

KISS4U

User's Guide

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kontron

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Safety Instructions

Before You Begin

Before handling your KISS4U, read the instructions and safety guidelines on the following pages to prevent damage to the product and to ensure your own personal safety. Refer to the “Advisories” section in the Preface for advisory conventions used in this user’s guide, including the distinction between Warnings, Cautions, Important Notes, and Notes.

- ♦ Always use caution when handling or operating a computer. Only qualified, experienced, authorized electronics service personnel should access the interior of a computer. The power supplies produce high voltages and energy hazards, which can cause bodily harm.
- ♦ If you have any problems or questions about the unit, please contact Kontron Post-Sales Technical Support.



WARNING

High voltages are present inside a computer chassis when the unit’s power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.



When Working Inside a Computer

Before taking covers off a computer, perform the following steps:

- 1) Turn off the computer and any peripherals.
- 2) Disconnect the computer and peripherals from their power sources or subsystems to prevent electric shock or system board damage. This does not apply when hot swapping parts.
- 3) Follow the guidelines provided in “Preventing Electrostatic Discharge” on the following page.
- 4) Disconnect any telephone or telecommunications lines from the computer.

In addition, take note of these safety guidelines when appropriate:

- ♦ To help avoid possible damage to system boards, wait five seconds after turning off the computer before removing a component, removing a system board, or disconnecting a peripheral device from the computer.
- ♦ When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs. If you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before connecting a cable, make sure both connectors are correctly oriented and aligned



CAUTION

Do not attempt to service the system yourself. Follow installation and troubleshooting instructions closely.



Preventing Electrostatic Discharge

Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedure to reduce the risk of damage to components. Kontron strongly encourages you to follow proper ESD procedure, which can include wrist straps and smocks, when servicing equipment.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- ♦ When unpacking a static-sensitive component from its shipping carton, do not remove the component's antistatic packing material until you are ready to install the component in a computer. Just before unwrapping the antistatic packaging, be sure you are at an ESD workstation or grounded. This will discharge any static electricity that may have built up in your body.
- ♦ When transporting a sensitive component, first place it in an antistatic container or packaging.
- ♦ Handle all sensitive components at an ESD workstation. If possible, use antistatic floor pads and workbench pads.
- ♦ Handle components and boards with care. Don't touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.
- ♦ Do not handle or store system boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.

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Preface

How to Use This Guide

This guide is designed to be used as step-by-step instructions for installation, and as a reference for operation, troubleshooting, and upgrades.



Note: Additional technical information, BIOS updates, and drivers are available on our web site, www.kontron.com, under Technical Support.

The following is a summary of the chapter contents:

- ♦ **Chapter 1, Introduction**, provides an overview of the KISS4U.
- ♦ **Chapter 2, Installation**, provides instructions on preparing the KISS4U for use and mounting it or installing it in a 19" industrial cabinet.
- ♦ **Chapter 3, Maintenance and Prevention**, has information on replacing fans, filters and batteries.
- ♦ **Appendix A, Slide Rails (Optional)**, provides instructions on how to install the optionally available slide rails for use in a 19" industrial cabinet.
- ♦ **Appendix B, Troubleshooting**, provides general troubleshooting guidelines and steps to fix some common problems.

Customer Comments

If you have any difficulties using this user's guide, discover an error, or just want to provide some feedback, please send us a message using the online form under "Contact Us" on our web site (www.kontron.com) under "Technical Support." Detail any errors you find. We will correct the errors or problems as soon as possible and post the revised user's guide in our online Support Library. Thank you.



Note: You may also use the online form on our web site to submit comments or concerns about our products, or request technical support.

Advisory Conventions

Four types of advisories are used throughout this user's guide to provide helpful information or to alert you to the potential for hardware damage or personal injury. They are Notes, Cautions, and Warnings. The following is an example of each type of advisory. Use caution when servicing any electrical component



Note: A note is used to make helpful information stand out.



Important: An important note indicates information that is important for you to know.



CAUTION

A CAUTION indicates potential damage to hardware and tells you how to avoid the problem.



WARNING

A WARNING indicates the potential for bodily harm and tells you how to avoid the problem.



Disclaimer: We have tried to identify all situations that may pose a warning or caution condition in this user's guide. However, Kontron does not claim to have covered all situations that might require the use of a Caution or Warning.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and Safety Standards.

FCC Compliance Statement for Class A Devices

The product(s) described in this user's guide 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 a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user's guide, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at their own expense.

You are cautioned that changes or modifications not expressly approved by Kontron could void your authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation

Safety Standards

 The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques. Although Kontron offers accessories, the customer must ensure that these products are installed with proper shielding to maintain CE compliance. Kontron does not offer engineering services for designing cabling systems. In addition, Kontron will not retest or recertify systems or components that have been reconfigured by customers.

Guarantee and Warranty Policy

Guarantee

A thirty day money-back guarantee is provided on all standard products sold. Special order products are covered by our Limited Warranty, however they may not be returned for refund or credit. EPROMs, RAM, Flash EPROMs or other forms of solid electronic media are not returnable for credit - but for replacement only. An extended warranty is available. Consult the factory.

Refunds

In order to receive a refund on a product for the purchase price, the product must not have been damaged by the customer or by the common carrier chosen by the customer to return the goods and the product must be returned complete (meaning all user's guides, software, cables, etc.) within 30 days of receipt and in an as-new and resalable condition. The "Return Procedure" must be followed to assure a prompt refund.

Restocking Charges

Product returned after 30 days, and before 60 days, of the purchase will be subject to a minimum 20% restocking charge and charges for any damaged or missing parts. Products not returned within 60 days of purchase, or products which are not in an as-new and resalable condition, are not eligible for a credit return and will be returned to the customer.

Limited Warranty

Effective April 1, 1998, all products carry a 2-year limited warranty. Within 2 years of purchase, Kontron will repair or replace, at our option, any defective product. Kontron will service the warranty for all standard catalog products for the first two years from the date of shipment. Please note: The 2-year warranty may not apply to special promotion items. Please consult the factory for warranty verification.

The limited warranty is void if the product has been subjected to alteration, neglect, misuse, or abuse; if any repairs have been attempted by anyone other than Kontron or its authorized agent; or if the failure is caused by accident, acts of God, or other causes beyond the control of Kontron or the manufacturer. Neglect, misuse, and abuse shall include any installation, operation, or maintenance of the product other than in accordance with the user's guide.

No agent, dealer, distributor, service company, or other party is authorized to change, modify, or extend the terms of this Limited Warranty in any manner whatsoever. Kontron reserves the right to make changes or improvements in any product without incurring any obligation to similarly alter products previously purchased.

Return Procedure

For any Guarantee or Limited Warranty return, please contact Kontron Customer Service at 800-480-0044 or 858-677-0877 and obtain a Return Material Authorization (RMA) Number. All product(s) returned to Kontron for service or credit must be accompanied by a Return Material Authorization (RMA) Number. Freight on all returned items must be prepaid by the customer who is responsible for any loss or damage caused by common carrier in transit. Returns for Warranty must include a Failure Report for each unit, by serial number(s), as well as a copy of the original invoice showing the date of purchase.

To reduce risk of damage, returns of product must be in a Kontron shipping container. If the original container has been lost or damaged, new shipping containers may be obtained from Kontron Customer Service at a nominal cost.

Kontron owns all parts removed from repaired products. Kontron uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Kontron repairs or replaces a product, its warranty term is not extended.

Kontron will normally return your replacement or repaired items via ground. Overnight delivery or delivery via other carriers is available at an additional charge.

Shipments not in compliance with this Guarantee and Limited Warranty Return Policy will not be accepted by Kontron.

Limitation of Liability

In no event shall Kontron be liable for any defect in hardware, software, loss, or inadequacy of data of any kind, or for any direct, indirect, incidental, or consequential damages in connection with or arising out of the performance or use of any product furnished hereunder. Kontron's liability shall in no event exceed the purchase price of the product purchased hereunder. The foregoing limitation of liability shall be equally applicable to any service provided by Kontron or its authorized agent.

Some sales items and customized systems are not subject to the guarantee and limited warranty. However in these instances, any deviations will be disclosed prior to sales and noted in the original invoice. **Kontron reserves the right to refuse returns or credits on software or special order items.**

Unpacking

When unpacking, follow these steps:

- 1) After opening the box, save it and the packing material for possible future shipment.
- 2) Remove all items from the box. If any items listed on the purchase order are missing, notify Kontron customer service immediately.
- 3) Inspect the product for damage. If there is damage, notify Kontron customer service immediately. Refer to “Guarantee and Warranty Policy” for the return procedure.

Chapter 1: Introduction

Overview

What's Included

- ♦ KISS-Platform (configured as ordered)
- ♦ Integrated Motherboard or SBC-board and corresponding User's Manual and CD-ROM with drivers
- ♦ Two keys for the front door lock
- ♦ Power cord

Optional Parts

- ♦ Slide rails

Type Label and Product Identification

The type label of the KISS-Platform is placed on the right side of the unit.

Product designation on the type label	Product identification
KR-4101-886GV	KISS with 886LCD(GV) Motherboard
KR-4101-886M	KISS with 886LCD-M/ATX Motherboard
KR-4101-MB945G	KISS with MBATX-945G-VGA Motherboard
KR-4201-PCI951	KISS with PCI-951 SBC-board (Single Board Computer)

Product Description

KISS is a scalable 4U (19") Platform, that can be equipped with either a motherboard or a single board computer (SBC)-board. The KISS-Platform hardware can be flexibly configured to customized requirements. In addition, its sturdy design and excellent mechanical stability meets the demanding characteristics required for use in harsh industrial environments.

The KISS-Platform is designed to be installed in 19" racks. It is also offered in tower- and desktop versions.

Versions of the KISS-Platform:

		
<i>Rackmount version with closed access door</i>	<i>Tower version with closed access door</i>	<i>Desktop version with closed access door</i>
		
<i>Rackmount version with opened access door</i>	<i>Tower- version with opened access door</i>	<i>Desktop- version with opened access door</i>

The system is equipped with five front accessible drive bays (two 3.5" and three 5.25" bays). The operating controls of the KISS-Platform are located behind the front access door and include an "ATX-power button" and a "Reset-button" in the standard configuration. LED-indicators are located on the front side; for the standard version these include the "power-LED" and "hard disk activity-LED". **Please note that versions sold in North America come with a black front door.**

The system fans (2) are installed at the front side of the unit. These are attached to the system by means of a fan slide-in module. The fan slide-in module simplifies the installation and removal of these components, including during operation. The washable filter mat, which protects your system against dust and dirt, is located behind the air grills of the front access door. The outside accessible filter mat is changeable while the KISS-Platform is powered-up. The type label is attached to the right side of the unit.



Figure 1: KISS Platform



CAUTION

When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.



CAUTION

For rack and desktop versions only:

Before putting the system into operation for the first time (before mounting/installation into an industrial cabinet), you have to open the unit as described in "Accessing Internal Components" (page 39) and remove the drive locking screws (fig. 2, 3, 4, 5: pos. 14).



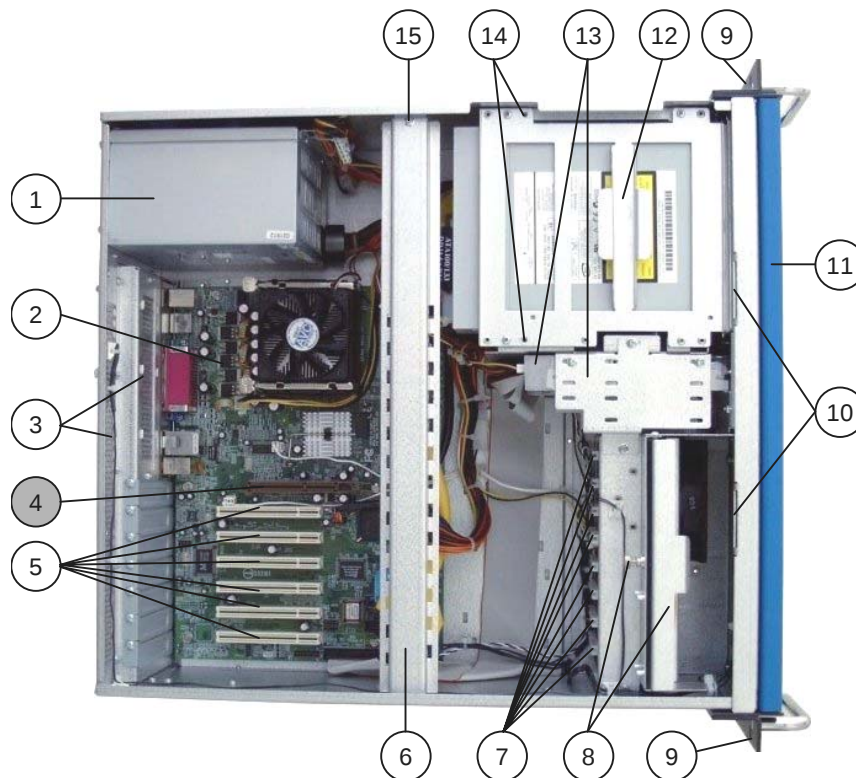


Figure 2: KISS-Platform, opened rackmount version with motherboard

Legend for figures 2 and 3:

- | | |
|---|--|
| 1. Power supply unit | 10. Guide openings for the cover |
| 2. Motherboard (example) | 11. Front access door |
| 3. Exhaust openings on the rear side | 12. Drive cage for 3x 5.25" drive bay and 1x 3.5" internal drive bay |
| 4. Free AGP-slot (available only in KR4101-886M) | 13. Drive bracket for 2x 3.5" drive bay |
| 5. Free expansion slots (depends on system configuration) | 14. Drive locking screws |
| 6. Card holder | 15. Fastening screw for the card holder |
| 7. Card guides | 16. External interfaces of the motherboard |
| 8. Fan slide-in module with captive knurled screw | 17. Grounding stud |
| 9. 19" rack mountable bracket with handle (not available for tower and desktop version) | 18. Expansion card slots |

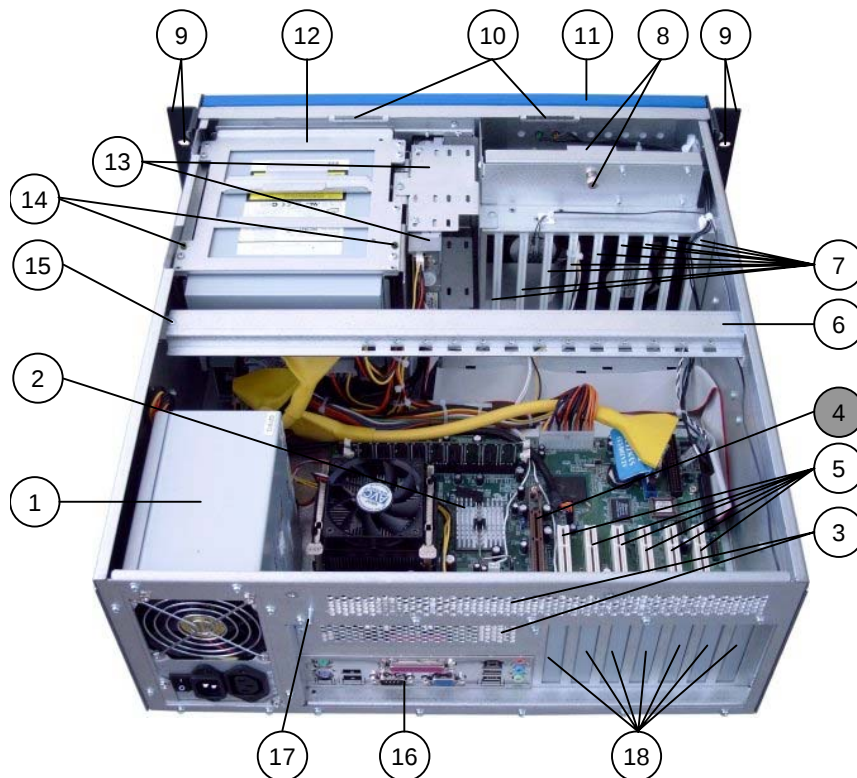


Figure 3: KISS-Platform, opened rackmount version with motherboard



CAUTION

When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.



CAUTION

For rack and desktop versions only:

Before putting the system into operation for the first time (before mounting/installation into an industrial cabinet), you have to open the unit as described in the "Accessing Internal Components" section and remove the drive locking screws (fig. 2, 3, 4, 5: pos.14).



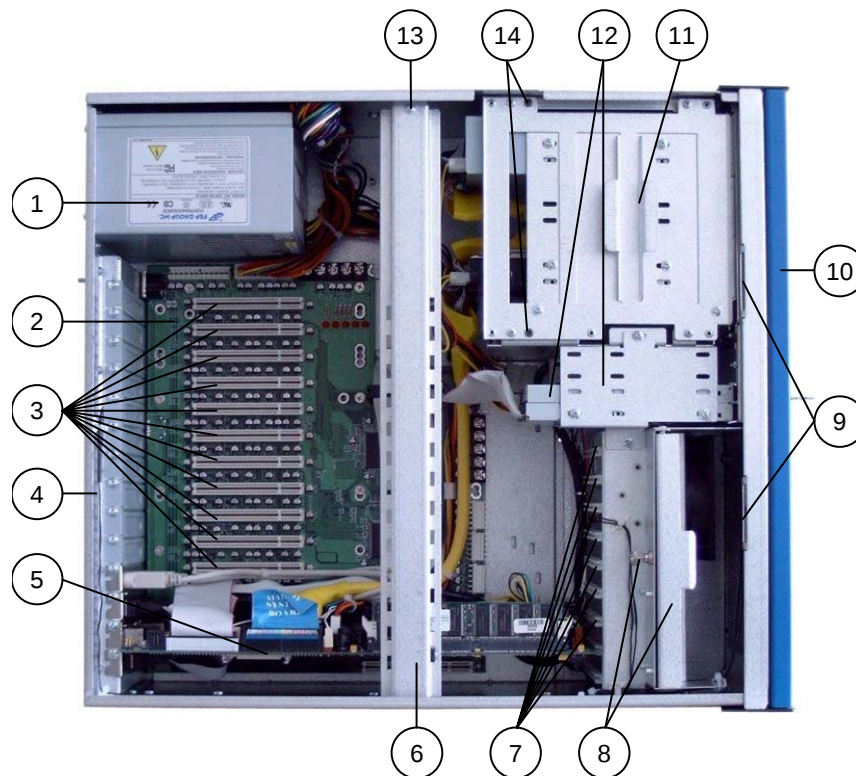


Figure 4: KISS-Platform, opened desktop version with SBC-board (KR-4201-PCI951)

Legend for figures 4 and 5:

- | | |
|---|---|
| 1. Power supply unit | 9. Guide openings for the cover |
| 2. Backplane (example) | 10. Front access door |
| 3. Free expansion PCI-slots
(depends on system
configuration) | 11. Drive cage for 3x 5.25" drive bay
and 1x 3.5" internal drive bay |
| 4. Exhaust openings on the rear
side | 12. Drive bracket for 2x 3.5" drive |
| 5. Single Board Computer
(example) | 13. Card holder fastening screw |
| 6. Card holder | 14. Drive locking screws |
| 7. Card guides | 15. External interfaces of the SBC-
board |
| 8. Fan slide-in module with captive
knurled screw | 16. Additional external interfaces |
| | 17. Grounding stud |
| | 18. Expansion card slots |

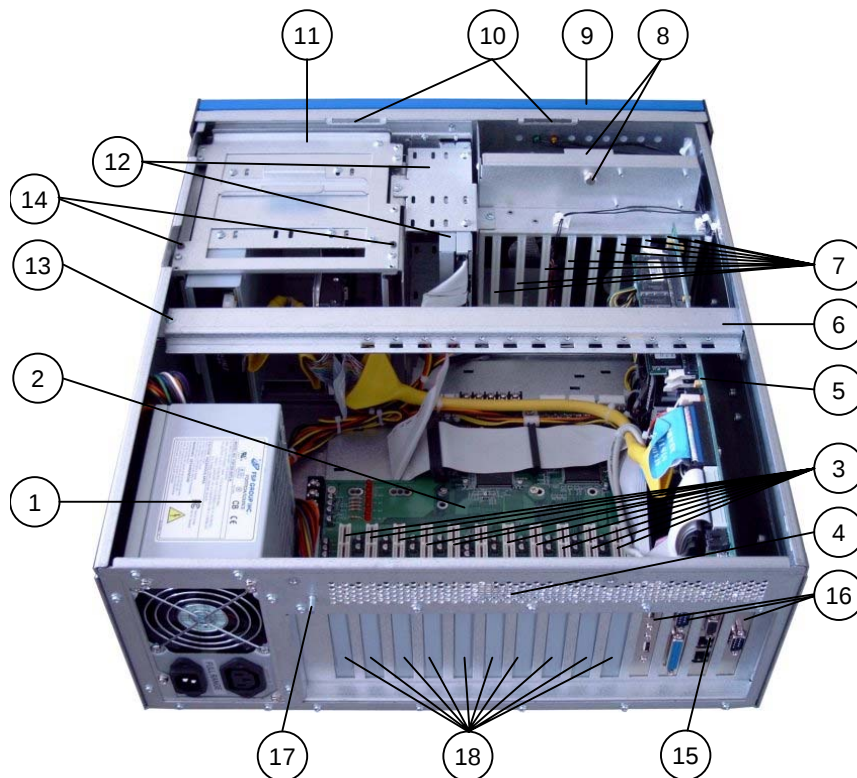


Figure 5: KISS-Platform, opened desktop version with SBC-board (KR-4201-PCI951)



CAUTION

When switching on the system, make sure that the air intake and exhaust openings are not obstructed by objects.



CAUTION

For rack and desktop versions only:

Before putting the system into operation for the first time (before mounting/installation into an industrial cabinet), you have to open the unit as described in "Accessing Internal Components" (page 39) and remove the drive locking screws (fig. 2, 3, 4, 5: pos.14).



Front Side

The system is available in a rackmount version.

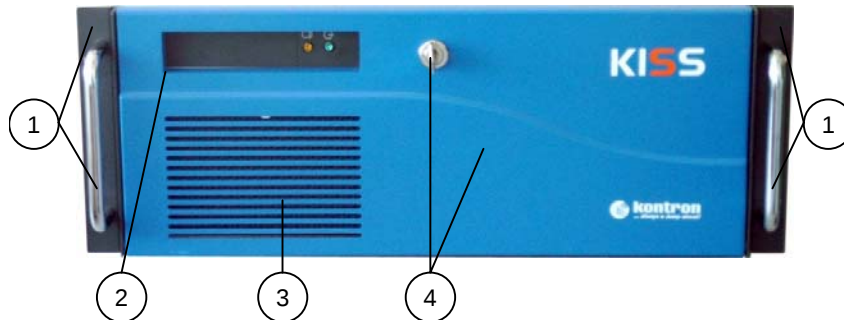


Figure 6: Front side (rackmount version) with closed front access door

Legend for figure 6:

- | | |
|---|--|
| 1. 19" rack mountable bracket with handle (not available for tower version) | 3. Air grilles |
| 2. Cut-out for LED indicators | 4. Front access door with lock mechanism |

You can adapt your system to a desktop unit by removing the two 19" rack mountable bracket with handle (one off on each side).

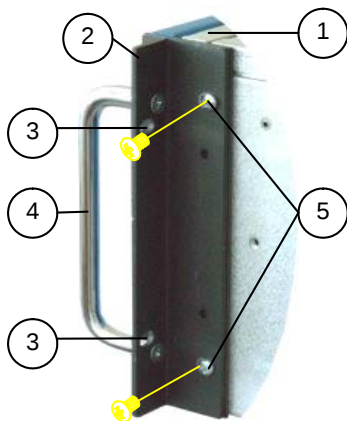


Figure 7: 19" rack mountable bracket with fastening screws

- | |
|--|
| 1. Chassis of the KISS-Platform |
| 2. 19" rack mountable bracket with handle |
| 3. Holes for mounting in rack cabinets |
| 4. Handles |
| 5. Screws for fastening the 19" rack mountable bracket |

The KISS tower version is delivered without a 19" rack mountable bracket.

The operating elements (ATX-power button and reset button), the USB interfaces and the integrated drives are located at the front side of the KISS-Platform, behind the front access door.

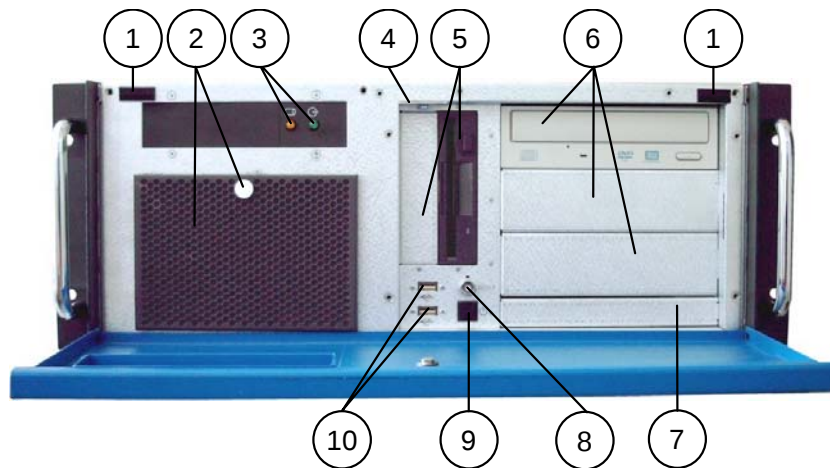


Figure 8: Front side (rackmount version) with opened front access door

Legend for figure 8:

- | | |
|--|--|
| 1. Buffer for the front access door | 6. 3x 5.25" external accessible drive bay (shown with one DVD-drive installed) |
| 2. Bracket with knurled screw for the air filter mat | 7. 1x internal 3.5"- or 1x external Slimdrive bay (not available in tower version) |
| 3. LED indicators | 8. Reset-button |
| 4. Slot for the locking mechanism | 9. ATX-power button |
| 5. 2x 3.5" drive bay (shown with one FDD installed) | 10. 2x USB interface |

Operating Elements

- ATX-power button** Press this button to turn the system on or off.
- Reset-button** If your system no longer responds, you will have to restart it. Press the reset button to restart your system.



Important: When you reset, all data in the main memory is erased. The system restarts without having to turn the computer off and back on again.



WARNING



Even if you turn off the system with the ATX-power button, there is still a standby-voltage of 5V on the SBC board / motherboard.

The system is not completely disconnected from the main power source by turning off the with the ATX-power button.

The unit is completely disconnected from the main power source, only when:

- ♦ the power cord is disconnected either from the power source or the unit (for KISS systems with a power supply unit (PSU) which does not have a PSU On/Off power switch).
- or
- ♦ the On/Off power switch of the power supply unit is switched “Off” (for KISS systems with a power supply unit (PSU) which has a PSU On/Off power switch)

Because of this, the power cord and its connectors must always remain easily accessible.

Interfaces on the Front Side

USB Interfaces

KISS is equipped with two USB interfaces at the front side. These connectors allow you to connect different USB-compatible devices to the KISS-Platform.

Integrated Board		Supports USB1.1	Supports USB2.0
886LCD(GV)	Motherboard	✓	✓
886LCD-M/ATX	Motherboard	✓	✓
MBATX-945G-VGA	Motherboard	✓	✓
PCI-951	SBC-board	✓	✓

LED Indicators

Following LED indicators are located at the left front side of the KISS-Platform:

Power LED (green)	Lights up green if the system is switched on by pressing the "ATX-power button". Prerequisite: The system must be attached by means of the power cord to an appropriate power source. The power switch of the PSU, located on the rear side of the unit, must be set to "On" (for those systems equipped with a PSU with PSU switch).
HDD Activity LED (orange)	Indicates hard disk activity.



CAUTION

Do not press the disk eject while the disk drive LED is lit or blinking.



Front Access Door

You can protect the drives and operating elements at the front side of the KISS-Platform from unauthorized use by means of the front access door equipped with a securing lock mechanism (usable only when no USB devices are attached). The key should be kept somewhere where it is not accessible to unauthorized persons.



Important: The KISS-Platform comes equipped with two keys. If the keys get lost or damaged, then the front access door can be opened only by Kontron Embedded Computers service personnel.

Filter Mat Holder

The filter mat holder is located behind the air grills of the front access door, inserted in the air filter holder. The filter mat protects your system against dust and dirt. It can be changed while the system is powered up. (see “Cleaning the Filter Mat” section).

External Accessible Drive Bays

The KISS system can be equipped with up to five externally accessible drives. The following drive bays are available:

- ♦ 3x 5.25” drive bay (horizontal position)
- ♦ 2x 3.5” drive bay (vertical position)

External Accessible Slim-Line or Internal 3.5” Drive Bay (Option)

The KISS desktop and rackmount versions can be optionally equipped with:

- ♦ 1x internal (not visible from the outside) 3.5” drive bracket in horizontal position (for IDE/SCSI/SATA hard disk drive)

or

- ♦ 1x externally accessible slim-drive bay in horizontal position.



Note: This option is not available in systems configured as tower version.

Rear Panel

Depending on the KISS-Platform configuration ordered, the rear panel will have the external interfaces of the integrated motherboard or SBC-board, any additional interfaces (in system configurations with an SBC-board), the power supply unit and the air exhaust openings.



Note: The number of KISS-Platform interfaces will vary depending on the configuration.

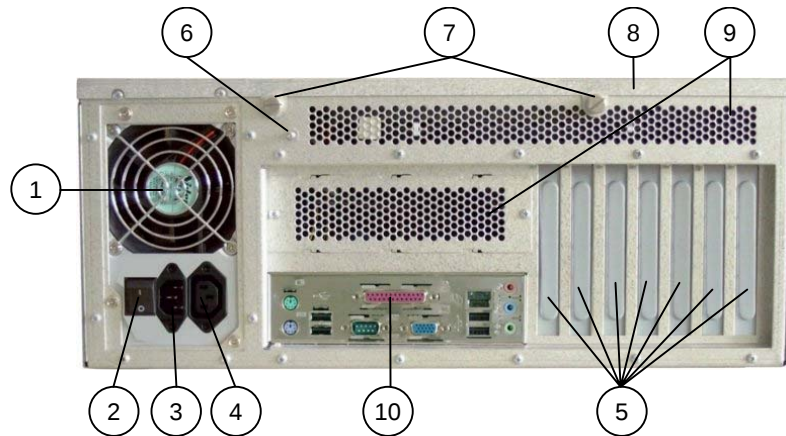


Figure 9: KISS4U with Motherboard (example) – rear side (always with 300 W PSU)

Legend for figures: 9 and 10:

- | | |
|---|--|
| 1. PSU Fan | 10. Interfaces of the SBC-board or of the motherboards (depending on the system configuration) |
| 2. PSU On/Off switch (depending on the integrated PSU) | 11. Additional serial interface (COM2) (only in configurations with an SBC-board) |
| 3. AC-power plug | 12. Additional parallel interface (LPT) (only in configurations with an SBC-board) |
| 4. AC-socket for monitor (depending on the integrated PSU) | 13. Additional serial interface (COM1) (only in configurations with an SBC-board) |
| 5. 32 bit or 64 bit free expansion card slots (depending on the integrated board) | 14. Two additional USB interfaces (only in configurations with an SBC-board) |
| 6. Grounding stud | |
| 7. Captive knurled screws to secure the cover | |
| 8. Device cover | |
| 9. Air exhaust openings | |

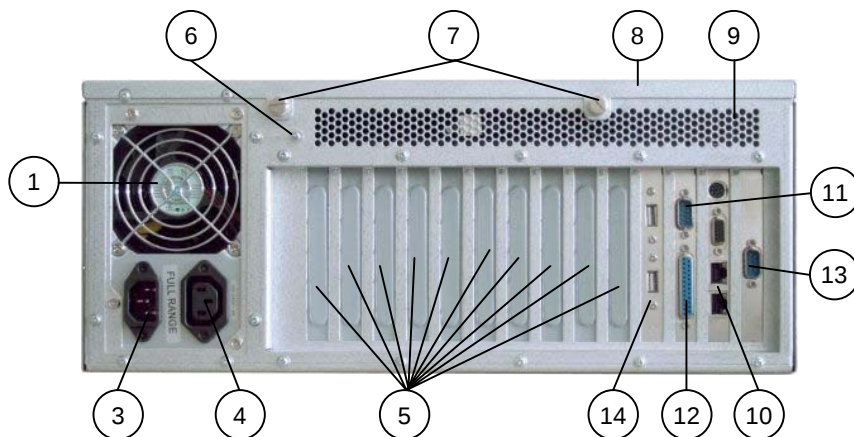


Figure 10: KISS with SBC-board (example) – rear side (always with 300 W PSU)

Interfaces on the Rear Side



Note: The number of KISS-Platform interfaces will vary depending on the configuration.

External Interfaces of the integrated Motherboard



Note: The external interfaces will vary depending on the integrated motherboard. Refer to the information and technical data in the supplied user manual of the motherboard.

External Interfaces of the integrated SBC-board



Note: The external interfaces will vary depending on the integrated SBC-board. Refer to the information and technical data in the supplied user manual of the SBC-board.

Additional Interfaces in Configurations with an SBC-board

Serial Interfaces (COM1, COM2)

These connections are available as 9-pin D-SUB plugs and allow you to connect serial peripherals. These additional interfaces are configured as RS232. Refer to the information and technical data in the supplied user manual of the SBC-board.

Parallel Interface Connector LPT1

This connector is available as a 25-pin D-SUB socket. The parallel interface LPT1 supports different modes: SPP, EPP and ECP. It is used for the connection of an external printer and can also be used for other external devices which can be connected via a parallel port. Nonetheless, depending on the device, the manufacturer's instructions must be observed and the necessary software driver installed.

USB Interfaces

KISS is equipped with two USB interfaces at the front side. These connectors allow you to connect different USB-compatible devices to the KISS-Platform.

Integrated Board		Supports USB1.1	Supports USB2.0
886LCD(GV)	Motherboard	✓	✓
886LCD-M/ATX	Motherboard	✓	✓
MBATX-945G-VGA	Motherboard	✓	✓
PCI-951	SBC-board	✓	✓

Power Supply Unit

The power supply unit (PSU) is located on the rear side of the unit. The type of PSU installed depends on which system configuration is ordered (integrated motherboard or SBC-board respectively).

For information about the integrated power supply unit (PSU) and the supply voltage of your system, refer to the type label attached on the right side of the unit.

Upon request, your system can also be equipped with a DC power supply.

Fan Slide-In Module and Temperature Sensors

The two system fans are firmly mounted in a user friendly, exchangeable fan slide-in module (hot swappable). The fan slide-in module is installed in the fan case located at the front side of the system. The system fans are temperature-controlled via the temperature sensors which are built into the system. In this way, sufficient airflow is ensured for optimal, active cooling of the system.



CAUTION

The KISS-Platform should only be operated with a functioning fan slide-in module (refer to the “Replacing the System’s Fans” section).



Defective components should only be replaced with Kontron original spare parts.

- the part number of the fan slide-in module: 0-0084-3604

The temperature conditions of the system (dependent on the ambient temperature and the system load) are acquired by two temperature sensors. One of the temperature sensors is attached in the rear area of the system (near the air exhaust openings) and the second one is attached laterally, in the middle of the unit.

Side View

Four M4 metric tapped holes are available at the left and right side of the unit. These can be used to attach slide rails (not included in the scope of delivery) to the KISS-Platform for system installation into a 19" industrial cabinet. Refer to the "Slide Rails (Option)" chapter.

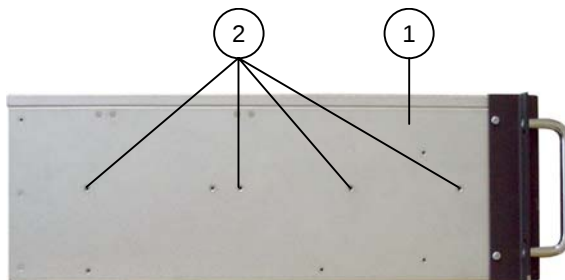


Figure 11: Tapped M4 metric holes to attach a telescope rail

1. Side view of the KISS-Platform
2. 4x tapped M4 metric holes (on both sides)

Integrated Motherboard / SBC-Board

Depending on the system configuration ordered, your KISS-Platform accommodates either a motherboard or a SBC-board.

System identification	Integrated Board	Board Type
KR-4101-886GV	886LCD(GV)	Motherboard
KR-4101-886M	886LCD-M/ATX	Motherboard
KR-4101-MB945G	MBATX-945G-VGA	Motherboard
KR-4201-PCI951	PCI-951	Single Board Computer

Refer to the information and technical data in the supplied user manual of the motherboard or SBC-board.



Important: Depending on the ordered KISS hardware configuration, you can expand your system with extension cards of full or half size length.

To expand your system with additional cards, please observe the power consumption specifications in the “Main Specifications” chapter and ensure that each additional card does not consume more than 25 W of power.

Backplanes (for configurations with SBC-Boards)

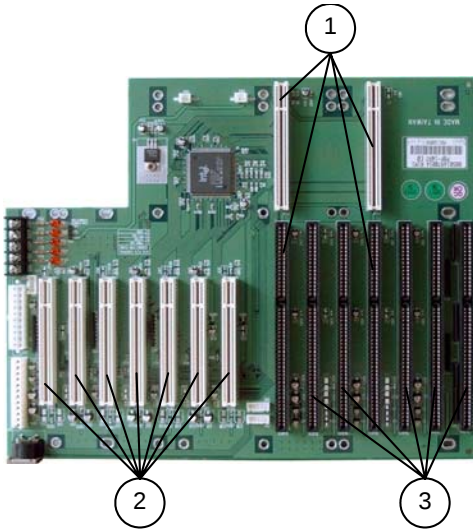


Figure 12: Backplane (KR-4201 Series with BP10-7P7I)

1. 2x 32 bit PICMG 1.0 CPU-slot
2. 5x 16 bit ISA-slot
3. 7x 32 bit PCI-slot

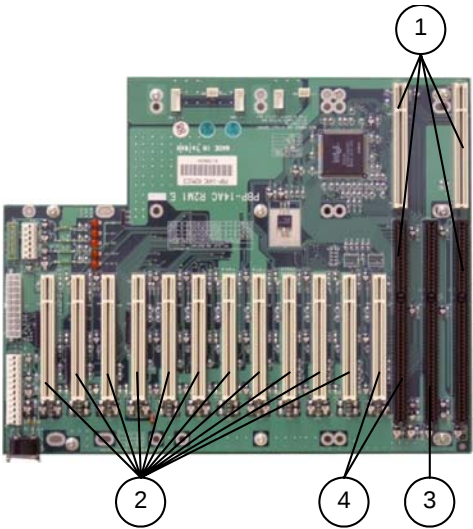


Figure 13: Backplane (KR-4201 Series with BP10-12P)

1. 2x 32 bit PICMG 1.0 CPU-slot
2. 11x 32 bit PCI-slot
3. 1x 16 bit ISA-slot
4. 1x 16 bit ISA- / 32 bit PCI shared slot (if the left PICMG CPU-slot is not fitted with a SBC-card)

Specifications

Main Specifications

Processor

- ♦ Intel® P4, Celeron, Pentium M, or Pentium D

Lithium-Battery

- ♦ Type: CR2032; 3.0 V; 0.22Ah; LIXING

Drive bays (at the front side & internal)

- ♦ 3x 5.25", outside accessible (horizontal position)
- ♦ 2x 3.5", outside accessible (vertical position)

Optional (not available for tower version):

- ♦ 1x 3.5" (internal)
- ♦ 1x Slim

External Interfaces (at the rear side)

- ♦ **For systems with SBC-board:**

Interfaces of the SBC-board, (refer to SBC User's Manual)

Additional interfaces:

- 2x USB (1.1/2.0)*
- 1x COM1 (configured as RS232)
- 1x COM2 (configured as RS232)
- 1x LPT1

- ♦ **For systems with motherboard:**

Interfaces of the motherboard, (refer to Motherboard User's Manual)

External Interfaces (at the front side)

- ♦ 2x USB (1.1/2.0)

Operating elements (at the front side)

- ♦ 1x ATX-power button
- ♦ 1x Reset-button

LED-indicators (at the front side)

- ♦ 1x Power-LED
- ♦ 1x HDD activity-LED

Expansion slots (at the rear side)

- ♦ Up to maximum of 12 free expansion slots (The number and type of the free expansion slots depend on the integrated board, the type of the board and the system's hardware configuration.)

Electrical Specifications

Integrated PSU	Input
300 W	100-240 V 50-60 Hz max. 10A
460 W	90-265 V 47-63 Hz max. 30A

Mechanical Specifications

Dimension	
Height	4HE (177 mm)
Width	Front: 19"; Chassis: 430 mm (16,929")
Depth	Chassis: 471.5 mm (18.543")
Weight	Approx. 20 kg (without packaging)
Chassis	Steel with zinc plating, Steel front panel blue

Environmental Specifications

Thermal management	2x system fans (temperature controlled) 1x power supply fan (temperature controlled) 1x CPU fan
Operating temperature / relative humidity	0 ... +50°C / 5 - 90 % not condensing (32 ... 122 °F / 5 - 90% not condensing)
Storage / transit temp. / relative humidity	-25 ... +70 °C / 0 - 95 % not condensing (-13 ... 158 °F / 5 - 95 % not condensing)
Operating altitude	3,048 m (10,000 ft)
Storage / transit altitude	10,000 m (32,810 ft)
Operating shock	15 G, 11 ms duration, half sine
Storage/transit shock	30 G, 11 ms duration, half sine
Operating vibration	10 – 500 Hz, 1.0 G
Storage / transit vibration	10 – 500 Hz, 2.0 G
Acoustic noise	<35 dB at 1 m in front of the system, full load

Chapter 2: Installation

Overview

This chapter contains installation instructions for the KISS4U.

Only qualified, experienced, authorized electronics service personnel should access the interior of a computer. Any attempt to remove the cover and expose the computer's components must be exercised with extreme caution.



WARNING

High voltages are present inside a computer chassis when the unit's power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply switch, and disconnect the power cord from its source before removing the chassis cover. Simply turning the system power off at the system power on/off switch does not remove power to components. High voltage is still present.



CAUTION

Before touching any circuit boards inside the chassis, move to an ESD station and follow proper ESD procedures. Failure to do so may result in electrostatic discharge damaging the computer or its components. For more information, see "Protecting Against Electrostatic Discharge".



Important:

Before attempting to remove chassis cover, follow the instructions "When Working Inside a Computer" contained in the Safety Instruction portion of this manual.

Attaching the Rubber Feet

The rubber feet can be used for the desktop version of the system. Please follow these steps to attach the rubber feet to the bottom side of the chassis:



WARNING

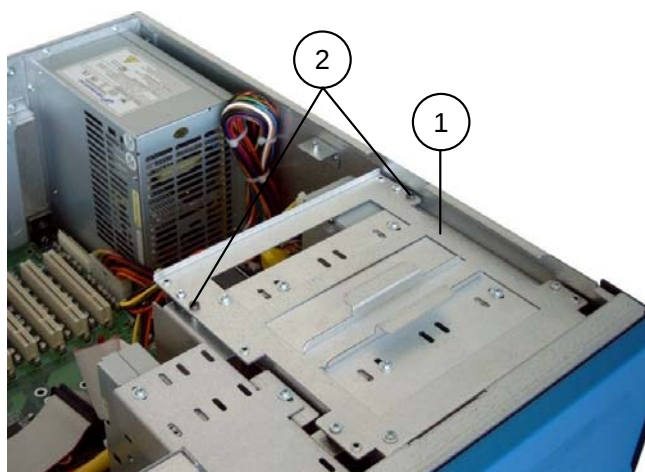
Before attempting to mount the rubber feet, the system must be powered-down and the power cord must be disconnected from the power source.



-
1. Make sure that all cards are secured into the unit and that the system cover is installed and secured.
 2. Turn the system upside down.
 3. Remove the protect foil from the delivered self adhesive rubber feet.
 4. Attach the self adhesive rubber feet to the bottom side of the chassis.

Removing the Drive Locking Screws

Before you start up the system for the first time, and before mounting/mounting into an industrial cabinet, open the system as described in the “Accessing Internal Components” section and remove the drive locking screws (rackmount and desktop versions only).



- | | |
|---|----------------------|
| 1 | Drive Cage |
| 2 | Drive Locking Screws |

Figure 14: KISS-Drive cage with drive locking screws

Accessing Internal Components

This section contains important information that you should read before accessing the internal components. You should follow these procedures when handling any boards or replacing the fan slide-in module.

Installing/Removing the Expansion Cards

To install or remove an expansion card, perform the following steps:

1. Turn off all power sources. Disconnect the power cord from power source.
2. Loosen the captive knurled screws on the rear side of the unit that secure the cover.



Figure 15: Loosen the captive knurled screws

3. Lift the cover away.



Figure 16: Removing the device cover



Figure 17: KISS-Platform without cover

4. To remove the card holder, loosen the screw of the card holder (1). Slide the card hold-down bracket to right (2) to pull it out from the two laterally located bolts. Lift the card hold-down bracket away (3). Retain the card hold-down bracket and the screw for later use.



Figure 18: Removing the fastening screw the card hold-down bracket

Legend for figures 18, 19 and 20:

1. Bolts for the card hold-down bracket
2. Threaded bolt
3. Locating holes
4. PCB holder
5. Hole for the fastening screw



Figure 19: Bolts and fastening point for the card hold-down bracket



Figure 20: card hold-down bracket

5. Put/pull the expansion card into/or out from the expansion card slot of the backplane/motherboard and fasten the mounting bracket of the expansion card/filler bracket to the rear slot of the device.
6. Reinstall the card holder and secure it using the retaining screw (see fig. 18).
7. The PCP holder has to be installed into the appropriate hole of the card hold-down bracket by means of the provided screw, if necessary. Fix the upper edge of the expansion card (especially for full-length card) into the slot of the PCB holder (height adjustable). Thus the card is firmly kept in place during high mechanical load (shock and vibrations).
8. Close the KISS-Platform and secure the cover with the captive knurled screws.

Instructions for Installation in a 19" Cabinet



Important: Install expansion cards before installing the KISS-system into an industrial cabinet or a control panel. Refer to the "Accessing Internal Components" section.

Before closing the industrial cabinet, connect the peripheral devices to the system interfaces. Refer to the "Interfaces on the Rear Side" subsection for a detailed description of the interfaces.

WARNING



If you mount the KISS-system into an industrial cabinet, it is advisable to have two people do the mounting because the system weighs approx. 20 kg (approx. 44 lbs.).



CAUTION



The KISS-Platform should only be installed by trained and qualified personnel.

The KISS-Platform should be installed into a 19"-industrial cabinet with mounting rails. Check the load capacity of the mounting rails [the unit may weigh up to 20 kg (approx. 44 lbs.)].

Ensure there is sufficient air circulation around the device when installing the KISS-Platform. The openings for air intake and exhaust on the device must not be obstructed. Leave at least 5 cm (approx. 2") of free space in front of and behind the unit to prevent the device from possibly overheating!



CAUTION



The 19" industrial cabinet must stand firmly in place. You can improve its stability by placing 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 data indicated on the type label located on right side of the unit.



Starting Up

Power Cord Connection

The AC power plug is located on the rear side of the KISS-Platform.



AC-power plug

Figure 21: AC-Power connection (Motherboard)



AC-power plug

Figure 22: AC-Power connection (Backplane)



CAUTION

The voltage of the power source must agree with the voltage value on the type label.



1. Connect the supplied AC power cord into the system AC power plug (see fig. 21 and 22).
2. Connect the other end of the AC power cord into a corresponding outlet.



CAUTION



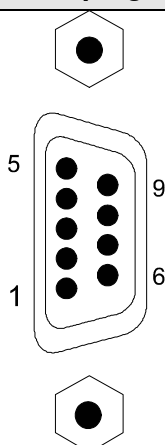
Use the power cord suitable for the power supply in your country.

Do not remove or alter the grounding prong on the power cord. In situations where a two-slot receptacle is present, have it replaced with a properly grounded three-prong grounding type receptacle.

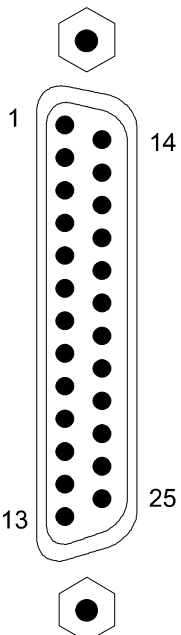
Standard Interfaces – Pin Assignments

Low-active are indicated by a minus sign.

COM1 / COM2 (RS232)

Pin	Signal name	9-pin SUB D-plug
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

Pin	Signal name	25-pin SUB D-socket
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	

Operating System and Hardware Component Drivers

The KISS-system can be supplied with or without a pre-installed operating system.

If you have ordered your system with a pre-installed operating system, all drivers are installed corresponding to the ordered configuration (optional hardware components). Your computer is fully functional when you switch it on for the first time.

If you have ordered your system without a pre-installed operating system, you have to install the operating system and the corresponding drivers for the ordered configuration (optional hardware components).

Consider the manufacturer's specifications for the operating system and the integrated hardware components.

Chapter 3: Maintenance and Prevention

Kontron Embedded Computers systems require minimal maintenance and care to keep them operating correctly.

- ♦ Occasionally wipe the system with a soft dry cloth.
- ♦ You should only remove persistent dirt by use of a soft, slightly damp cloth (use only a mild detergent).
- ♦ Clean the air filter mats regularly (refer to the “Cleaning the Filter Mat” section).

Replacing the System's Fans



CAUTION

The KISS-Platform should only be operated with a functioning fan slide-in module (refer to the “Replacing the System's Fans” section).



Defective components should only be replaced with Kontron original spare parts.

- the part number of the fan slide-in module: 0-0084-3604



Note: The fan slide-in module may be changed while the KISS-Platform is powered-up. This maintenance should only be carried out by qualified personnel familiar with the associated dangers.

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

1. Open the unit as described in “Accessing Internal Components” (page 39), steps 2-3. Pull out the device cover only as far as necessary to have access to the fan slide-in module.
2. Loosen the captive knurled screw (fig. 23, pos. 4). Use the handle (fig. 23, 24 pos. 2) of the fan slide-in module and pull it out from the fan case (fig. 25 pos. 9).

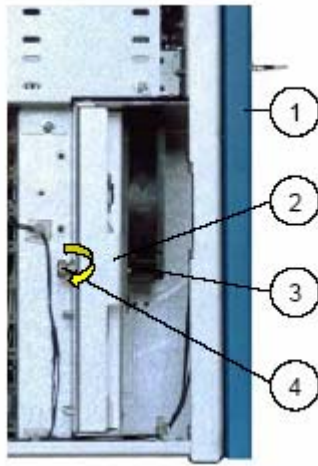


Figure 23: KISS-Platform with fan slide-in module

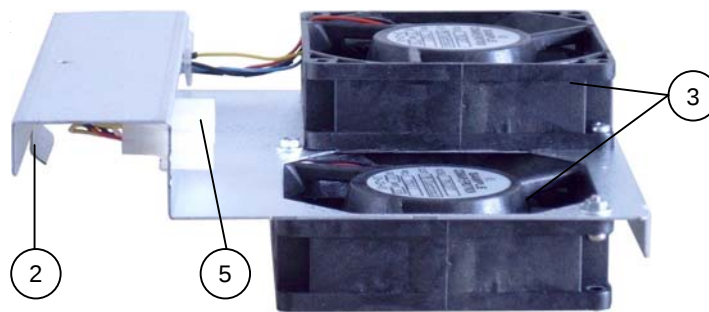


Figure 24: Side view of the fan slide-in module

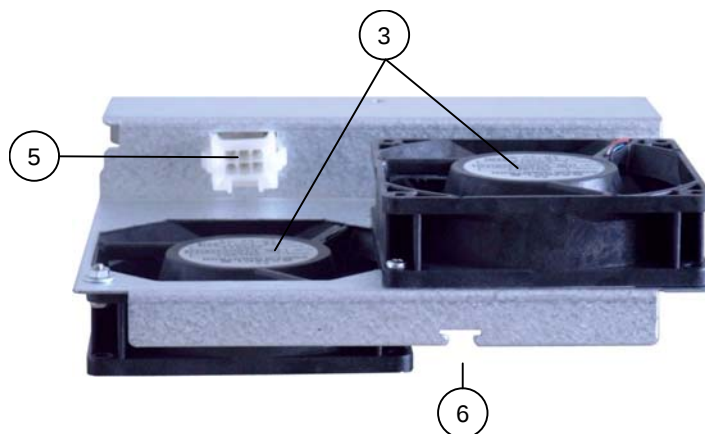


Figure 25: Bottom view of the fan slide-in module

Legend for figures: 23, 24, 25 and 26

- | | |
|---|---|
| 1. Front access door of the system | 6. Centering slot on the bottom side of the fan slide-in module |
| 2. Handle of the fan slide-in module | 7. Socket in the fan case for fan control |
| 3. 2x system fan (temperature controlled, independently controlled) | 8. Centering angle |
| 4. Captive knurled screw | 9. Fan case |
| 5. Plug for fan control | |

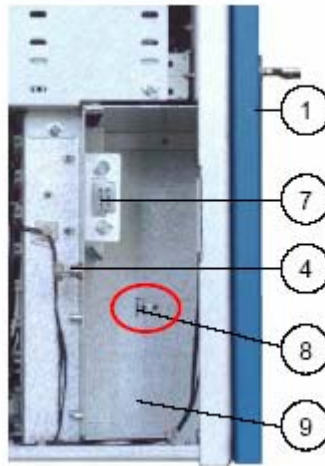


Figure 26: Fan case of the KISS-Platform without fan slide-in module

3. Replace the fan slide-in module with a new functional module. Push the fan slide-in module carefully into the fan case socket connector, by aligning the centering angle (fig. 26, pos. 8) to the centering slot (fig. 25, pos. 6).
4. Secure the fan slide-in module with the captive knurled screw.
5. Close the KISS-Platform and secure the cover with the captive knurled screws.

Cleaning the Filter Mat

The filter mat is inserted in the filter mat holder at the front side of the system. Cleaning frequency of the filter mat 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.

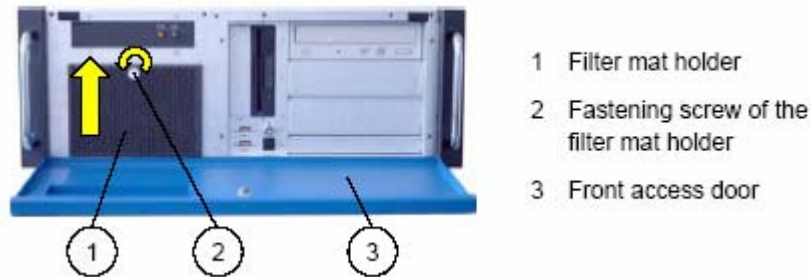


Figure 27: Location of the filter mat

To replace or clean the air filter mat, proceed as follows:

1. Open the front access door.
2. Loosen the knurled screw that secure the filter mat holder with the air filter mat to the chassis.
3. Pull out the filter mat holder into the marked direction.
4. Remove the dirty air filter mat.
5. To clean the filter mat:
 - Rinse in water (up to approx. 40°C; you may add mild-duty commercial detergent).
 - It is also possible to beat the filter mat out, vacuum it or blast it with warm compressed air.
 - If the filter is soiled with greasy dust, you should rinse it with warm water with degreaser added. Do not clean the filter mat with a piercing jet of water or wring it out.
6. After cleaning and drying the filter mat, replace it into the filter mat holder, Replace the filter mat holder to the front side of the chassis (see fig. 28, pos. 3 and fig. 29, pos. 4).
7. Tighten the screw to secure the filter mat holder to the chassis.



CAUTION



When inserting the filter mat, ensure that the denser side of the mat is facing the fans.

Defective components should only be replaced with Kontron original spare parts.

- the part number of the filter mat: 0-0084-2953

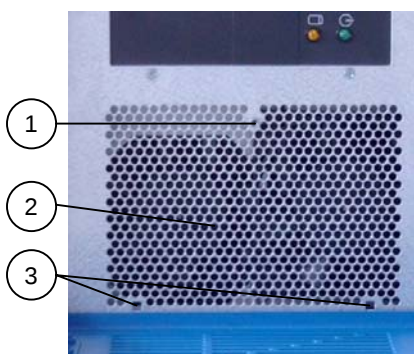


Figure 28: Location for filter mat holder

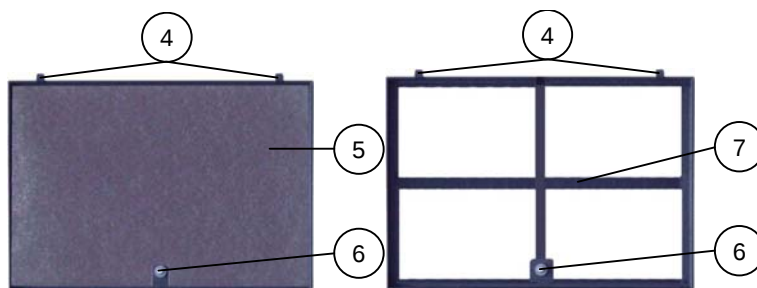


Figure 29: Filter mat holder with and without filter mat

Legend for figures: 28 and 29:

1. Threaded M4 metric stud
2. Air intake openings
3. Centering holes for the filter mat holder
4. Locking tabs
5. Inserted filter mat
6. Fastening screw of the filter mat holder
7. Filter mat holder

Replacing the Lithium Battery

The integrated motherboard or SBC-board of your system is equipped with a lithium battery. To replace the battery, please proceed as follows:

1. Open the unit as described in the “Installing/Removing the Expansion Cards” chapter (steps 1-4).
2. If your system has expansion cards, first remove the cards and their corresponding data cables in order to have access to the lithium battery.
3. Remove the old battery by pressing outwards on the ejector spring.
4. Place the new battery into the socket.
5. Make sure that you insert the battery the right way around. The plus pole must be on the top!
6. The lithium battery must be replaced with an identical battery or a battery type recommended by Kontron Embedded Computers.
7. Reinstall the expansion cards which you removed and reconnect their data cables.
8. Close the Unit as described in the section “Installing/Removing the Expansion Cards” (steps 5-8).



Do not dispose of lithium batteries in the general trash collection.

Dispose of the battery in accordance with local regulations dealing with the disposal of special materials, (e.g. at the designated collecting points for disposal of batteries).

Appendix A: Slide Rails (Optional)

Kontron offers slide rails for installing the KISS-Plattform into a 19" industrial cabinet. These can be ordered under: "Slide rails" - Set No.: 3-A260-0244.

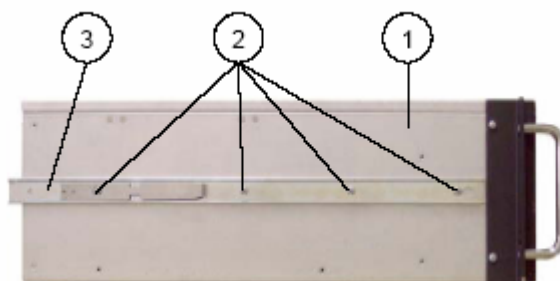


Figure 30: Attaching the inner side of the slide rail



Figure 31: KISS-Plattform with slide rail

Legend for figures: 30 and 31:

- | | |
|--|---|
| 1. Side view of the KISS-Plattform | 4. Slide rail outer part [with brackets (short at the front, long at the rear)] |
| 2. 4x M4x6 rounded head screws (per each side of the unit) | |
| 3. Slide rail inner part | |



CAUTION

Only the specified M4x6 screws should be used to attach telescope rails to the KISS-Plattform.



Slide Rails Accessories and Assembling

The "Slide rails" set consists of the following elements:

- ♦ One pair of slide rails
- ♦ One pair of short front brackets (with screws and washers)
- ♦ One pair of long rear brackets (with screws and washers)
- ♦ 2 x bar nut kits
- ♦ 8 x M4x 6 nuts

For assembling refer to fig. 32.

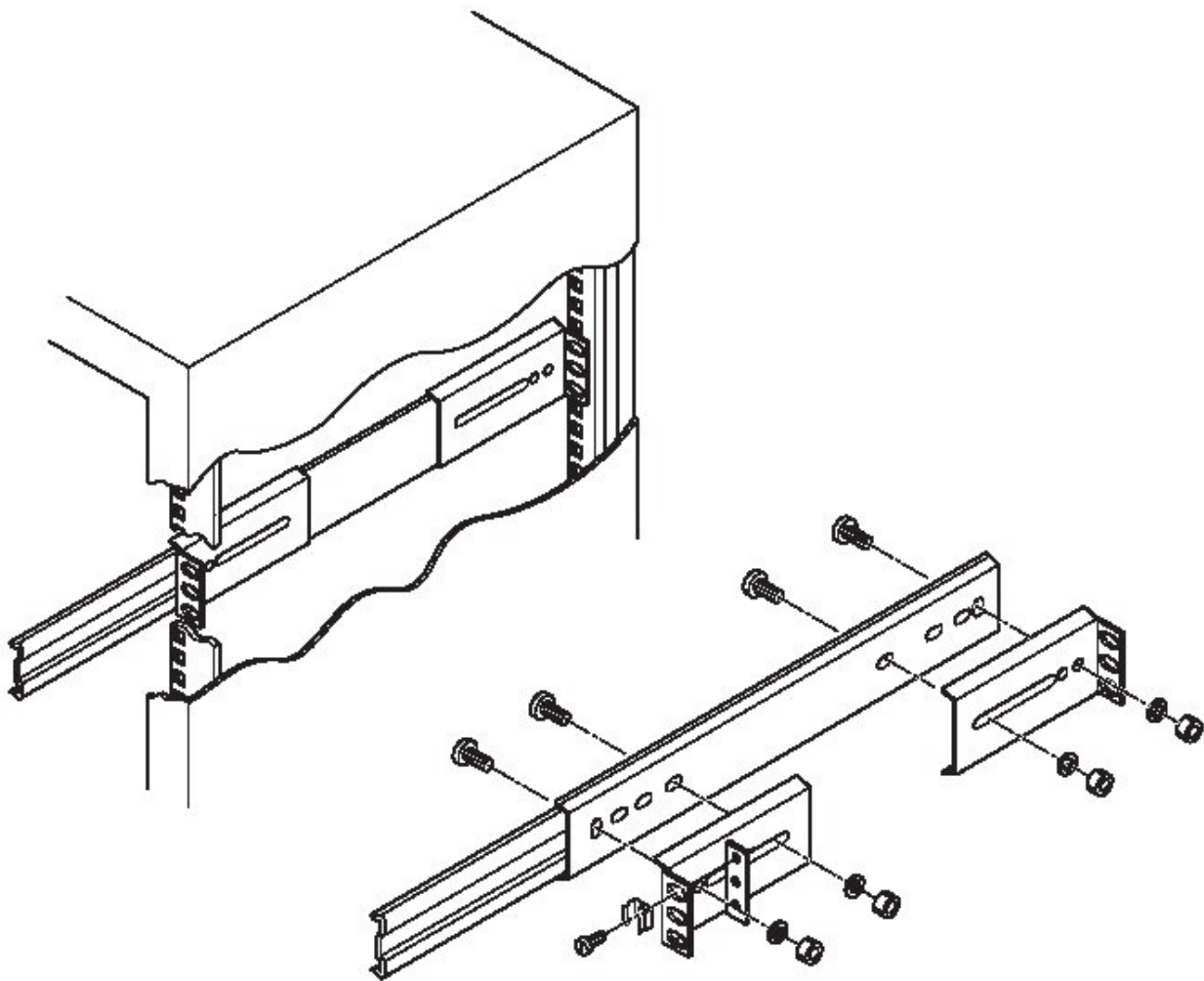


Figure 32: Assembling of the "Slide-rails" set



Important: Short brackets are usually used at the front of the chassis and long brackets at the rear.

Mounting into an Industrial Cabinet (with Slide Rails)



If you mount the KISS-system into an industrial cabinet, it is advisable to have two people do the mounting, because the system weighs approx. 20 kg (approx. 44 lbs.).

1. Ensure that the sides of the industrial cabinet are parallel and that the sides of the KISS chassis are parallel and square to the industrial cabinet.
2. Using mounting kits and brackets, mount the brackets to the outer part of the slide rails (see fig. 31, pos. 4). Screw the back brackets on loosely.
3. Install the slide rails into the industrial cabinet.
4. Mount the inner part (see fig. 31, pos. 3) of the slide rails to the chassis.
5. Insert the KISS-Platform into the industrial cabinet.
6. Check for even and smooth movement of the chassis.
7. If binding occurs, or slide movement is not satisfactory:
 - Loosen the screws on the rear mount brackets and adjust the brackets.
 - Loosen the screws on the chassis side.
 - Cycle the unit a few times.
 - If movement has improved tighten the screws and cycle again.

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Appendix B: Troubleshooting

General Guidelines



WARNING

The following procedures may involve working with high voltage, which could injure you. Avoid shorting the circuits as this can damage the computer.



CAUTION

The following procedures involve working with a device that is sensitive to static electricity. Use proper precautions to protect against electrostatic discharge (ESD). Only qualified personnel should attempt these procedures.



Troubleshooting Procedures

The following table provides troubleshooting procedures for some common problems. For problems not addressed in the table, use the following guidelines.

- ♦ Computer components are all interrelated. That is, a “video” problem may be caused by the disk controller. The simplest diagnostic technique involves replacing the suspect component with a new one.
- ♦ Was the system working prior to a change? The change may need a different configuration or may be faulty.
- ♦ Check for loose connections in drive cables, power cables to fans, and disk-drive cables.
- ♦ Occasionally, Flash BIOS can be corrupted by hardware or software. Check the Kontron Web site for the latest version of BIOS and follow the steps for reflashing.
- ♦ When upgrading or adding hardware to an existing system, note board positions and cables. Putting hardware in different slots and making connections in a different order can change the functionality of a system.
- ♦ Confirm jumpers and switch settings for all boards in the system are correct. Verify with the individual product manuals the functions and settings of all switches.

If these quick and simple steps fail to resolve the problem, contact Kontron Technical Support for further advanced troubleshooting or reference the “Support” pages of the Kontron Web site.

Common Problems

Symptom	Probable Cause	Recommended Solution
Why does my computer fail to turn on?	DC converter is not plugged into a reliable power supply or not connected securely to the computer's DC-In port.	Ensure the converter is plugged into an electrical outlet (and surge protector if present) and into the DC-In port of computer. Often power cords can become inadvertently disconnected.
	Surge protector is not turned on and/or plugged in.	If you are using a surge protector, ensure the surge protector is turned on and plugged in to the electrical outlet.
	Power supply cabling is shorted to the computer.	Ensure the power supply cabling is not shorted to the computer. Reposition the power supply cables to the computer chassis so they are not pinched or crimped. (In case of a short, the power supply will sense the short and shut off. When the short is removed, the power supply should automatically sense the removal of the short and restore operation. If cables become damaged, contact Kontron for repair or replacement)
System is not booting, just beeping.	Memory is not seated correctly or is faulty.	1 beep, 2 beeps, or 3 beeps: Re-seat the memory first. If that does not fix the problem, replace the memory with known good chips.
	BIOS is corrupt.	If your system still fails to boot after reseating the memory and checking cables and boards, try reflashing the BIOS with the latest version, if possible.
When attempting to boot the system, "No ROM BASIC" is displayed.	System cannot find a proper bootable sector on the boot device.	Install an operating system on the hard drive or boot from a floppy disk.
Hard disk drive controller failure	Ribbon cable or power connector not installed correctly	Confirm correct cabling to the hard-drive ribbon cable and power connectors.
	Master/Slave jumpers not configured on hard drives.	Configure the "Master/Slave" jumpers on the hard drives. When sharing a single IDE channel, one drive must be Master and the second drive must be configured as Slave.
	Hard drive parameters in BIOS are incorrect.	Confirm hard-drive parameters in the BIOS setup are correct. Auto-detect the drives and confirm detected parameters are correct for the hard drives.
	Hard drive not seen in FDISK	Verify that the hard drive is seen in FDISK and run FDISK/mbr from boot floppy.

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