User's Manual

KISS 2U Short

User's Manual
Version 1.00

Kontron Embedded Computers GmbH

0-0096-4147

kontron

If it's Embedded, it's Kontron.

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Introduction

Kontron Embedded Computers would like to point out that the information contained in this manual may be subject to technical alteration, particularly as a result of the constant upgrading of Kontron Embedded Computers products. The attached documentation does not entail any guarantee on the part of Kontron Embedded Computers with respect to the technical processes described in the manual or any product characteristics set out. Kontron Embedded Computers does not accept any liability for any printing errors or other inaccuracies in the manual unless it can be proven that Kontron Embedded Computers is aware of such errors or inaccuracies or that Kontron Embedded Computers is unaware of these as a result of gross negligence and Kontron Embedded Computers has failed to eliminate these errors or inaccuracies for this reason. Kontron Embedded Computers expressly informs the user that this manual only contains a general description of technical processes and instructions which may not be applicable in every individual case. In cases of doubt, please contact Kontron Embedded Computers.

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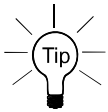
Symbols used in this Manual

Symbol	Meaning
	This symbol indicates the danger of injury to the user or the risk of damage to the product if the corresponding warning notices are not observed.
	This symbol indicates that the product or parts thereof may be damaged if the corresponding warning notices are not observed.
	This symbol indicates general information about the product and the user's manual.
	This symbol precedes various product configuration details.
	This symbol precedes helpful hints and tips for daily use.

Important Instructions

This chapter contains instructions which must be observed when using the KISS 2U Short system.
The manufacturer's instructions provide useful information on the KISS 2U Short system.

Warranty Note

Due to their limited service life, parts which by their nature are subject to a particularly high degree of wear (wearing parts) are excluded from the warranty beyond that provided by law. This applies to batteries, for example.

Exclusion of Accident Liability Obligation

Kontron Embedded Computers shall be exempted from the statutory accident liability obligation if the user fails to observe the safety instruction in this manual and possibly on the device.

Liability Limitation / Exemption from the Warranty Obligation

In the event of damage to the device caused by failure to observe the hints in this manual and on the device (especially the safety instructions), Kontron Embedded Computers shall not be required to honor the warranty even during the warranty period and shall be exempted from the statutory accident liability obligation.

Safety Instructions

Please read this section carefully and observe the instructions for your own safety and correct use of the device.

The chapter also contains information on approval and interference suppression of your device.

Observe the warnings and instructions on the device and in the manual.
The KISS 2U Short system has been built and tested by Kontron Embedded Computers in accordance to EN 60950/VDE 0805 and left the company in a perfectly safe condition.

In order to maintain this condition and ensure safe operation, the user must observe the instructions and warnings contained in this manual.

Kontron Embedded Computers warrants the safety, reliability and performance of the device only if the following safety instructions will be followed.

- ❏ The device must be used in accordance with the instructions for use.
- ❏ The electrical installations in the room must correspond to the requirements of the local (country-specific) regulations.
- ❏ Take care that there are no cables, particularly power cables, in areas where persons can trip over them.
- ❏ Do not use a power cable in sockets shared by a number of other power consumers. Do not use an extension cable.
- ❏ Only use the power cord supplied.
- ❏ The system is not completely disconnected from the power source by turning it off via the power button.
  The device is only completely disconnected from the power source when the system will be switched off via the On/Off switch at the power supply or when the power cord is disconnected either from the power source or from the unit. Therefore, the power cord and its connectors must always remain easily accessible.

- ❏ Only devices and components which fulfill the requirements of an SELV circuit (safety extra low voltage) in accordance with EN60950 may be connected to the interfaces of the system.
- ❏ All plugs on the connection cables must be screwed or locked to the chassis.
- ❏ Do not place the device in direct sunlight, near heat sources or in a damp place. Make sure the device has adequate ventilation.
- ❏ The device is designed to be used in horizontal position.
- ❏ Repairs may only be performed by persons authorized by Kontron Embedded Computers.
- ❏ Maintenance or repair on the open device may only be carried out by qualified personnel authorized by Kontron Embedded Computers familiar with the associated dangers.
- ❏ The device should only be opened for the replacement of the lithium battery. These operations should only be performed by qualified specialists in accordance with the description in this manual. The device must be switched off and disconnected from the power source.
- ❏ Only approved original accessories (optional parts) approved by Kontron Embedded Computers may be used.
- ❏ It must be assumed that safe operation is no longer possible,
  - if the device has visible damage or
  - if the device no longer functions.

  In these cases the device must be shut down and secured against unintentional operation.

Operation of Laser Source Devices

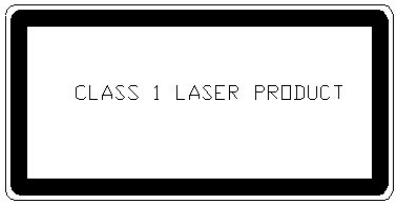


Fig. 1: Warning label on laser radiation

The optional CD ROM and DVD drives contain light-emitting diodes (classified in accordance with EN 60825-1/A2.2001: LASER CLASS 1) and therefore must not be opened.
If the enclosure of such a drive is opened, invisible laser radiation is emitted. Do not allow yourself to be exposed to this radiation.

The laser system meets the code of Federal Regulations 21 CFR, 1040 for the USA and the Canadian Radiation Emitting Devices Act, REDR C 1370.

Electrostatic Discharge (ESD)

A sudden discharge of electrostatic electricity can destroy static-sensitive devices or micro-circuitry. Therefore proper packaging and grounding techniques are necessary precautions to prevent damage. Always take the following precautions:

1. Transport boards in ESD-safe containers such as boxes or bags.
2. Keep electrostatic sensitive parts in their containers until they arrive at the ESD-safe workplace.
3. Always be properly grounded when touching a sensitive board, component, or assembly.
4. Store electrostatic-sensitive boards in protective packaging or on antistatic mats.

Grounding Methods

The following measures help to avoid electrostatic damages to the device:

1. Cover workstations with approved antistatic material. Always wear a wrist strap connected to workplace as well as properly grounded tools and equipment.
2. Use antistatic mats, heel straps, or air ionizers for more protection.
3. Always handle electrostatic-sensitive components by their edge or by their casing.
4. Avoid contact with pins, leads, or circuitry.
5. Turn off power and input signals before inserting and removing connectors or connecting test equipment.
6. Keep work area free of non-conductive materials such as ordinary plastic assembly aids and styrofoam.
7. Use field service tools such as cutters, screwdrivers, and vacuum cleaners which are conductive.
8. Always place drives and boards PCB-assembly-side down on the foam.

Instructions for the Lithium Battery

The Mainboard installed is equipped with a lithium battery. For replacing of this battery, please observe the instructions described in the “Replacing the Lithium Battery” chapter.

Warning

Danger of explosion when replacing with wrong type of battery. Replace the battery only with UL listed Lithium battery that has the same or equivalent type recommended by Kontron.

Do not dispose of lithium batteries in general trash collection. Dispose of the battery according to the local regulations dealing with the disposal of these special materials, (e.g. to the collecting points for dispose of batteries).

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

(English): This Class A digital apparatus complies with the Canadian ICES-003.

(French): Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Electromagnetic Compatibility

This product has been designed for industrial, commercial and office use, including small business use. The most recent version of the EMC guidelines (EMC Rules 2004/108/EC) and/or the German EMC laws applies. If the user modifies and/or extends the equipment (e.g. installation of add-on cards) the prerequisites for the CE conformity declaration (safety requirements) may no longer be met.

Scope of Delivery

- ❏ KISS 2U Short (with the system configuration ordered)
- ❏ Two keys for the front panel lock
- ❏ AC power cord
- ❏ Rubber feet (self-adhesive)

Type Label and Product Identification

The type label (product designation, serial number) and the inspection status label of your KISS 2U Short system are located on the right side of the device.

System Type	Product Designation	Product Identification of your System
KISS 2U Short	KISS 2U Short XXX-Y	KISS 2U Short = system type The “XXX”-Group is replaced by figures (100 through 999), representing the built-in CPU board. “Y” is replaced by a single letter (A through Z) representing the power supply installed in the system.

Product Description

The KISS 2U Short system expands the line of computers of the Kontron KISS series. It is a scalable 2U (19") system which can be equipped with a motherboard (selectable, see “Configuration Guide” at our web site) and which thereby supports different system configurations. The flexible customer-specific hardware system configuration and robust design with excellent mechanical stability provides the KISS 2U Short system with the necessary characteristics for a computer, which is suitable for use in harsh industrial environments.

The KISS 2U Short system is available as a 19" rack device and as a desktop version.

KISS 2U Short Versions:

Fig. 2: Rackmount version, closed

Fig. 3: Desktop version, closed

Fig. 2a: Rackmount version, open

Abb. 3a: Desktop version, open

The system is equipped with a 5.25" and a 3.5" drive bay. Both drive bays are located in a drive cage. For protection against shock and vibration, the drive cage is equipped with four specific shock absorbers.

The KISS 2U Short is equipped with an active cooling.
The name plate is located on the right side of the device.

☞ When switching on the KISS 2U system, ensure that the openings for air intake and exhaust are not obstructed.

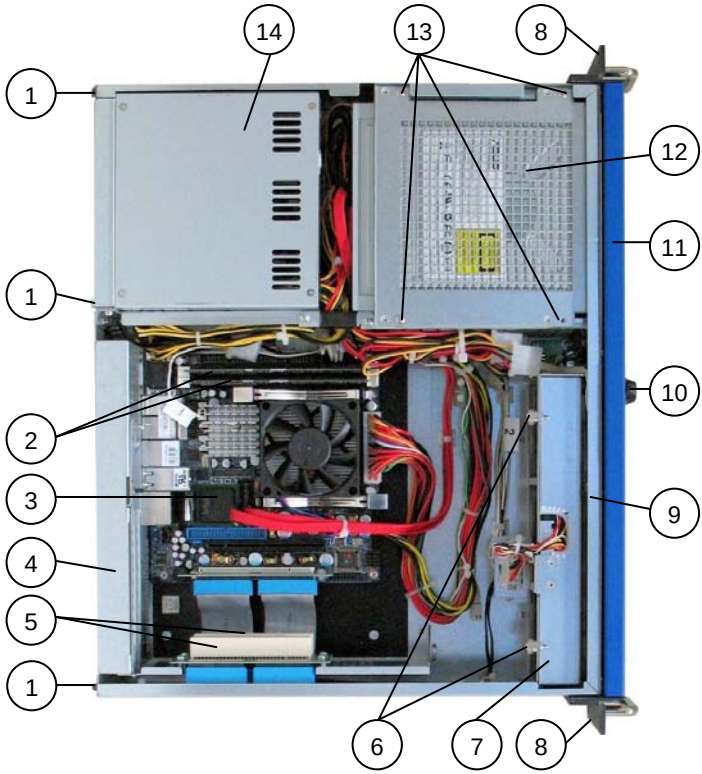


Fig. 4: KISS 2U Short, opened

1 Centering plates

2 Memory (ordering option)

3 Motherboard (ordering option)

4 Cover fixing plate at the rear side

5 PCI bus expansion card with 2x PCI slots

6 Fixing screws of the fan slide-in module

7 Fan slide-in module

8 19" bracket with handle (not available for the desktop version)

9 Cover fixing plate at the front side

10 Lock of the front access panel

11 Front access panel

12 Drive cage for 1x 5.25" front-accessible drive bay and 1x 3.5" drive bay

13 4x screws and shock absorbers for the attachment of the drive cage

14 Power supply

Front Side

The KISS 2U Short system is also available as rackmount version.

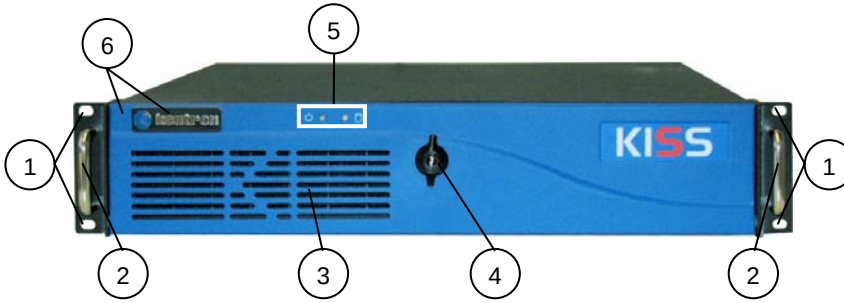


Fig. 5: Front side

You can very easily convert your system to a desktop version. To do this, unscrew the left and right hand 19" brackets from the device.

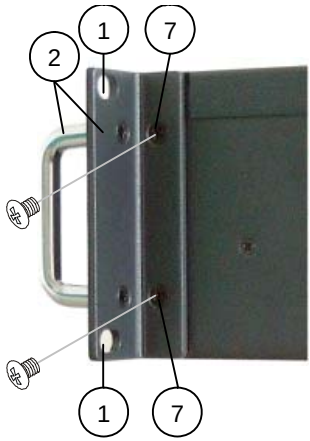


Fig. 6: 19" bracket with handle and mounting screws

Fig. 7: Front side (desktop version) with the front access panel closed

Legend for Fig. 5 **and** Fig. 6**:**

1 Anchor points for installation in an industrial cabinet

2 19" bracket with handle

3 Ventilation grilles on the front side

4 Locking device

5 Light diffusers for HDD and power LED indicators

6 Front access panel with LOGO

7 Screws for attaching the 19" bracket

There are rubber feet supplied with the desktop version of the KISS 2U Short. To attach the rubber feet, proceed as described in the “Attaching the Rubber Feet” chapter.

Front Access Panel

The front access panel (Fig. 5, ***pos. 6***) provides protection against unauthorized access to the front-accessible drives, the filter pad holders and the power button of your KISS 2U Short system.

The front access panel cannot be closed if USB devices are connected to the USB interfaces.

The power button, the power LED, the hard disk activity LED, 2x USB2.0 interfaces, the filter pad, a 3.5" and a 5.25" drive bay are located behind the front access panel.

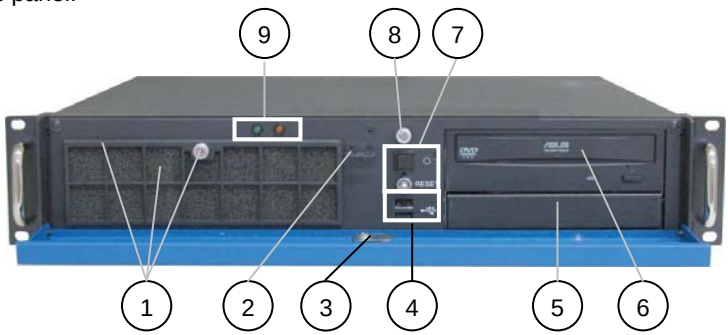


Fig. 8: Front side with front access panel opened

1 Filter pad and filter pad holder with knurled screw

2 Slot for the locking device

3 Locking device

4 USB 2.0 interfaces

5 **L2:** 3.5" drive bay [shown with an internal 3.5" SATA hard disk (with drive bay cover), see also “Drive Bays”]

6 **L1**: 5.25" drive bay (for optional DVD/CD/CD-R/CD-RW-ROM, see also “Drive Bays”)

7 Controls

8 Knurled screw for securing the cover

9 Indicators

Drive Bays

KISS 2U Short is equipped with a drive cage with two drive bays in horizontal position. The drive bays are equipped with drives according to the ordered system configuration.

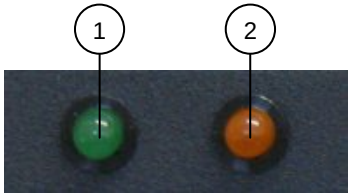
USB Interfaces on the Front Side

When USB devices are connected to the USB ports on the front of the device, the front access panel cannot be closed and locked.

Filter Pad Holders

The filter pad holder (Fig. 8, ***pos. 1***) is located behind the front access panel (Fig. 5, ***pos. 6***). A filter pad is inserted in the filter pad holder. The filter pad protects your system against dust and dirt (see chapter “Cleaning the Filter Pad”).

Indicators



1 Power LED

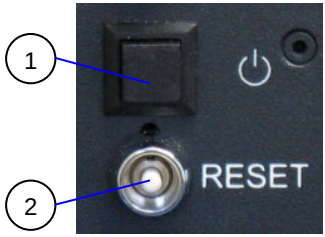
2 HDD LED

Fig. 9: Indicators

Two indicators are located on the front side of the system.

Power LED (green)	This LED lights up green, when the system is switched on using the power button. **Prerequisite:** The system must be connected to an appropriate power source (AC). The on/off switch of the power supply, on the back of the system must be set to “***On***”.
HDD LED (orange)	This LED lights up orange during hard disk activity.

Controls



1 Power button

2 Reset button

Fig. 10: Controls

Power button	Use this button to switch the system on or off. Note the possible BIOS settings for the power button.
Reset button	If your system no longer reacts, you need to restart the KISS 2U Short system. Press the reset button to restart your system.

When a reset is performed, all data are erased from the internal memory. The system restarts, without the need to switch the computer off and on again.

Even when you switch off the system using the power button, there is still a standby voltage of 5 V on the motherboard. The device is only fully disconnected from the power source when you switch off the On/Off switch of the AC power supply or when you disconnect the power cable from the power source or from the device.

For this reason, always provide easy access to the power cable, including its plugs.

Rear Side

Depending on the KISS 2U Short system configuration ordered, the external ports of the motherboard installed are located on the rear side of the system.

Depending on the device configuration, the arrangement and/or number of ports for the KISS 2U Short system may vary.

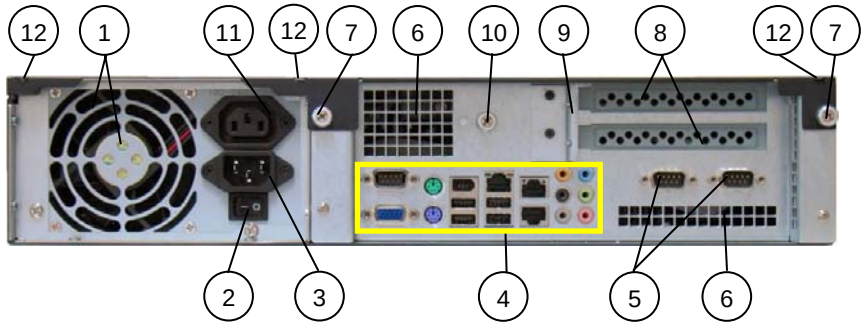


Fig. 11: KISS 2U Short – Rear side (shown as configuration with 986LCD-M/mITX)

1 Power supply fan
2 "On/Off" power supply switch
3 AC connector
4 Interfaces of the motherboard (depending on the motherboard installed)
5 Optional led-out serial interfaces (RS232)
6 Air exhaust openings
7 Captive knurled screw of the chassis cover
8 Card slots available:
2x PCI (32 Bit 33MHz), max. length: 230 mm
9 Slide bracket for fixing the expansion cards
10 Captive knurled screw for fixing the slide bracket
11 AC socket for connecting a monitor
12 Centering plates and slot

Important Note!

The captive knurled screw (Fig. 11, ***pos. 10)*** may not be unscrewed (loosened) during operation (while the system is connected to the power source and switched on)!

Optional Interfaces at the Rear Side

Depending on the system configuration ordered, the number and position of the additional interfaces (optional led-out on-board interfaces of the motherboard) at the rear side of your KISS 2U Short system may vary (customer-specific).

e.g. Optional Serial Interfaces (COM2 and COM3)

These optional led-out RS232 connectors (Fig. 11, ***pos. 5***) are available as 9-pin D-SUB plugs for the connection of serial peripherals.

Power Supply

For information on the power supply please refer to the type label.

Even when you switch off the system using the power button, there is still a standby voltage of 5 V on the motherboard. The device is only fully disconnected from the power source when you switch off the On/Off switch of the AC power supply or when you disconnect the power cable from the power source or from the device.

For this reason, always provide easy access to the power cable, including its plugs.

Cover

The cover will be fixed to the chassis using four fixing brackets (Fig. 12, ***pos. 2*** and ***pos. 4***) and the two captive knurled screws of the cover (Fig. 12, ***pos. 3***) and one captive knurled screw on the front side (Fig. 8, ***pos. 8***). The fixing brackets are located on the inside of the cover [three at the front edge (Fig. 12, ***pos. 4***) and one at the rear edge (Fig. 12, ***pos. 2***) of the cover].

When closing the cover, make sure that the fixing brackets (Fig. 12, ***pos. 2*** and ***pos. 4***) are inserted properly into the corresponding retaining brackets of the cover (Fig. 4, ***pos. 4*** and ***pos. 9***). The centering plates (Fig. 4, ***pos. 1*** and ***pos. 7***) must be inserted properly into to the corresponding slots (Fig. 12, ***pos. 5***).

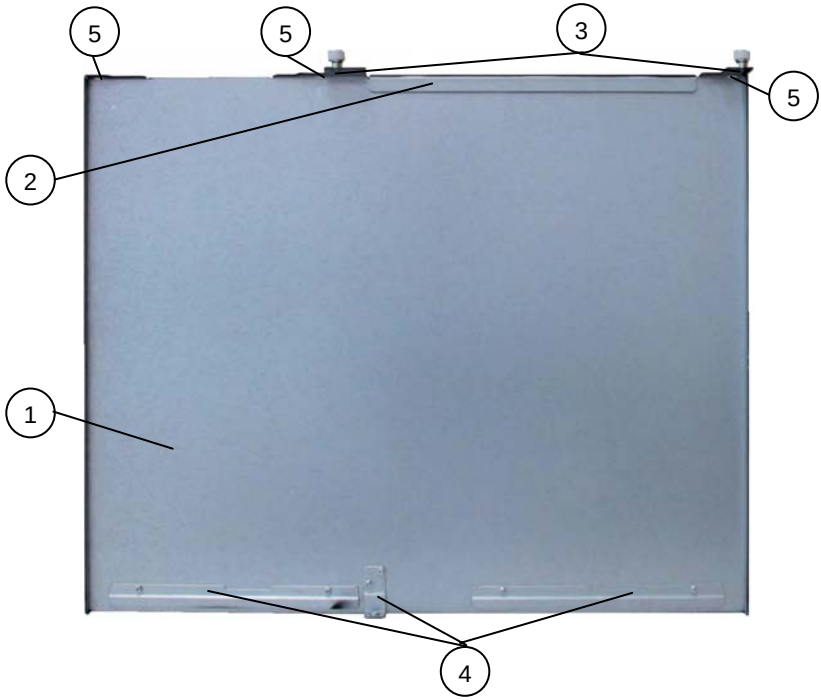


Fig. 12: Inside of the cover with fixing brackets

1 Inside of the cover
2 1x rear fixing bracket
3 Captive knurled screws
4 3x front fixing brackets
5 Centering slots

Assembly, Disassembly

Attaching the Rubber Feet

The rubber feet can be used for the desktop version of the KISS 2U Short system.

Please follow these steps to attach the rubber feet to the bottom side of the chassis:

1. Switch off the system.
2. Disconnect the system from the power source.
3. Make sure that all cards are secured into the unit and that the system cover is installed and secured.
4. Turn the system upside down.
5. Remove the protective film from the self adhesive rubber feet.
6. Attach the self adhesive rubber feet to the bottom side of the chassis.

Accessing Internal Components

This chapter contains important information on working safely with internal components. Please follow these instructions when handling cards or replacing system fans.

Installing/Removing Expansion Cards

Please consider the following instructions when you install/remove expansion cards:

The installation and removal of expansion cards should only be carried out by qualified specialists, in accordance with the description contained in this manual.

Before removing the device cover, ensure that your system is switched off and disconnected from the power source.

When you expand your system with additional cards, make sure that the power consumption per card does not exceed 25 W.

Please follow the safety instructions for components that are sensitive to electrostatic discharge (ESD).

Failure to observe this warning notice can result in damage to the device.

Please read the information provided by the manufacturer of any expansion cards before installing/removing them from your system.

To install or remove an expansion card proceed as follows:

1. Switch your system off and disconnect it from the power source.
2. Open the front access panel.
3. Loosen the knurled screw on the front side (Fig. 8, ***pos. 8***) and the two knurled screws on the rear side (Fig. 11, ***pos.7***) which secure the chassis cover.

Fig. 13: Loosening the knurled screws which secure the cover

4. Pull back the cover to remove the cover fixing brackets (Fig. 12, ***pos. 2*** and ***pos. 4***) from the retaining brackets (Fig. 4, ***pos. 4*** and ***pos. 9***) of the chassis.

Fig. 14: Sliding back the cover will pull out the cover fixing brackets from the retaining brackets of the chassis.

Fig. 15: Removing the cover

5. Lift the cover (on the rear edge) up and remove it.

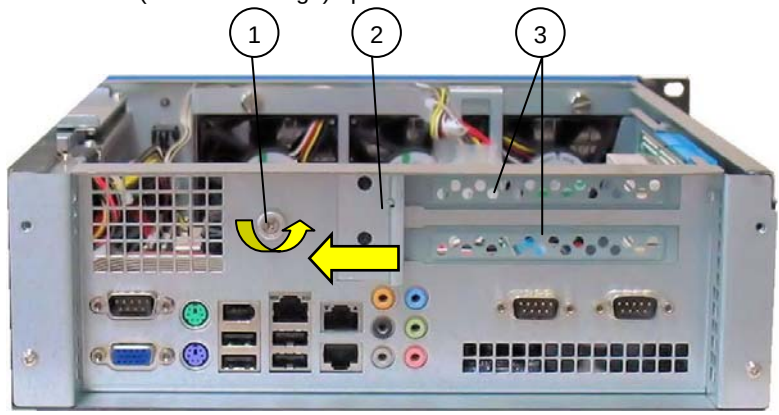


Fig. 16: Detail: Rear side with slide bracket closed (for fixing the expansion cards)

1	Fixing screw of the slide bracket	2	Slide bracket
		3	Blanking plates of the slots

6. Loosen (turn 1/2 to the left) the knurled screw (Fig. 16, ***pos. 1***) to unlock the slide bracket (Fig. 16, ***pos. 2***) fixing the blanking plates or the plates of the expansion cards.

7. Move the slide bracket to the left. The blanking plates are disengaged now and can be removed from the system.

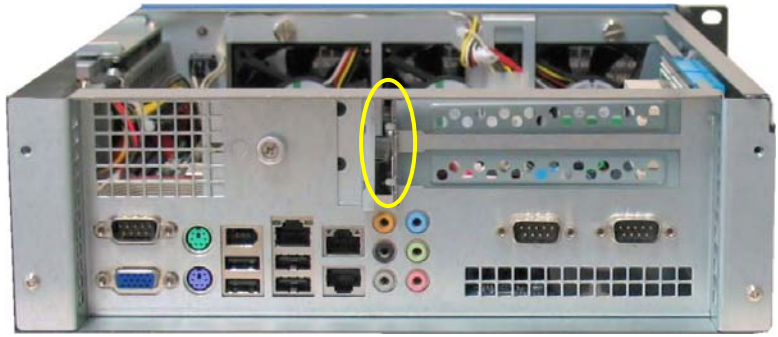


Fig. 17: Detail: Rear side with slide bracket open (for fixing expansion cards)

8. Insert/remove the expansion card into/out of the PCI slot of the motherboard.

9. Position the bracket of the expansion card or the blanking plate at the rear side of the chassis.

10. Move the slide bracket to the right until it rests firmly on the brackets of the expansion cards and the blanking plates, respectively.

11. Lock the slide bracket in this position by fastening the knurled screw (Fig. 16, ***pos. 1***) firmly.

12. Close the device and secure the cover with the knurled screws on the front side (Fig. 8, ***pos. 8***) and the two knurled screws on the rear side (Fig. 11, ***pos. 7***).

☞ When closing the cover, make sure that the cover fixing brackets (Fig. 12, ***pos. 2*** and ***pos. 4***) slide into the corresponding retaining brackets (Fig. 4, ***pos. 4*** and ***pos. 9***) of the chassis. The centering plates (Fig. 4, ***pos. 1*** and ***pos. 7***) must be inserted into the corresponding slots (Fig. 12, ***pos. 5***).

Installation in a 19" Industrial Cabinet

If you want to expand your system with additional cards, then do this before installing the KISS 2U Short into the 19" industrial cabinet.

Please observe the details included in the chapter “Accessing Internal Components”.

Before closing the industrial cabinet, connect your peripherals to the corresponding system interfaces. Depending on the system configuration ordered, you can find the description of the interfaces in the manual of the motherboard installed.

Important Instructions!

The KISS 2U Short system must be installed and operated only by qualified personnel.

Make sure there is sufficient air circulation around the device when installing the KISS 2U Short system.

The openings for air intake and exhaust of the device and the 19" industrial cabinet must not be obstructed.

When installing in a 19" cabinet, leave at least 5 cm (approx. 2") of space free around the unit to prevent the device from possibly overheating!

The 19" industrial cabinet must stand firmly in place. You can improve its stability by placing the components into it from the bottom up. Heavy components should be placed down below.

If further stabilization is necessary, then bolt the 19" industrial cabinet to the floor or anchor it on the wall.

The voltage feeds must not be overloaded. Adjust the cabling and the external overcharge protection to correspond with the electrical values indicated on the type label.

The type label is located on the right side of the device.

Starting Up

Connecting the Power Cable and Switching On

The AC mains input socket is located on the rear side of the KISS 2U Short.

☞ The power source voltage must match the voltage on the type label.

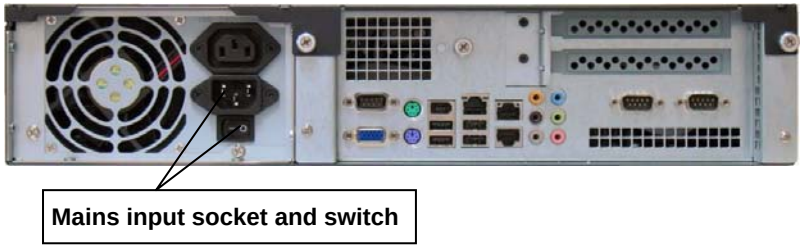


Fig. 18: KISS 2U Short (shown as a system configuration with 986LCD-M/mITX motherboard)

1. Connect the device to the power source.
2. Switch the device on, by turning the on/off switch of the power supply to “On”.

Use a power cord suitable for the power supply in your country.

Make sure that the power supply (power outlet) is properly grounded and that the power cord is in perfect condition without any visible damage. An ungrounded power supply is not permissible.

Operating System and Hardware Component Drivers

Your system can be supplied either with or without a pre-installed operating system installed.

If you have ordered your KISS 2U Short with a pre-installed operating system, all drivers are installed in accordance with the system configuration ordered (optional hardware components). Your system is fully operational when you switch it on for the first time.

If you have ordered KISS 2U Short without a pre-installed operating system, you will need to install the operating system and the appropriate drivers for the system configuration you have ordered (optional hardware components) yourself.

You can download the relevant drivers for the installed hardware from our web site at www.kontron.com by selecting the product.

Pay attention to the manufacturer specifications of the operating system and the integrated hardware components.

Maintenance and Prevention

Equipment from Kontron Embedded Computers requires only minimum servicing and maintenance for problem-free operation.

- ❏ For light soiling, clean the KISS 2U Short with a dry cloth.
- ❏ Stubborn dirt should be removed using a mild detergent and a soft cloth.
- ❏ Clean the filter pads regularly (refer to the “Cleaning the Filter Pad” chapter).

Replacing the System Fans

The operation of the KISS 2U Short system is permitted only with a functional fan slide-in module.
Defective components may be replaced only by Kontron original spare parts.

❏ Fan Slide-In Module KISS 2U Short:
Part number: 1009-1642

Important Instructions!
The fan slide-in module can be replaced during operation. This should only be carried out by a qualified specialist, who is aware of the associated dangers.

To replace the fan slide-in module, proceed as follows:

1. Open the device, as described in the “Installing/Removing Expansion Cards” (step 2-4) chapter. Pull the cover back as far as necessary to gain access to the fan slide-in module.

2. Loosen the knurled screws (Fig. 19***, pos. 2***) and pull the handle on the fan slide-in module (Fig. 19 ***and*** Fig. 21***, pos. 5***) upwards out of the fan compartment (Fig. 20***, pos. 7***).

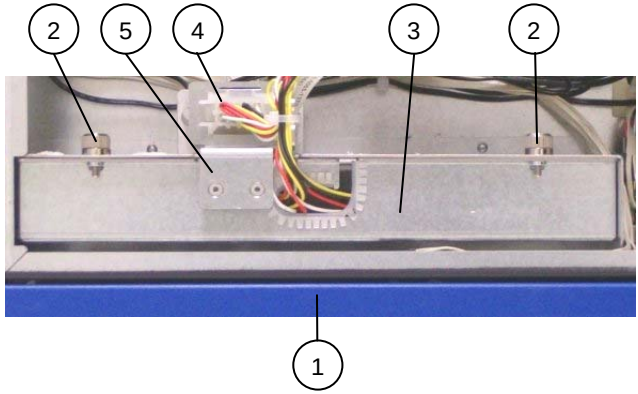


Fig. 19: KISS 2U Short – Details of the fan slide-in module in the system housing

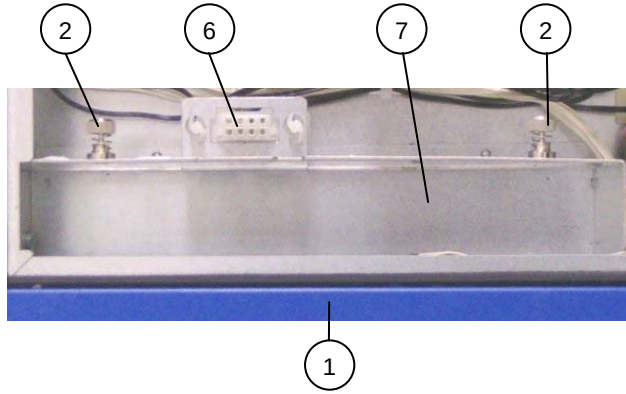


Fig. 20: Fan compartment of the KISS 2U Short without fan slide-in module

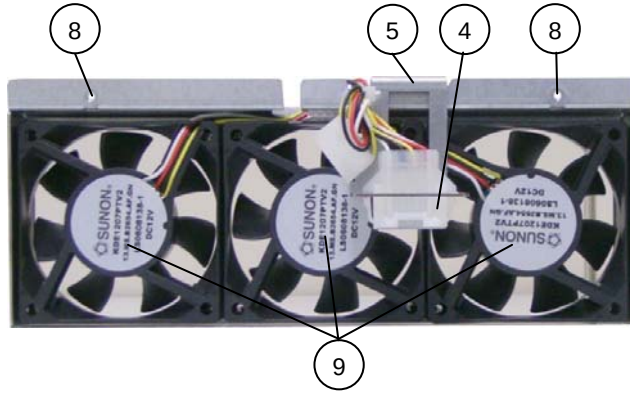


Fig. 21: Fan slide-in module for the KISS 2U Short – connector side

Legend for Fig. 19**,** Fig. 20 **and** Fig. 21**:**

1 KISS front access panel

2 Knurled screws

3 Fan slide-in module

4 Connector for fan control

5 Fan slide-in module handle

6 Socket for fan control

7 Fan compartment (without fan slide-in module)

8 Tapped holes for the knurled screws on the fan slide-in module

9 3x fans

3. Replace the fan slide-in module with a new functional one and push it into the system fan compartment until it is attached to the connector.
4. Tighten the knurled screws (Fig. 19, pos. 2) up again.
5. Close the device and secure the cover with the knurled screws on the front side (Fig. 8, ***pos. 8***) and the two knurled screws on the rear side (Fig. 11, ***pos. 7***).

Cleaning the Filter Pad

The filter pad (Fig. 22, ***pos. 2***) is inserted in the filter pad holder (Fig. 22, ***pos. 3***) at the front side of the system. Cleaning frequency of the filter pad will depend on the operating environment. If the environment is extremely dusty, clean the filter mat more often. The filter mat can be changed even if the system is powered-up.

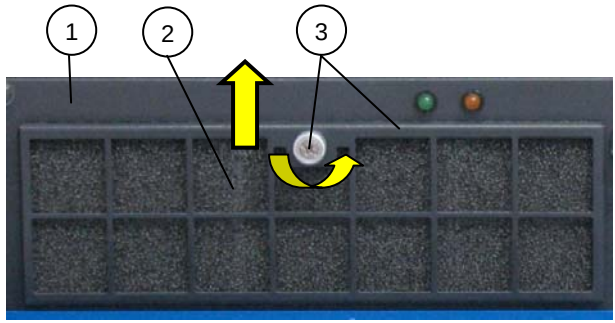


Fig. 22: Position of the filter pad

1 KISS 2U Short Front side
2 Filter pad
3 Filter pad holder with knurled screw

To replace the filter pad (Fig. 25, ***pos. 6***), proceed as follows:

1. Open the front access panel (Fig. 5. ***pos. 6***).
2. Loosen the knurled screw (Fig. 22, ***pos. 3***) that attaches the filter pad holder to the chassis.
3. Pull the filter pad holder in the direction of the arrow (see Fig. 22) and lift it off.
4. Remove the soiled filter pad.
5. Clean the filter pad as follows:
   - ❏ Rinse in water (up to approximately 40°C, possibly with the addition of a standard gentle detergent).
   - ❏ It is also possible to beat the filter pad, to vacuum it or blow it with compressed air.
   - ❏ For dirt that contains grease/oil, the filter pad should be rinsed with warm water with the addition of a degreaser. Filter pads should not be cleaned with powerful water jets or wrung out.

6. After cleaning and drying the filter pad, place it in the filter pad holder (Fig. 24). Re-attach the filter pad holder to the front of the chassis.

7. Fix the filter pad holder to the chassis with the knurled screw.

Defective components may be replaced only by Kontron original spare parts.

❏ Air filter pad: Part number: 1016-7164.

Fig. 23: Position of the filter pad holder

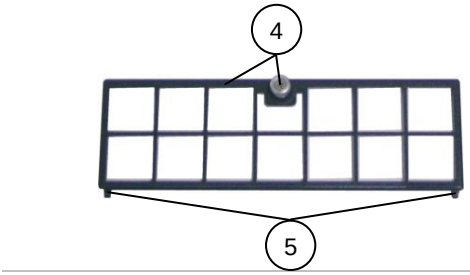


Fig. 24: Filter pad holder without pad

Fig. 25: Filter pad

Legende for Fig. 23, 24, 25:

1 Bolt with tapped hole

2 Vent holes

3 Positioning holes for the filter pad holder

4 Filter pad holder with knurled screw

5 Positioning tongues

6 Filter pad

Replacing the Lithium Battery

The motherboard of your system is equipped with a lithium battery. To replace the lithium battery, proceed as follows:

1. Open the device, as described in “Installing/Removing Expansion Cards” (step 1-5).
2. If you have added expansion cards to your system, first remove the expansion cards plus all the corresponding connecting cables, to gain access to the lithium battery.
3. Remove the lithium battery from the holder by pulling the ejector spring outwards.
4. Place a new lithium battery into the battery holder.
5. When doing this, pay attention to the polarity of the battery (the plus pole should be on the top).
6. The lithium battery must only be replaced with the same type of battery or with a type of battery recommended by Kontron Embedded Computers. The type of the lithium battery must be UL listed.
7. Re-position the expansion cards and re-attach the connecting cables.
8. Close the device, as described in “Installing/Removing Expansion Cards” (step 12).

Do not dispose of lithium batteries in general trash collection. Dispose of the battery according to the local regulations dealing with the disposal of these special materials, (e.g. to the collecting points for disposal of batteries).

Technical Data

KISS 2U Short	
Installed Board	* See “Configuration Guide”
Interfaces	Motherboard interfaces Additional interfaces: Led-out on-board interfaces (customer-specific) * See manuals of the board installed
Drive Bays (L1 + L2)	* Optional equipment, depending on the system configuration ordered (see also “Configuration Guide”)
L1: 1x 5.25**"** (ext.)	
L2: 1x 3.5**"** (ext.)	
Expansion Slots	2x PCI 32 Bit@33MHz (max. length: 230 mm)
Power consumption per Slot (PCI)	Max. 25 W
Lithium Battery	CR2032; 3.0 V; 0.22Ah
Power Supply	See type label

* You can download the relevant “Configuration Guide” document and the manual of the motherboard installed from our web site at www.kontron.com by selecting the product.

Electrical Specifications

See type label.

Mechanical Specifications

Dimensions	KISS 2U Short
Height	2U (88.9 mm) (3.5")
Width	Front: 19"; Chassis: 430 mm (16.9")
Depth	Chassis: 350 mm (13.779")
Weight (without Packaging)	Approx. 10.00 kg (22.046 lbs.)
Chassis	Chassis, black (RAL 7021) Front access panel, blue (RAL 5017)

Environmental Specifications

Ventilation	Active Cooling
Operation Temperature / Relative Humidity	0 … +50 °C / 20-90 % not condensing (32 … 122 °F / 20-90 %) not condensing
Storage / Transport Temperature / Relative Humidity	-20 … +70 °C / 10-90 % not condensing (-4 … 158 °F / 10-90 %) not condensing
Max. Operation Altitude	3.048 m (10.000 ft)
Max. Storage / Transport Altitude	10.000 m (32810 ft)
Operating Shock	15 G, 11 ms, half sine
Storage / Transit Shock	30 G., 11 ms, half sine
Operating Vibration	10 – 500 Hz, 1.0 G
Storage / Transit Vibration	10 – 500 Hz, 2.0 G
Protection Class	Front: IP20

Directives and Standards

CE Directives	
Electrical Safety	General Product Safety Directive (GPSD) 2001/95/EC Low Voltage Directive (LVD) 2006/95/EC
ElectroMagnetic Compatibility (EMC)	EMC Directive 2004/108/EC
CE Marking	Council Directive 93/68/EEC

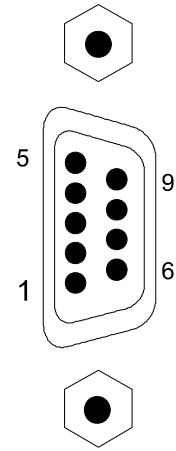
Electrical Safety	Harmonized Standards
EUROPE	Information technology equipment - Safety - Part 1: General requirements EN 60950-1: 2006
U.S.A. / CANADA	Meet to UL60950-1:2006

EMC	Harmonized Standards
EUROPE	Generic emission standard for industrial environments (Emission): EN 61000-6-4:2006 Generic standards - Immunity for industrial environments (Immunity): EN 61000-6-2:2005
U.S.A.	FCC 47 CFR Part 15, Class A
CANADA	ICES-003, Class A

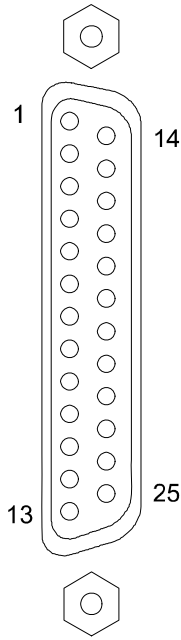
Standard Ports – Pin Assignment

Low-active signals are identified with a minus sign.

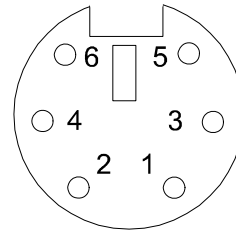
Serial Port COM1 / 2 / 3 / 4 (RS232)

Pin	Signal Name		9-pin D-SUB Connector
1	DCD	(Data Carrier Detect)	
2	RXD	(Receive Data)	
3	TXD	(Transmit Data)	
4	DTR	(Data Terminal Ready)	
5	GND	(Signal Ground)	
6	DSR	(Data Set Ready)	
7	RTS	(Request to Send)	
8	CTS	(Clear to Send)	
9	RI	(Ring Indicator)	

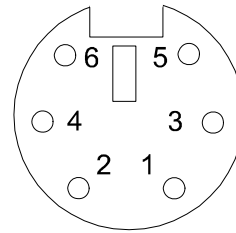
Parallel Port (LPT)

Pin	Signal Name	25-pin D-SUB Connector (female)
1	–STROBE	
2	DATA0	
3	DATA1	
4	DATA2	
5	DATA3	
6	DATA4	
7	DATA5	
8	DATA6	
9	DATA7	
10	–ACKN	
11	BUSY	
12	PE	
13	SELECT	
14	–AUTOFD	
15	–ERROR	
16	–INIT	
17	–SLCTIN	
18–25	GND	

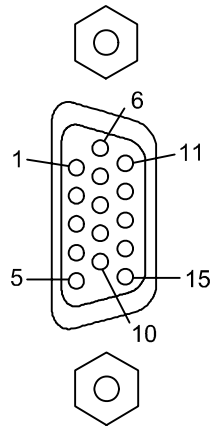
PS/2 Mouse Connector

Pin	Signal Name	6-pin Mini-DIN Connector
1	Mouse Data	
2	N.C.	
3	GND	
4	+5 V	
5	Mouse Clock	
6	N.C.	

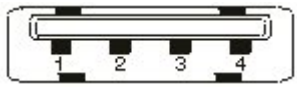
PS/2 Keyboard Connector

Pin	Signal Name	6-pin Mini-DIN Connector
1	Keyboard Data	
2	N.C.	
3	GND	
4	+5 V	
5	Keyboard Clock	
6	V.C.	

VGA Port

Pin	Signal Name	15-pin D-SUB Connector (female)
1	Analog red output	
2	Analog green output	
3	Analog blue output	
4	N.C.	
5–8	GND	
9	+5 V (DDC)	
10	GND	
11	N.C.	
12	SDA (DDC)	
13	TTL HSync	
14	TTL VSync	
15	SCL (DDC)	

USB Port

Pin	Signal Name	4-pin USB Connector Type A Version 2.0
1	VCC	
2	Data-	
3	Data+	
4	GND	

Technical Support

For technical support, please contact our Technical Support team:

Tel: +49 (0)9461 950-104
Fax: +49 (0)9461 950-200
e-Mail: support@kontron.com

Make sure you have the following information on hand when you call:

- the unit part id number (P/No #),
- the serial number (S/No #) of the unit (provide the serial number found on the type label, placed on the right side of the system).

Be ready to explain the nature of your problem to the service technician.

If you have questions about Kontron Embedded Computers or our products services, you may reach us at the aforementioned numbers, or at:

Kontron Embedded Computers GmbH
Oskar-von-Miller-Str. 1

85386 Eching
Germany

Returning Defective Merchandise

Before you return any device that is not functioning correctly to Kontron Embedded Computers, please work through the following list:

1. Contact our Customer Service department to obtain an RMA number.
   Fax: (+49) 8165-77 412
   e-Mail: service@kontron.com
2. Ensure that you have received an RMA number from Kontron Customer Services before returning any device. Clearly write this number on the outside of the package you are returning.
3. Describe the failure that has occurred.
4. Please provide the name and telephone number of a person we can contact to obtain more information, where necessary. Where possible, please enclose all the necessary customs documents and invoices.
5. When returning a device:
   - Ensure that the device is properly packed in the original box.
   - Include a copy of the RMA form.