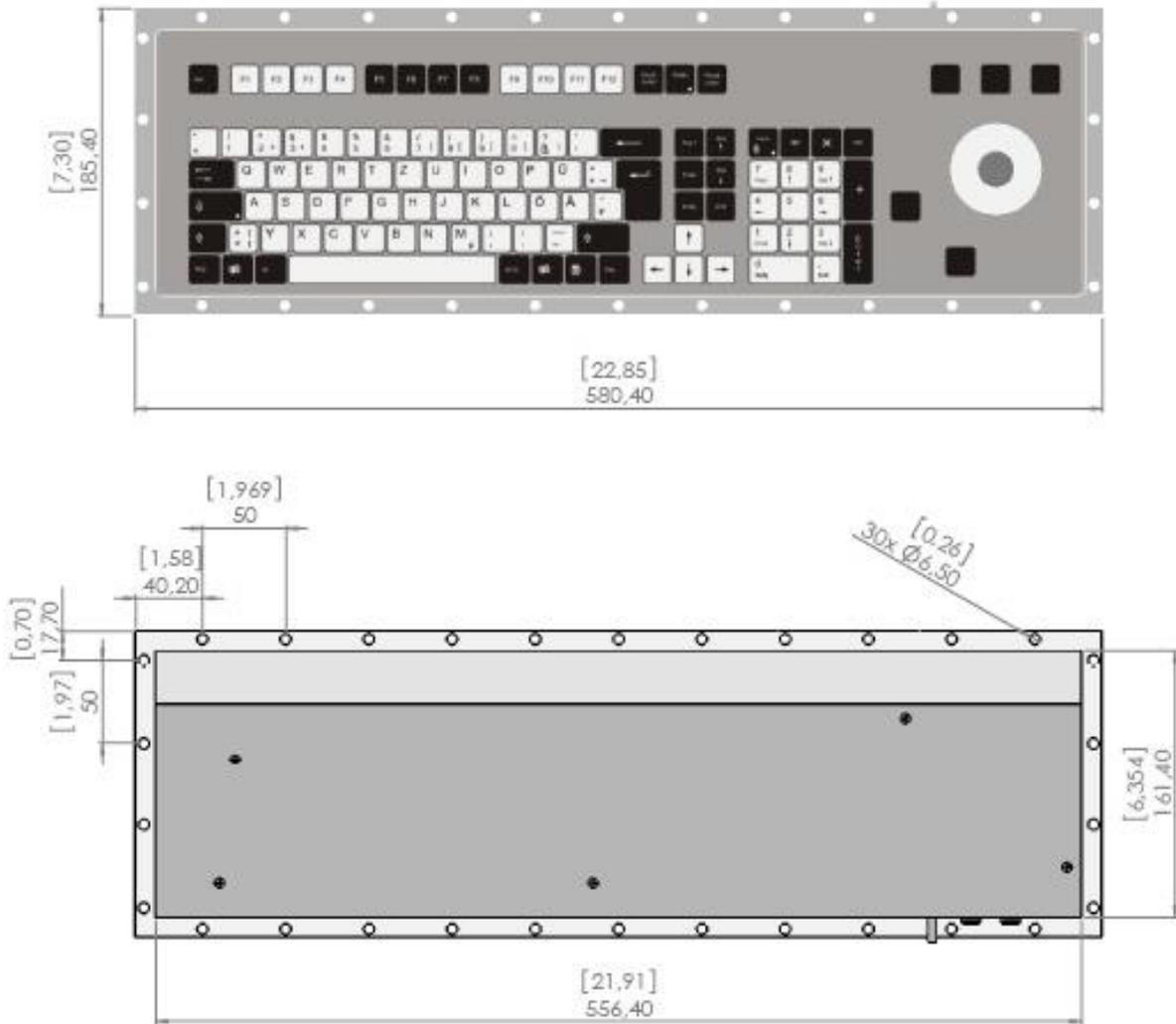
- Operate the keyboard only if it is clean and undamaged. If the keyboard is in any way damaged, do not touch it to avoid injury. In the case of any damage that may compromise ingress protection (e.g. cracks, holes or broken components) the keyboard must be taken out of commission immediately. Before the device is recommissioned the damaged components must be replaced.

8.5 Special conditions

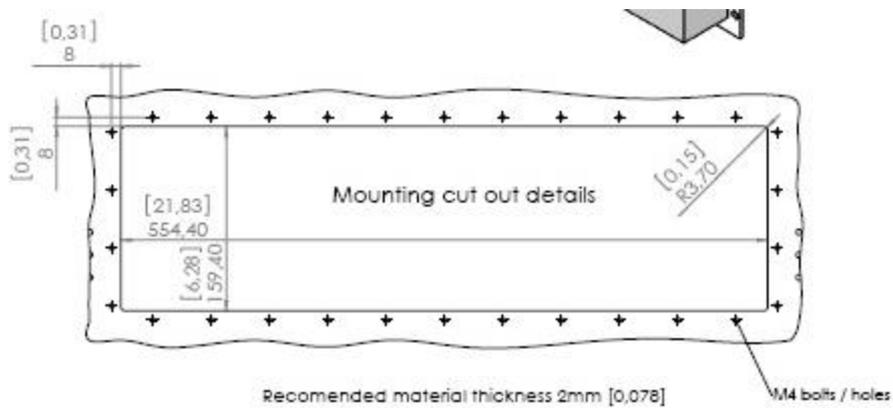
Equipotential bonding must be established for the external circuits of the accessories to be connected, e.g. display, keyboard or pointer device.

9 Mechanical dimensions

Dimensions in mm, [inch]



9.1 Cut-out



10 Connections

Keyboard X72

Cable	Colour	Signal name	Definition
1	Red	+ UB	Power supply +UB
2	White	D-	Data cable D-
3	Green	D+	Data cable D+
4	Black	GND	Power supply GND

Trackball X73, mouse X94, touchpad X95, joystick X96:

Cable	Colour	Signal name	Definition
1	Red	+ UB	Power supply +UB
2	White	D-	Data cable D-
3	Green	D+	Data cable D+
4	Black	GND	Power supply GND

11 Maintenance

Because the transmission of the keyboards remains reliable and stable over long periods of time, regular adjustments are not required.

System maintenance should focus on the following:

- a. Housing damage
- b. Front membrane damage
- c. All cables and lines are properly connected and undamaged

12 Troubleshooting



Repairs may only be carried out by specially trained staff who are familiar with all basic conditions of the applicable user regulations and – if requested – have been authorized by the manufacturer.

12.1 Repairs / hazardous substances

An error description must be enclosed with any units returned to R. STAHL HMI Systems GmbH for repairs.

Remove all material residues. Please pay particular attention to the seal grooves and slits where material residues may be lodged. We have to ask you not to return a unit if you are unable to completely remove any hazardous substances. We shall bill you for any costs arising from insufficiently cleaned keyboards, such as disposal or damage to persons (chemical burns, etc.).

13 Disposal / Restricted substances

Disposal of old electric and electronic devices, packaging and used parts is subject to regulations valid in whichever country the device has been installed.

For countries under the jurisdiction of the EU the corresponding WEEE directive applies.

The devices are classified according to the table below:

Directive	WEEE II directive 2012/19/EU
Valid	from 2018-08-15
Category	SG4 Large equipment >50 cm

R. STAHL HMI Systems GmbH meets the requirements of directive 2012/19/EU (WEEE) and is registered under the number DE 15180083.

We shall take back our devices according to our General Terms and Conditions.

13.1 Declaration of substances and restricted substances

The present declaration is based on the procedure described in the international standard and directives as listed in the table below:

- IEC 62474 : 2018 (DIN EN IEC 62474 : 2019-09)
- (EG) Nr. 1907/2006 (REACH)
- Directive 2011/65/EU (RoHS)
- Resolution MEPC.269(68) "International Maritime Organization" (IMO); particularly "2015 Guidelines for the Development of the Inventory of the Hazardous Materials" (IHM)

13.1.1 Declarable substance groups

Component	Designation	Mass (g)	Declarable Substance Groups and Substances (IEC 62474 database)	CAS Nr.	Mass %	Exemption (acc. to directive)
-	-	-	No SVHC material existing	-	-	-

13.1.2 RoHS directive 2011/65/EC

The devices meet the requirements of RoHS Directive 2011/65/EU.

13.1.3 IMO Resolution MEPC.269(68)

The devices meet the requirements of the MEPC.269(68) Resolution of the "International Maritime Organization" (IMO), in particular the "2015 Guidelines for the Development of the Inventory of the Hazardous Materials" (IHM).

14 Declaration of EC conformity

EU-Konformitätserklärung
EU Declaration of Conformity
Déclaration de Conformité UE



R. STAHL HMI Systems GmbH • Adolf-Grimme-Allee 8 • 50829 Köln, Germany
erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **Bedien- und Beobachtungsgeräte**
that the product: Operating and Monitoring Devices
que le produit: Consoles de commande et de visualisation

Typ(en), *type(s), type(s):* IT-467-..., IT-567-..., IT-667-...
IT-477-..., IT-577-..., IT-677-...
IT-487-..., IT-587-..., IT-687-...
KBD-USB-TB50...
KBD-USB-M...
KBD-USB-P...
KBD-USB-J...
KVM-*

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.
is in conformity with the requirements of the following directives and standards.
est conforme aux exigences des directives et des normes suivantes.

Richtlinie(n) / Directive(s) / Directive(s)	Norm(en) / Standard(s) / Norme(s)
Kennzeichnung, marking, marquage:	CE
EMV-Richtlinie <i>EMC Directive</i> <i>Directive CEM</i>	2014/30/EU 2014/30/EU 2014/30/UE
Niederspannungsrichtlinie <i>Low Voltage Directive</i> <i>Directive Basse Tension</i>	2014/35/EU 2014/35/EU 2014/35/UE
Produktnormen nach RoHS-Richtlinie (2011/65/EU): <i>Product standards according to RoHS Directive:</i> <i>Normes des produit pour la Directive RoHS:</i>	EN 61000-6-2:2005 + AC:2005 EN 61000-6-4:2007 + A1:2011 DIN EN 62368-1:2016, IEC 62368-1:2014 (Second Edition) EN IEC 63000:2018

Für spezifische Merkmale und Bedingungen siehe Betriebsanleitung.
For specific characteristics and conditions see operating instructions.
Pour les caractéristiques et conditions spécifiques, voir le mode d'emploi.

Köln, 2020-12-17

Ort und Datum
Place and date
Lieu et date

i.V.

J. Düren
Technical Director

i.V.

A. Jung
Ex Representative

15 Release Notes

The chapter entitled "Release Notes" contains all the changes made in every version of the operating instructions.

Version 01.00.00

- Original version of the operating instructions

Version 01.00.01

- Revision of "Disclaimer"
- Change of address and telephone numbers
- Addition of warning re. surface temperature
- Revision of "Conformity to standards"
- Adaption section "RoHS directive" with device conformity
- Replacement of Declaration of EC Conformity
- Text and layout corrections

Version 01.00.02

- Inclusion of chapter "specific markings"
- Changing of all markings according to the new definition
- Changing warning "surface temperature", moved into section "Specific markings"
- Addition of values of the imperial measurement systems
- Addition of RoHS directive in "Conformity to standards"
- Adaption of section "Disposal" according to the current WEEE directive
- Deletion of chapter "Front panel resistance"
- Formal changes

Version 01.00.03

- Changing layout cover
- Changing disclaimer, new mail addresses
- Removal of reference to "Online Manual" in "Preface"
- Adaption of "Conformity to standards"
- Removal of "digits of the serial number stand for the year of manufacture" in "General Safety Information"
- Adaption and changing of section "Disposal" and "Material declaration"
- Renew EU declaration of conformity
- Adaption address field verso
- Formal changes

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