

BEETLE /M-III

POS Systems

K1/K2-, M1/M2-, O1-Motherboard

User manual

DIEBOLD
NIXDORF

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1 Manufacturer's Certification



This device meets the requirements of the EU Guidelines 2014/30/EU "Electromagnetic Compatibility" and 2014/35/EU "Low Voltage Directive" and 2011/65/EU "Restriction of Hazardous Substances".

For this, it bears the CE label on the rear side or the icon is printed on the packaging.

If a device is to be equipped with WLAN, then this fulfills the requirements of the "Radio Equipment Directive" 2014/53/EU.



The device is UL and cUL certified.

1.1 FCC-Class A Declaration

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 a 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 a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications not authorized by the manufacturer may void users authority to operate this device.

This class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

2 Important notes

The BEETLE /M-III modular POS system corresponds to the pertinent safety precautions pertaining to data processing facilities.



The device may be repaired only by authorized qualified personnel. Improper repairs will lead to the loss of any liability claims.



Sub-assemblies with ElectroStatic Discharge-sensitive components (ESD) can be marked with this label.

When installing sub-assemblies or modules, please observe the following information that applies to all sub-assemblies with ESD:

- Ensure that the device is switched off and pull the power plug before you plug in, unplug or install sub-assemblies.
- Always use anti-static equipment (anti-static mat with ground cable with integrated leakage resistance of 1 Mohm, anti-static armband with connection to the mat, anti-statically equipped tools). The anti-static mat must be connected to a suitable grounding point via the leakage resistance.
- Place all sub-assemblies with ESD on a suitable anti-static base.
- Touch sub-assemblies with ESD only at their edges and do not touch any components.
- Do not touch any connector pins or conductor paths on an electro-static-discharge-sensitive assembly.

2.1 Safety Instructions

The BEETLE /M-III modular system corresponds to the pertinent safety precautions pertaining to data processing facilities.

- If this device is moved from a cold environment to its working environment, condensation may occur. The device must be absolutely dry prior to commissioning, therefore allow for an acclimatization time of at least two hours before putting it into operation.
- The device is equipped with a safety-tested power cable. It must be connected only to a properly grounded protective contact electrical outlet.
- When installing the device, please ensure that the device plug-in fixture and the protective contact electrical socket are easily accessible.
- The device must be fully disconnected from the supply voltage when performing any work at the device and when inserting or removing data cables. To completely disconnect the appliance from the mains voltage, switch off the device and pull out the power plug of the power supply unit.
- USB devices may be connected to the BEETLE or removed from it during ongoing operations if these devices comply with the specifications pursuant to usb.org. Other peripherals (e.g. PoweredUSB printer) should not – for safety reasons – be connected to or disconnected from BEETLE systems unless such systems are switched off.
- Before you begin any assembly work on the device, you should discharge yourself, e.g. by touching a grounded object (such as a radiator).
- Please make sure that no objects (e.g. paperclips) are able to enter the inside of the device, as this may result in electrical shocks or short circuits.
- Keep the air slots of the device free to ensure proper ventilation and please observe the installation instructions for the BEETLE. This prevents excessive increases in temperature.
- No data cables may be plugged in or unplugged during storms.
- Protect the device from vibrations, dust, moisture and heat.

- Make sure that used parts, e.g. the accumulator are disposed of in a way that is environmentally friendly.
- In the event of emergencies (e.g. damaged housing or damaged power cable, penetration of liquids or foreign bodies), switch the device off immediately, pull the power plug and inform the technical customer service of Wincor Nixdorf International GmbH or the authorized service partner of your dealer.
- An explosion hazard exists if the lithium battery of the device is replaced incorrectly. Only identical batteries or other types recommended by the manufacturer are permitted to be used to replace the lithium battery.
- Please ensure state-of-the-art constructional and technical ambient conditions to permit flawless and efficient functioning of the BEETLE system. You should connect the BEETLE or any other IT system only to power supply networks with separate protective conductors (PE). Otherwise life-threatening contact voltages could occur in the case of conductor breakage.
This type of power supply network is called a TN-S network. Do not use PEN conductors! Please also observe the recommendations of DIN VDE 0100 part 540, Annex C2. This will help you avoid any potential malfunctions.
- When replacing a storage medium, please ensure that you use only storage media authorized or recommended by Wincor Nixdorf.

2.2 System maintenance

Clean your system at regular intervals with a dry, lint-free cloth. For greater amounts of soiling, please use a cleaning agent suitable for plastic surfaces, as can be ordered from Diebold Nixdorf International. Make sure that the device is deactivated during cleaning, that the power plug is disconnected and that no moisture enters the inside of the device.

3 Introduction

Your BEETLE /M-III is an efficient and future-oriented system platform for multifunctional POS solutions.

The high-performance and thus electricity-saving process technology in the BEETLS /MII ensures the quick processing of all procedures.



The use of an 80-Plus Gold power supply unit ensures that the system is making a significant contribution to energy savings and environmental protection. The power supply unit is equipped with an 80-Plus Gold Certificate. A "Gold Certificate" attests to an efficiency of at least 87% during typical operations, which means more performance with less energy supply.

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You can connect various peripherals to your BEETLE /M-III. A sizable number of standard PC and retailer-specific, electrically-supplied interfaces are available for this purpose. Additional USB interfaces are arranged accessibly from the front for ready utilization. The type and number of interfaces can be configured very flexibly and individually.

A second SATA hard disk is available as an option for the BEETLE /M-III.

The BEETLE /M-III is - like all Wincor Nixdorf POS systems - an open system, which places practically no limitations on you when it comes to selection of software or operating systems (Linux, Windows).

In case of questions about your BEETLE /MIII or other products and solutions of Wincor Nixdorf, please visit us on the Internet.

3.1 About This Manual

The objective of this document is to aid you in the use of the system and also serve as a reference guide. The detailed table of contents helps you find the desired information quickly and easily.



NOTICE

Notes in the manual are marked by this symbol



CAUTION

Attention notifications are identified by this sign.

The manual describes the BEETLE /M-III system with the motherboards K1/K2, M1/M2 and O1. The M1/M2 board is preferred for display in the drawings, particularly for the installation/removal or opening of the system, which is why the rear views and overall views may not correspond to the configuration of your particular system. You can see the differences between the systems in the connection view.

As the type and scope of the application programs depend on the specific individual choice of each customer, this manual will not address any detailed issues pertaining to software. Dedicated manuals are available for

the peripherals that can be connected. These devices will therefore not be described in greater detail here. Please inform yourself by consulting the respective manuals on the Internet.

3.2 Warranty

In general, Diebold Nixdorf (DN) guarantees a warranty of 12 months after delivery or acceptance date. This warranty covers all defects that have occurred during normal use of the product.

Defects resulting from incorrect or inadequate maintenance, incorrect use or any unauthorized changes to the product, unsuitable locations or unsuitable environments are not covered.

More details about the warranty regulation can be found in your contract documents.

If no claim to product warranty exists and if you do not have a service contract with Diebold Nixdorf, then the Customer Care Center (CCC) is available for accepting orders without a contract.

Tel.: 0180 1 (Vanity Number, subject to a charge)

Tel.: 0180 1 1 99 2 99 (subject to a charge)

3.3 Recycling

This product was designed in accordance with our internal standard "Environmentally friendly product design and development".

The system is manufactured without the use of CFC and CHC and the majority of the components and materials used in its manufacture are recyclable.

You are helping us with the recycling if you do not attach any labels to the device.

For materials which currently cannot be used for a new purpose, Diebold Nixdorf International offers environmentally friendly disposal at a recycling center that is certified in accordance with ISO 9001 and ISO 14001.

If your system can no longer be used, please send it in for this environmentally friendly and contemporary form of recycling.

Additional information about returns, recycling and disposal of our products can be obtained from your responsible branch office or from our recycling center in Paderborn.

<mailto:info@dieboldnixdorf.com>

We look forward to your E-mail.

4 The modular system

4.1 Overview

You can connect a multitude of peripherals to your modular BEETLE /M-III POS system and thereby implement a very wide variety of extension levels.

The possibility exists

- of using various optical readers (scanners), e.g. distance readers, hand-held readers or stationary readers,
- of using scales and scanner scales (observe while doing so applicable government agency approval regulations),
- of connecting various printers,
- of using the POS workplace with various screen displays,
- of utilizing cash drawers in various design versions,
- of connecting various keyboards,
- of optionally ordering a BEETLE /M-III with a built-in accumulator in order to protect against possible power failures,
- of integrating BEETLE /M-III in a network and
- of upgrading the BEETLE /M-III with a K1/K2- or M1/M2-Motherboard, as it offers space for extension cards (1 x PCI Express x1 + 1 x PCI-Express x16).
- of upgrading the BEETLE /M-III with a O1-Motherboard, as it offers space for one extension cards (1 x PCI ExpressPCI x1).

The BEETLE /M-III will thus always be ready to meet your requirements.

5 Before switching on

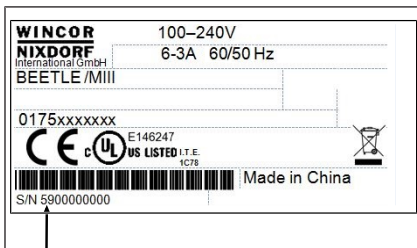
5.1 Checking the Scope of Supply

Unpack the parts and check whether the scope of supply corresponds with the parts listed on the delivery note.

The box contains the system unit and a country-specific accessory kit.

Should you detect any transport damages or inconsistencies between package content and the bill of delivery, please inform your contractual partner or sales outlet of Wincor Nixdorf International GmbH without delay. For this purpose, please indicate the bill of delivery, the bill of delivery item and the serial number of the device.

The serial number is located on the sticker shown here on the bottom side of the housing.



The serial number is located on the label below the barcode.

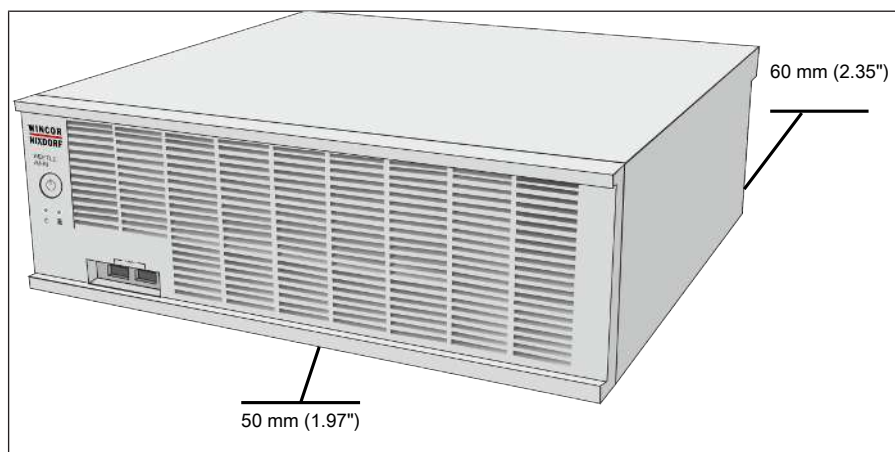
We recommended keeping the original packaging for any subsequent shipment that may be required (protection against jolts and impact).

5.2 Setting up the device

Install the BEETLE in such a way that it is not subjected to extreme ambient conditions. Protect the device against vibrations, dust, moisture, heat and strong magnetic fields.

5.2.1 Horizontal

Please adhere to the listed minimum distances in front of and behind the device! Even if you want to incorporate the device, it is mandatory that you adhere to the minimum distances listed below and ensure constant aeration and ventilation. The direct ambient temperature of the system must not exceed 40°C.



On the underside can be found four stands, each provided with a anti-slip rubber foil.

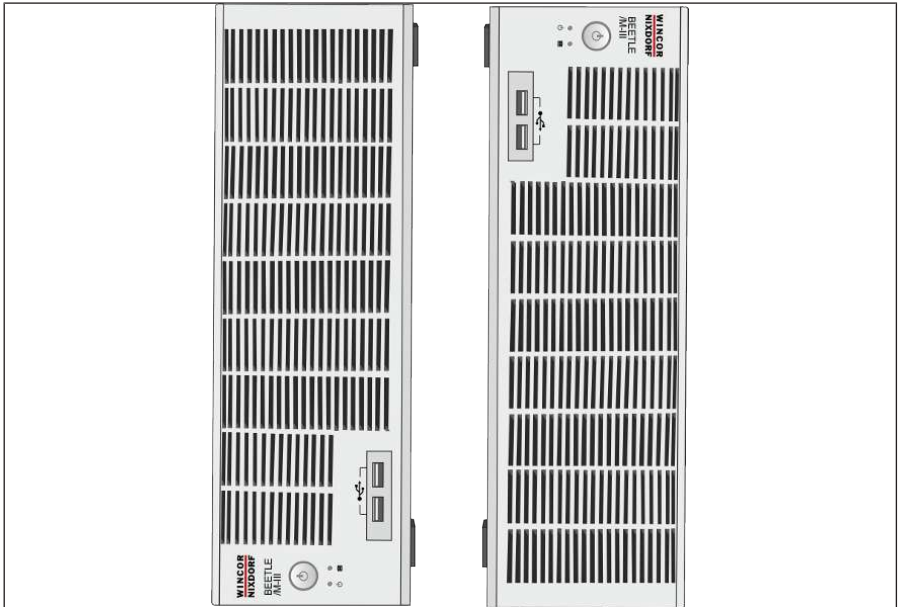
5.2.2 Vertical

In order to ensure that correct ventilation continues to be guaranteed, the following minimum distances must be maintained, even with free convection (see illustration above):

To the rear: 60 mm

To the front: 50 mm

The device can be set up on either the right-hand or the left-hand side.

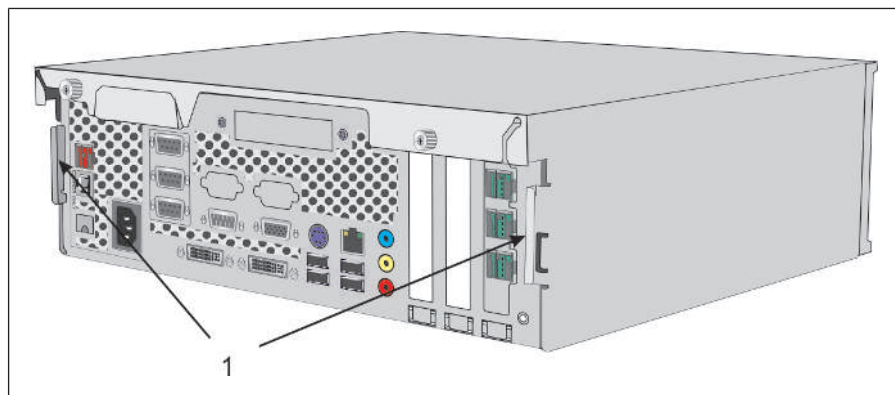


5.3 Fastening the cable cover

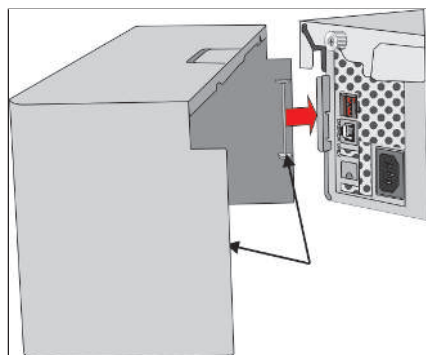
You should remove the necessary cable entries before attaching the optionally orderable cable cover to the device. Their removal is individually dependent on how and which cables you would like to install.

No tools are required, the plastic parts can be removed by hand.

To mount the cable cover, set the two webs into the two rails (see arrows) on the rear of your BEETLE /M-III.

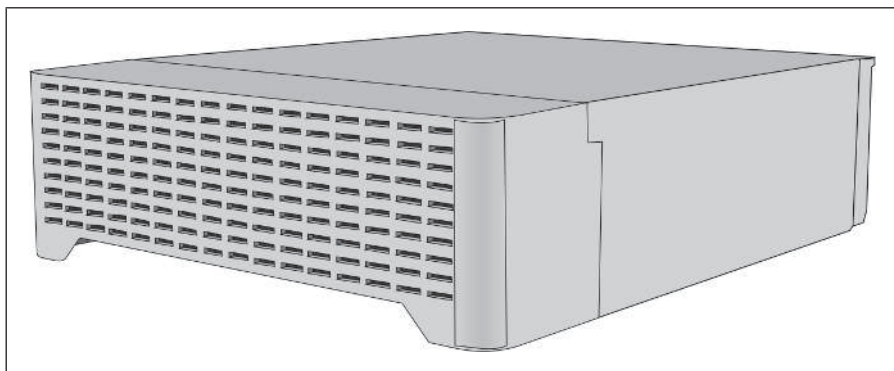


1 Rails



Hang up the cable cover on the left-hand side. Place the web in the plate on the other side.

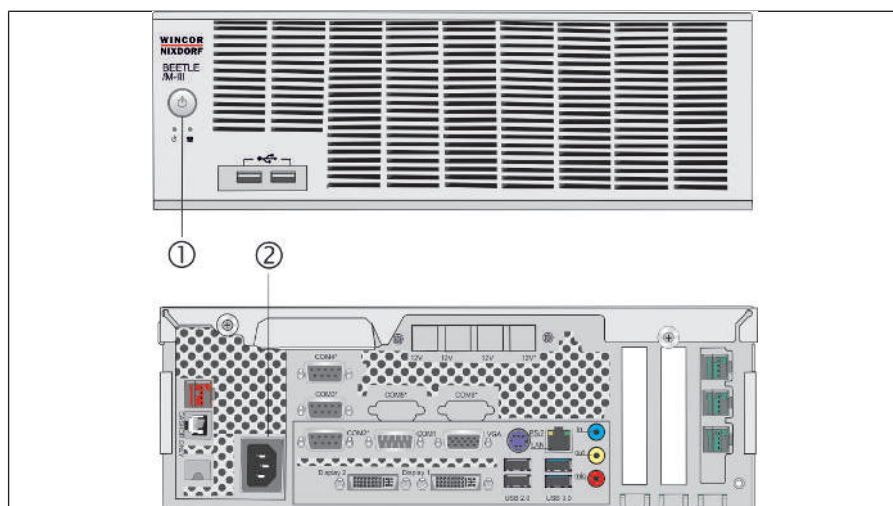
Press this forward so that the cable cover closes flat.



6 Cabling the BEETLE /M-III

All devices that are part of the BEETLE /MIII modular POS system and that have their own dedicated mains voltage cable must be connected to the same electric circuit.

- Please ensure that all data cables are plugged in at the system unit and that the peripherals are plugged in.
- Plug the power cable into the socket on the rear of the device.
- Now insert the other cable end into the protective contact electrical socket s of the house installation.



- 1 On/Off switch
- 2 Power supply connector

- To switch the device on, briefly switch the On/Off button at the front. Switching off during operation is possible; to accomplish this, press the button for approx. 5 seconds.



CAUTION

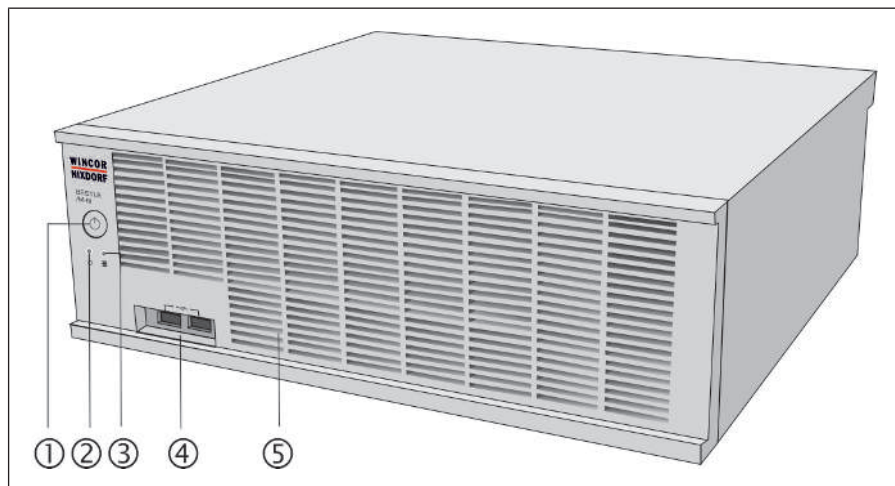
Never plug in data or power supply cables when the system is switched on!

6.1 Basic setting

The BEETLE /m-III is configured in accordance with your order when it leaves the factory. Additional devices such as scanners must be adapted to your configuration afterwards. Contact your responsible WN branch office in such cases.

7 External view

The following illustration shows the BEETLE /M-III from the front.



1 On/Off button

3 HDD/SSD-LED

5 Ventilation slots

2 Power LED

4 2 USB interfaces

7.1 On/Off button

If the power supply unit is equipped with current, then the system is switched on by pressing the On/Off button.

7.2 Light emitting diodes

The light emitting diodes at the front of the system are marked:

HDD/SSD	Right LED flashes yellow	Read or write access on HDD/SSD
POWER	Left LED lights orange	Standby operation (S4/S5)
	Left LED lights green	Device is switched on (S0)
	Left LED flashes green	Standby (S3)
	for BEETLE /M-III with M1/M2-Motherboard, the following applies:	
	POWER ON flashes briefly 4 x After a pause 100 ms on / 900 ms off 100 ms on / 900 ms off 100 ms on / 900 ms off 100 ms on / 4750 ms off	Error in the power supply
	for BEETLE /M-III with M1/M2-Motherboard, the following applies:	
	POWER ON flashes briefly 2 x After a pause 100 ms on / 100 ms off 100 ms on / 700 ms off	Error in the CPU power supply, in the CPU or in the BIOS

7.3 USB (Universal Serial Bus)-A, USB 2.0

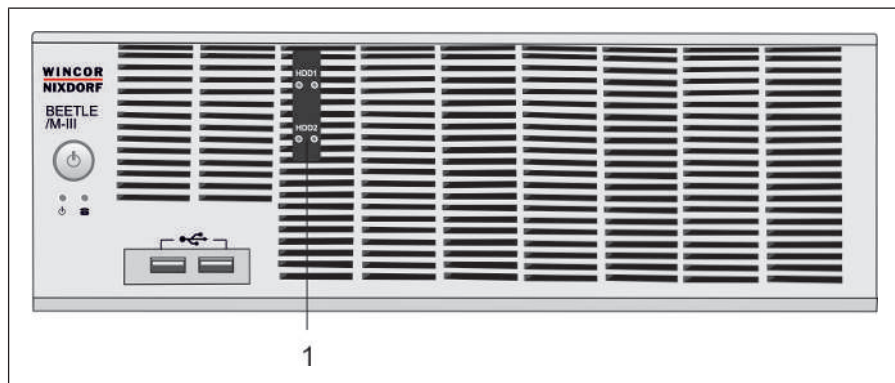
USB peripherals can be connected to these connections (USB-A), e.g. scanners, scales or magnetic card readers.



CAUTION

Only devices and cables that are in accordance with the valid USB specifications are permitted to be connected to the USB interfaces.

7.4 External view with front hard disk access (optional)



1 LEDs for HDD1/HDD2

The functions of the LEDs are described in the manual for the respective motherboard K1, K2, M1, M2 and O1.

8 Connecting panel

8.1 Power supply unit

The installed power supply unit automatically adjusts itself to the respective voltage.



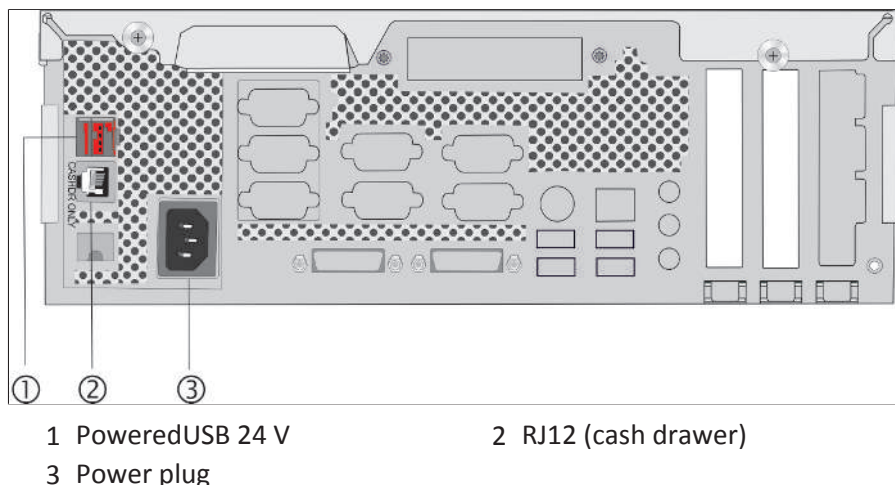
CAUTION

Only a power supply unit approved by Wincor Nixdorf may be used to replace the power supply unit.



CAUTION

The device must be fully disconnected from the supply voltage when performing any work at the device and when inserting or removing data cables. To completely disconnect the appliance from the mains voltage, switch off the device and pull out the power plug of the power supply unit.



8.1.1 PoweredUSB 24 V

USB peripherals which are operated with a higher energy requirement than through a standard USB, e.g. printers, barcode scanners or displays, can be supplied with electricity via a PoweredUSB. The power supply is 24 V (marked in red for POS printers).

A mechanical coding prevents a PoweredUSB 12 V or a 5 V plug from being accidentally plugged into a PoweredUSB 24 V socket. PoweredUSB ports can also be used as USB-A sockets.



CAUTION

The 24 V PoweredUSB interface is provided for the operation of retail thermal printers. The peak load is configured accordingly. The maximum constant current must not exceed 2 A.

8.1.2 RJ12 (CASHDR, cash drawer)

The system includes an RJ12 socket for the connection of a cash drawer. This connection must be used only to connect a till drawer.

Once they are plugged in, RJ12 plugs are locked. The power supply (P24V +5% / -15%) of the cash drawer is provided through this socket.



NOTICE

Please ensure that the plug has a tight contact with the socket because otherwise it can lead to malfunctions.



CAUTION

The connection of sub-drawers (the so-called looping through) and the connection of 12 V OEM till drawers are not permitted!

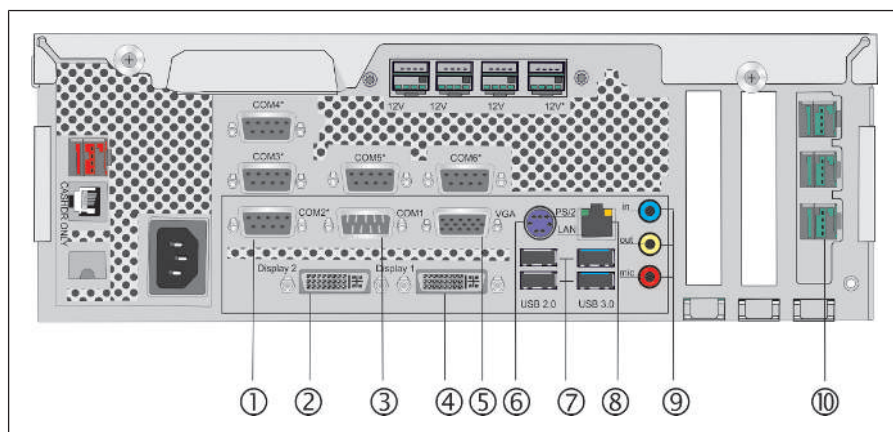
8.1.3 Power plug

The power supply is provided through this socket. Plug the matching end of the power cable into this socket and the opposite end into the socket of the external power supply. To disconnect the device from electrical power, pull out the power plug.

8.2 System unit

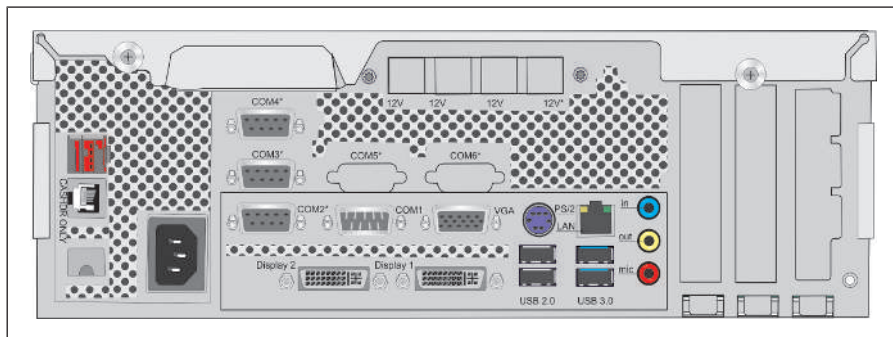
The device must be fully disconnected from the supply voltage when performing any work at the device and when inserting or removing data cables. To completely disconnect the appliance from the mains voltage, switch off the device and pull out the AC plug to the power supply unit. Peripherals may not be plugged into the system when it is switched on!

Example of a connecting orifice plate:



1	3 x D-Sub (COM2*-COM4*- interfaces, with power supply or 5 x D-Sub	2	Display 2 (DVI-D/PLINK2) with RMT with one Mx Board, without RMT with one Kx Board
3	1 x D-Sub (COM1 interface)	4	Display 1 (DVI-D/PLINK2) with RMT
5	15-pin Mini D-Sub socket (VGA)	6	Mini DIN (KYBD), keyboard
7	2 x USB-A (USB 2.0) 2 x USB-A (USB 3.0)	8	RJ socket (LAN)
9	3 x 3.5 mm jack bush (IN, Out, Microphone)	10	3 x PoweredUSB 12V (with a K1/K2- or M1/M2-Motherboard

BEETLE /M-III connecting orifice plate with an O1-Motherboard:



NOTICE

Take care to ensure that all auxiliary devices have the CE mark.

8.2.1 COM2*-COM4*

Scanners, customer or operator displays without dedicated power supplies will be connected to this interface, depending on the existing configuration.

A 9-pin D sub-socket is used for this purpose.



NOTICE

Take care to ensure that the plug for the peripheral devices is tightly screw-connected with the socket, because otherwise malfunctions could occur. The power supply is provided through this socket.

8.2.2 D-Sub Plug (COM1)

Connect for example a scale with dedicated power supply to the COM1 interface. COM1 is designed as a 9-pin D-sub plug. If you connect scales to the BEETLE /M-III which are not supplied by WN, then you must acquire a WN license for the driver software!



NOTICE

Take care to ensure that the plug is tightly screw-connected with the socket because otherwise malfunctions could occur.

8.2.3 Display 1 and Display 2

This interface is used for connecting a high-resolution monitor to the BEETLE system. It can be used as DVI-D or as PanelLink 2.0 interface. Here video signals with a maximum resolution of 1920×1200 pixels can be transferred at 60 Hz.

PanelLink 2.0 is supported by specific DN-Displays and supplies video signals and power supply in only one cable.

The display - interface of the BEETLE system has an RMT function. This function is utilized by actuating the ON/OFF button on the screen. This function is available only if the BA9x has been connected to a BEETLE system using a PLINK2™ interface cable. The mode of operation depends not only on the settings of the BEETLE BIOS but also on the display settings. Details can be obtained from the following table.

BEETLE BIOS Settings	BA9x Settings BEETLE	System and Display Status	After pressing the display power-on button
RMT enabled	RMT enabled	OFF	The system boots up; the display is switched on by the system.
		ON	The system shuts down; the display switches off once the system itself has been switched off completely.
	RMT disabled	OFF	The system begins with the boot process; the display is switched on by the system.
		ON	FW2.10 and higher: The system does not react; the display switches off.
RMT disabled	RMT enabled	OFF	FW2.05: The system switches itself off; the
		ON	Display switches off once the system itself has been switched off completely.
	RMT disabled	OFF	The system does not react; the display remains off.
		ON	The system does not react; the display remains on.

The function (RMT) makes it possible for you to switch on the BEETLE system which is running in Standby or Hibernation mode. It is also possible to move the system from switched-on status into Standby or Hibernation mode. The settings in the operating system determine which mode is active thereby.

In the case of K1/K2-Motherboards, the function supports only on one display.

8.2.4 Mini D-Sub socket (VGA)

The VGA interface is used for connecting a high-resolution display to the BEETLE system. The display is connected to the system via this 15-pin D-Sub socket.

8.2.5 Mini-DIN (KYBD, keyboard)

The BEETLE /M-III has a 6-pin mini DIN socket for the connection of a keyboard.



NOTICE

Please ensure that the plug has a tight contact with the socket because otherwise it can lead to malfunctions.

The power supply for the keyboard is provided through this socket. A special adapter cable is required for the connection of a PC standard keyboard with a DIN plug. If required, contact your responsible Wincor Nixdorf branch office.

The use of a Y adapter makes it possible to connect a PS/2 mouse in addition to the keyboard.

8.2.6 USB (Universal Serial Bus) A 2.0, 3.0

Various USB peripherals can be connected to these connections (USB-A), e.g. not only scanners, scales or mice, but also dongles or even graphic cards or monitors. USB can provide the required power for devices with low wattage such as phones or keyboards.

8.2.7 RJ45 (LAN)

The cable for the connection to a network (LAN) will be plugged in here.

LEDs

Left LED	Constant green	Network connection es- tablished
	Flashes green	Data transfer
Right LED	off	10 MBit
	Constant green	100 MBit
	Constant orange	1000 MBit



NOTICE

Use only shielded LAN cables marked with CAT5 or CAT5e (for 1000 MBit). These offer greater protection against malfunctions in the network.

8.2.8 3.5 mm jack bush (In/Out/microphone)

Audio devices such as headphones, loudspeakers and microphones can be connected to these ports. The three sockets are mechanically identical, although they differ in their function. The blue socket (Line In) is an audio input. External audio sources can be connected here. The green socket (Line Out) is an audio output. Headphones or loudspeakers can be connected here. Finally, a microphone can be connected to the pink socket (Mic).

You can adjust the required volume through the software in the operating system or through the operating system itself (for example, the Windows operating system features a small loudspeaker symbol on the taskbar which can be used to control the volume).

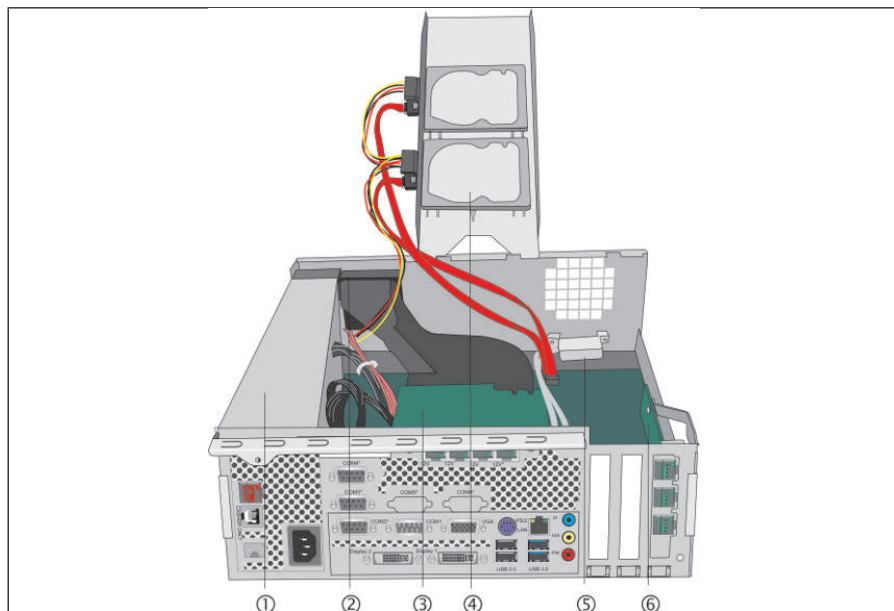
8.2.9 PoweredUSB

USB peripherals, whose energy demand is higher than the supply provided by the standard USBs, e.g. printers, barcode scanners or displays, can be operated at PoweredUSB connections.

A mechanical coding prevents a USB 12 V plug from being accidentally plugged into a USB 24 V socket. PoweredUSB ports can also be used as USB-A sockets.

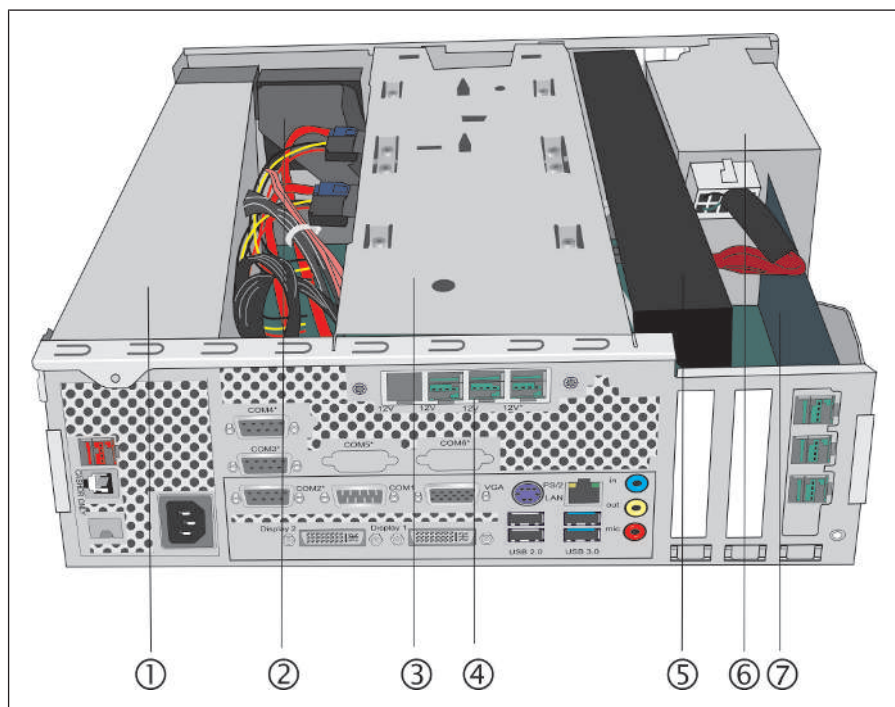
9 Inside view

In the following can be seen an inside view of the BEETLE /M-III (with two 2.5" hard disks, optional).



- | | |
|------------------------------|--|
| 1 Power supply unit with fan | 2 Air duct (not with a BEETLE /M-III with a O1-Motherboard) |
| 3 PoweredUSB Hub (optional) | 4 Carrier with hard disk(s) (2.5" or 3.5") |
| 5 Two Front-USB | 6 Extension board with three PoweredUSB ports (Retail Card) (not with a BEETLE /M-III with a O1-Motherboard) |

9.1 Inside view with accumulator

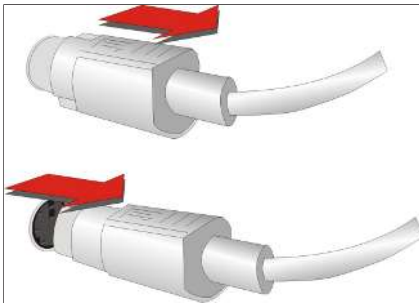


- | | |
|---|--|
| 1 Power supply unit with fan | 2 Air duct (not with a BEETLE / M-III with a O1-Motherboard) |
| 3 Carrier with hard disk(s)/ SSD(s) | 4 PoweredUSB Hub (with 3 PoweredUSB ports) |
| 5 Accumulator | 6 Battery Backup Unit (BBU) |
| 7 Extension board with three PoweredUSB ports (Retail Card)
(not with a BEETLE /M-III with a O1-Motherboard) | |

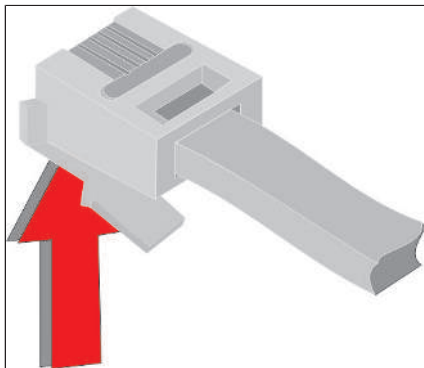
10 Disconnecting cables

Never disconnect cables by pulling them on the cable itself but always grip them instead on the connector housing provided for this purpose. To detach the cables, proceed as described below:

- Switch off all network and periphery device switches.
- Remove the cable cover.
- Pull all power cables out of the contactor contact electrical sockets of the house installation.
- Pull all data communications cables out of the plug connections of the data networks.
- Disengage all cables at the devices.



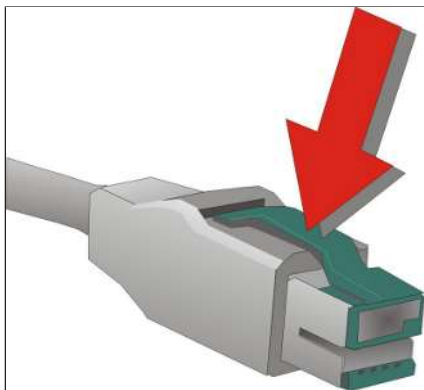
The Mini-DIN plugs (with Wincor Nixdorf keyboards) are equipped with a locking against unintended disengagement. To disengage this plug, pull the plastic sleeve away from the socket. The interlock is released. The metal of the plug is visible.



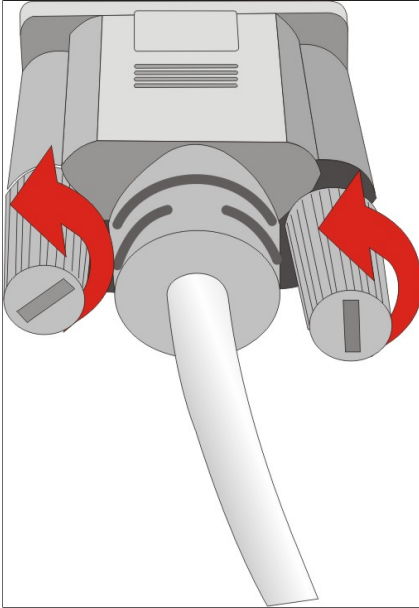
To disengage an RJ12 plug, press the tab below the plug upwards.



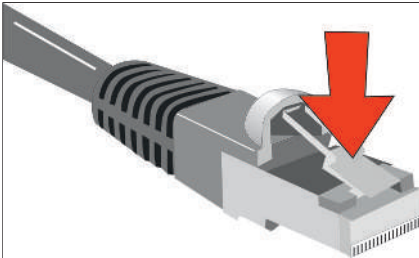
Disengage the USB-A plug by pulling on the plug housing.



The electrically supplied USB plug is disengaged by pressing on the spring marked with the arrow.



Interface connector (COM/DVI/VGA) with knurled screw can be disengaged by hand.

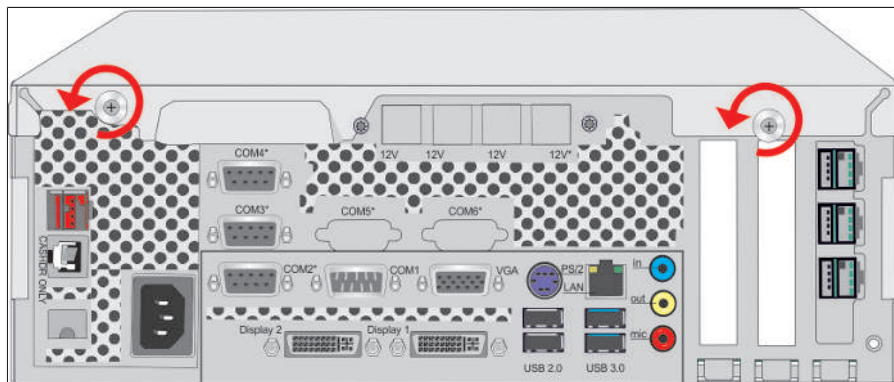


To loosen a RJ45 plug, press the tab above the plug (see arrow) downwards.

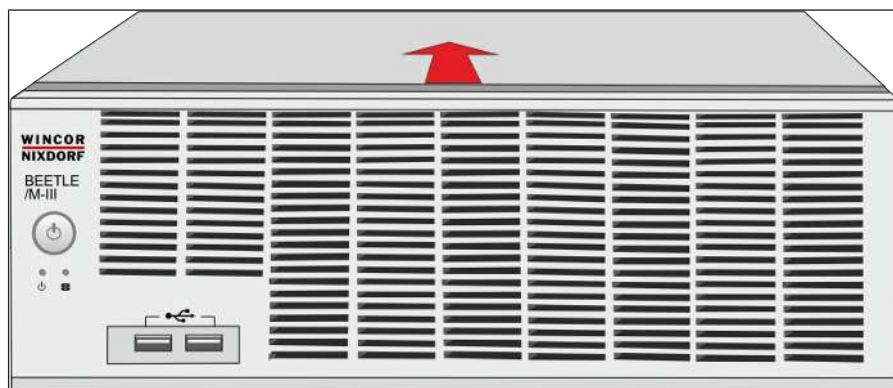
11 Opening the BEETLE /M-III

First, take care to ensure that the device is switched off and that the supply voltage plug is pulled out.

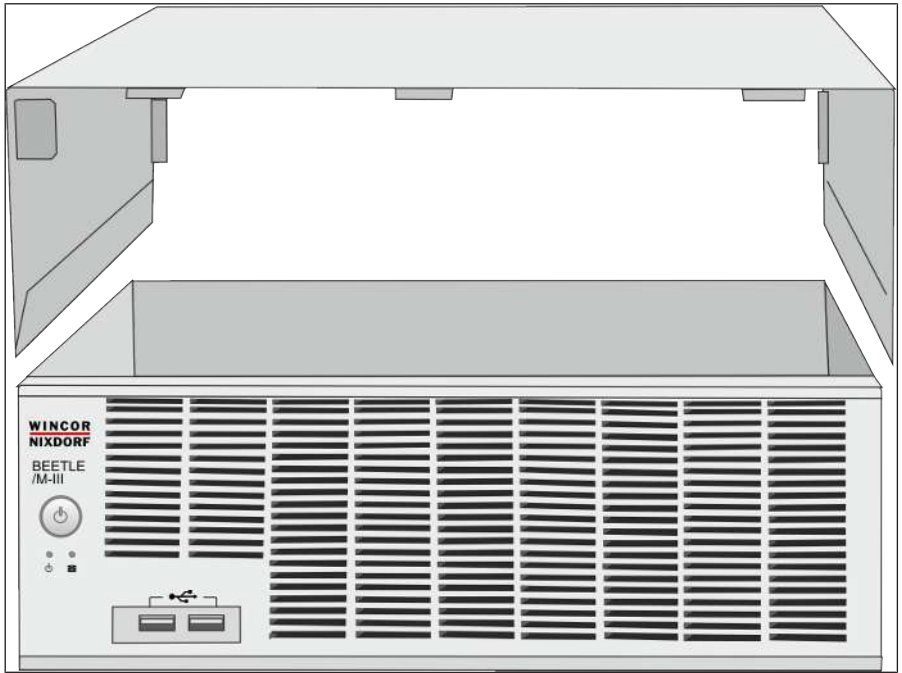
Disengage the knurled screws on the rear of the system.



Slide the housing cover a bit out of the guide.



Lift off the cover upwards. Set it aside.



12 Storage Media

The following are available as storage media:

- a 3.5" SATA hard disk or
- two 2.5" SATA hard disks or one 2.5" SATA hard disk with one O1-Motherboard or
- one or two 2.5" SSD/Solid State Drives or one 2.5" SSD/Solid State Drive with one O1-Motherboard or
- one M.2 SSD (with one M1- or O1-Motherboard) or
- one mSATA (only with one K1/K2- or M1/M2-Motherboard).

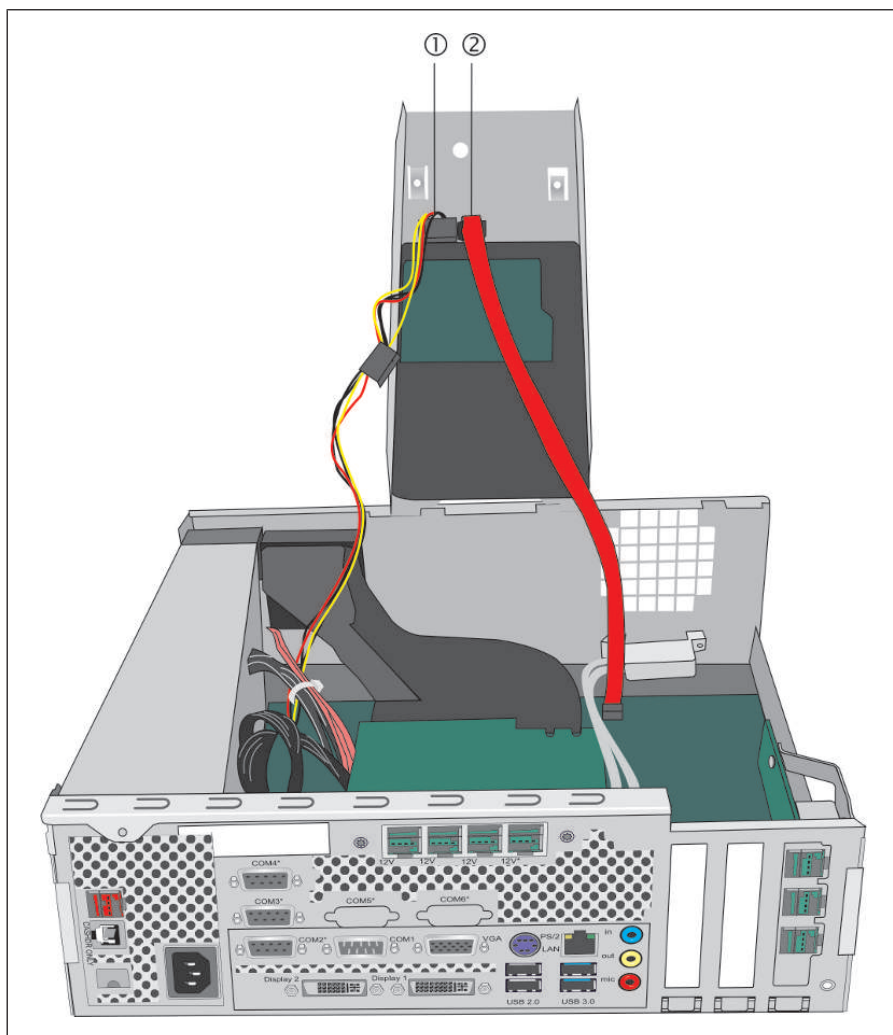
The last two mentioned are each a storage medium that is used and addressed like a hard disk, but which contains no rotating plate, but memory modules instead which are comparable with the electronic components in the interior of a USB stick.

12.1 Replacing a 3.5" SATA hard disk

First, take care to ensure that the device is switched off and that the supply voltage plug is pulled out.

Open the BEETLE (see chapter "Opening the BEETLE /M-III").

Fold open the data medium upwards and pull the data cable and the power supply cable.

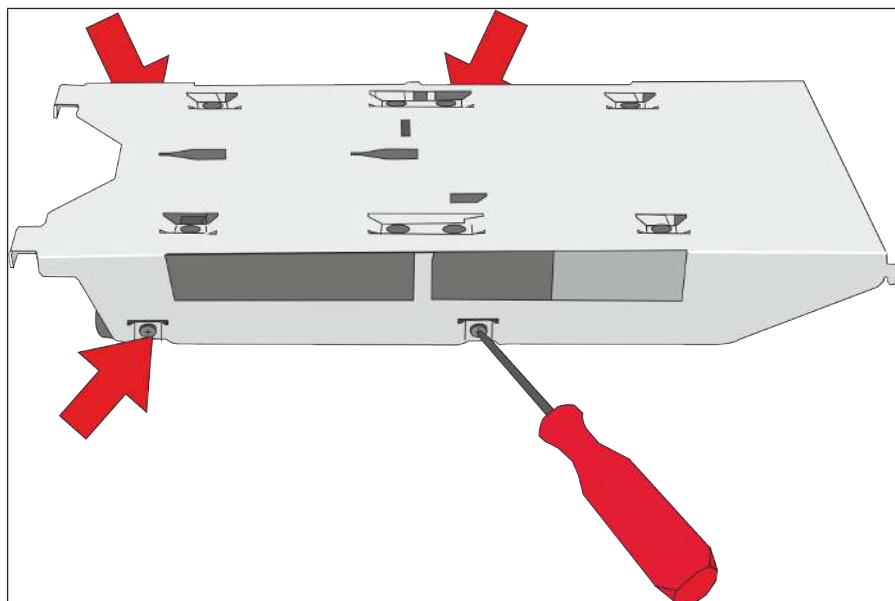


1 Power supply cable

2 Data cable

Remove the hard drive carrier.

Disengage the four screws of the respective hard disk with a Phillips head screwdriver.

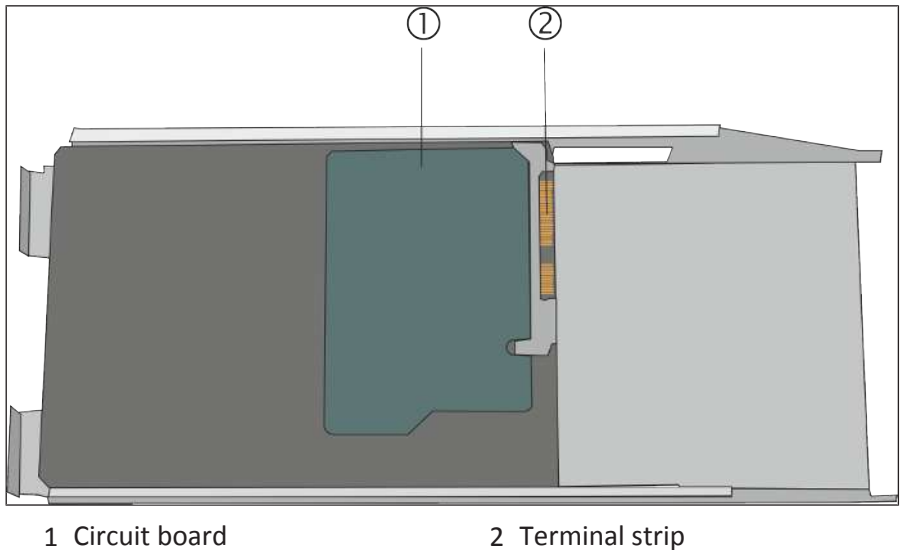


NOTICE

Use utmost caution when handling the hard disk, including at the time of assembly, and do not touch any exposed electronics.

Replace the hard disk.

Fasten the new hard disk using the screws removed earlier. Observe the correct mounting position when screwing in the screws. As can be seen in the illustration, the board of the HDD is located at the top and the terminal strip faces to the right.



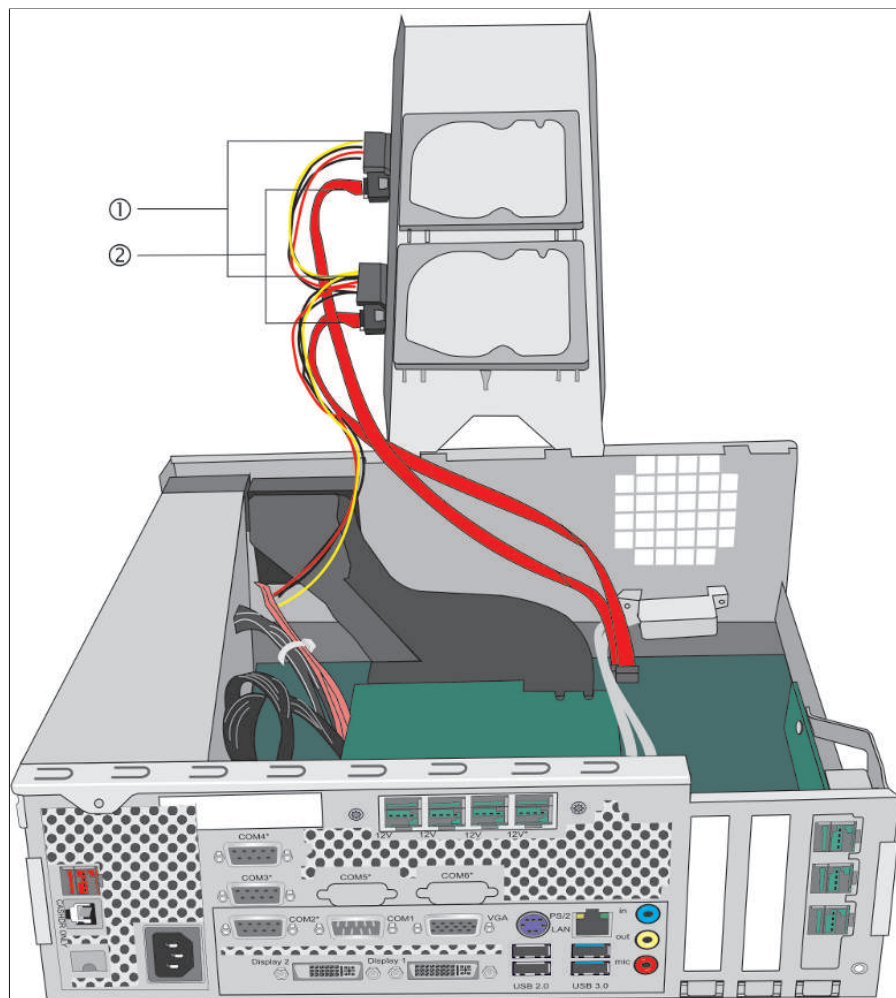
Re-install the hard disk holder following the steps in reverse order.

12.2 Replacing two 2.5" data memories

First, take care to ensure that the device is switched off and that the supply voltage plug is pulled out.

Open the BEETLE (see chapter "Opening the BEETLE /M-III").

Fold open the data medium upwards and pull the data cables and the power supply cable.

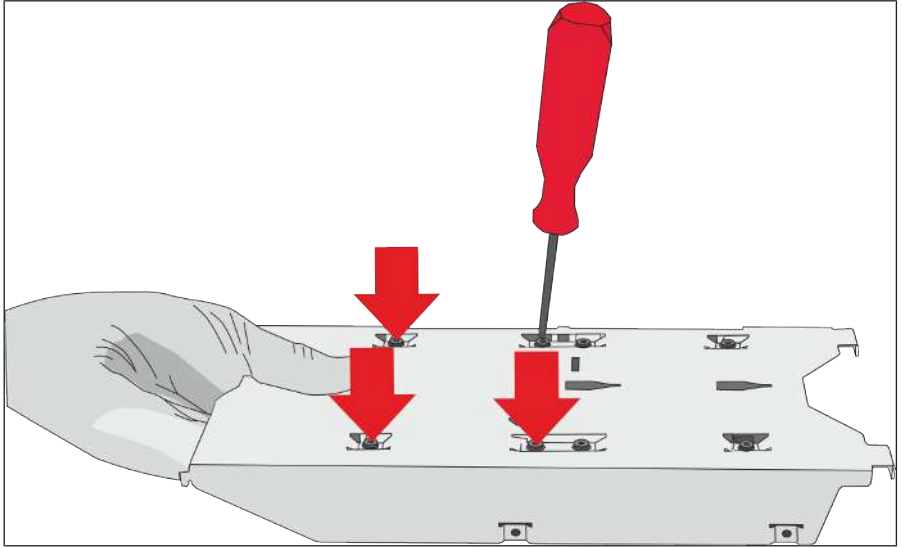


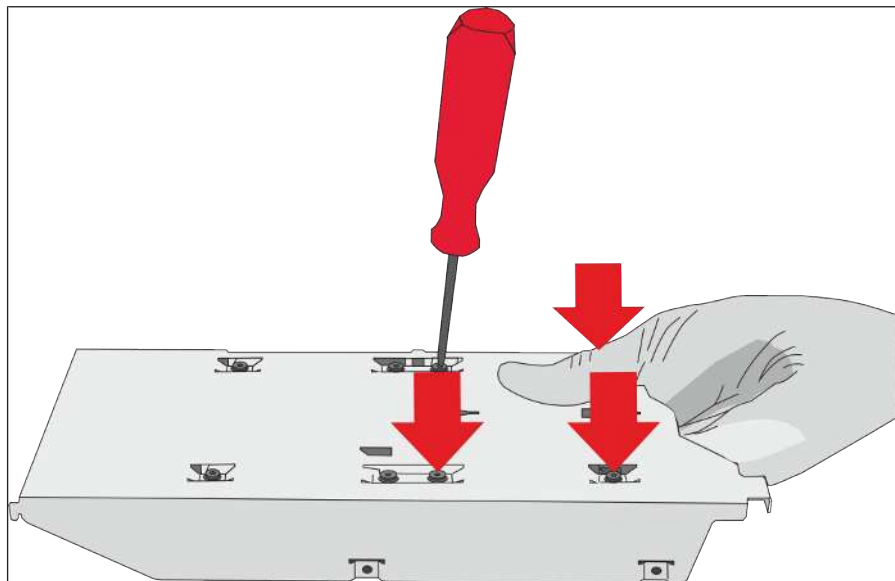
1 Power supply cable

2 Data cable

Remove the hard drive carrier.

Disengage the four screws of each hard disk with a Torx screwdriver. Support on the hard disk with one hand while disengaging the screws.





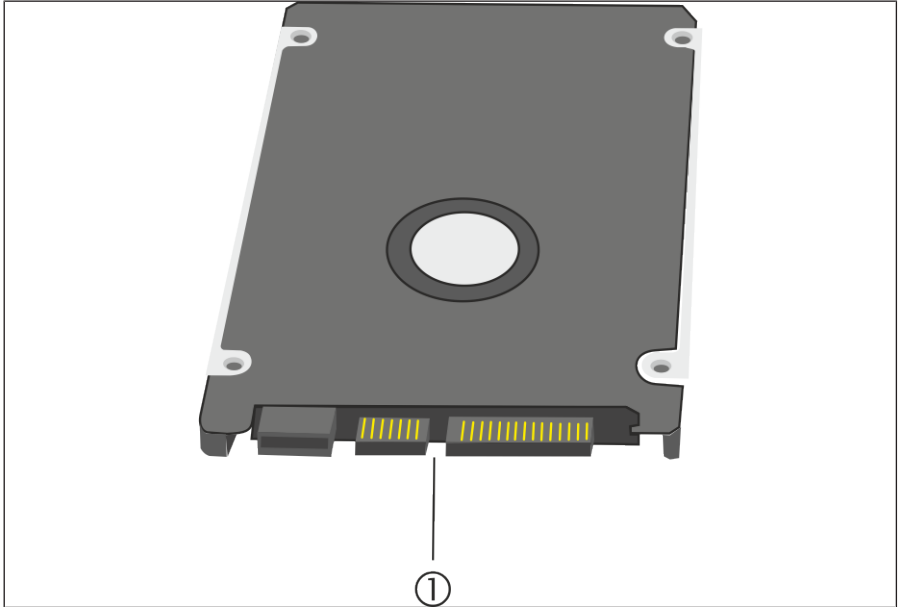
NOTICE

Use utmost caution when handling the hard disks, including at the time of assembly, and do not touch any exposed electronics.

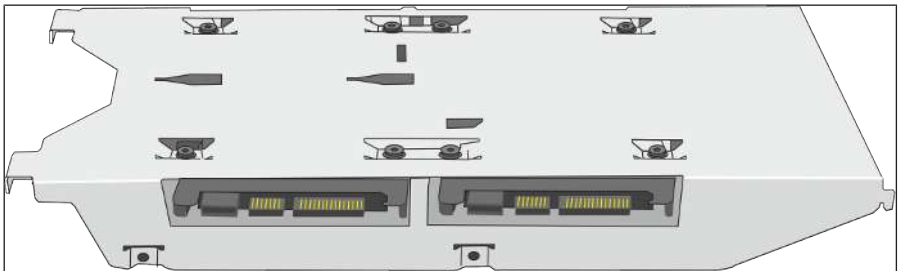
Replace the hard disks.

Fasten the new hard disks using the screws removed earlier. Observe the correct mounting position when screwing in the screws.

When inserting the hard disk into the carrier, take care to ensure that the terminal strip is facing the openings in the side of the carrier.



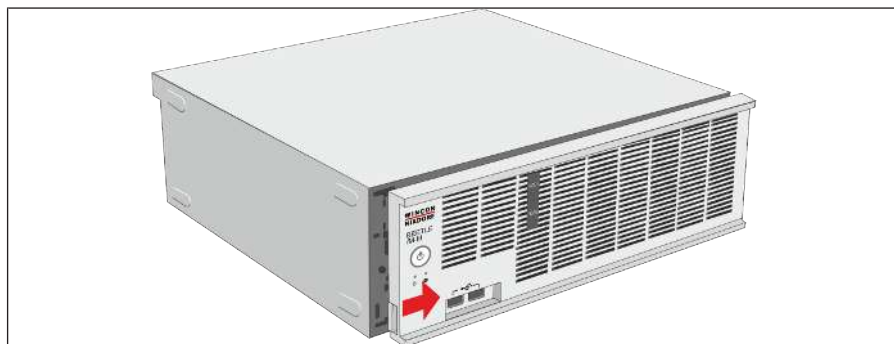
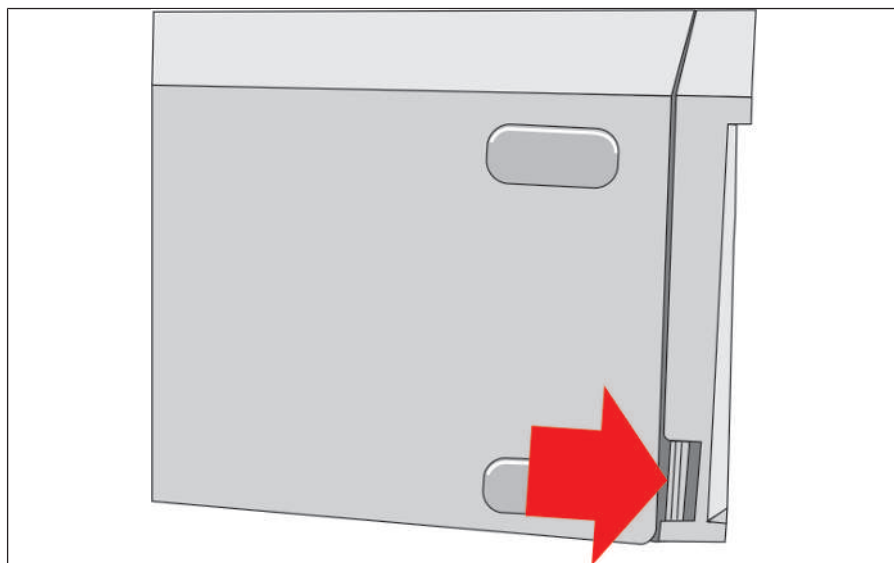
1 Terminal strip



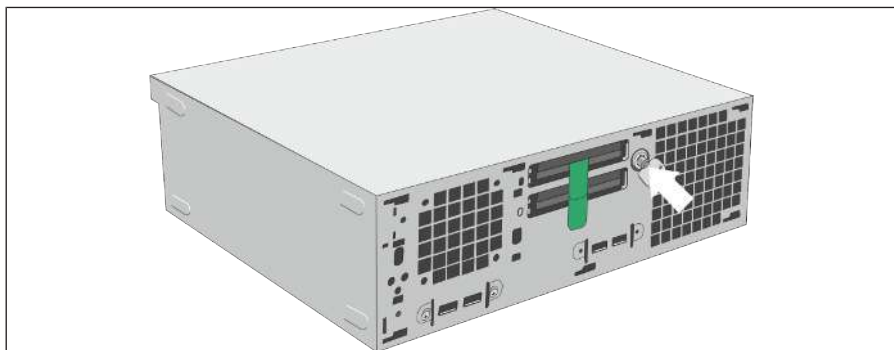
Re-install the hard disk holder following the steps in reverse order.

12.3 Replaceable 2.5" hard disk(s) with frontal access

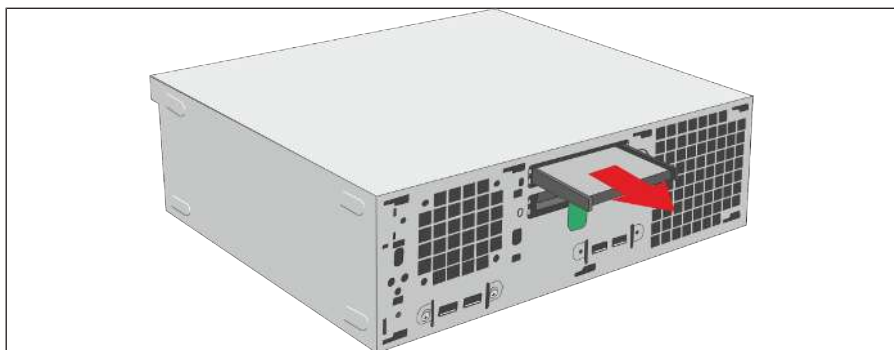
First, take care to ensure that the device is switched off and that the supply voltage plug is pulled out. Open the front orifice plate by pressing the unlocking mechanism towards the front and sliding the orifice plate to the side (see arrow in the bottom illustration).



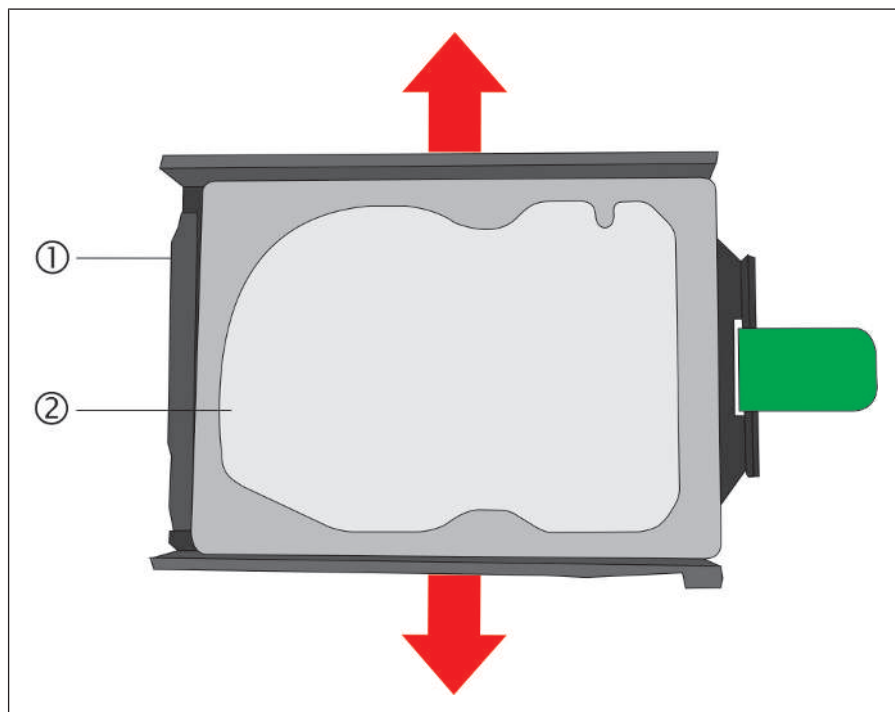
Set the orifice plate to the side. Unlock the hard disks using the key provided (note the interlock symbols).



Pull out the carrier along with the hard disk using the green belt.



Press the sides of the mount outwards and remove the hard disk.



1 Terminal strip

2 Label



CAUTION

Use utmost caution when handling the hard disks, including at the time of assembly, and do not touch any exposed electronics.

Replace the hard disk.

When inserting the new hard disk into the carrier, take care to ensure that the terminal strip is at the back and that the label appears at the top. Also take care to ensure that the knobs of the carrier fit into the respective opening in the hard disk.

Slide the carrier into the insert point until it engages. The hard disk must be firmly inserted so that the key can lock the hard disk.

Proceed accordingly when replacing a second hard drive.

Lock the hard disk with the key.

Mount the orifice plate, press it down and slide it to the left.

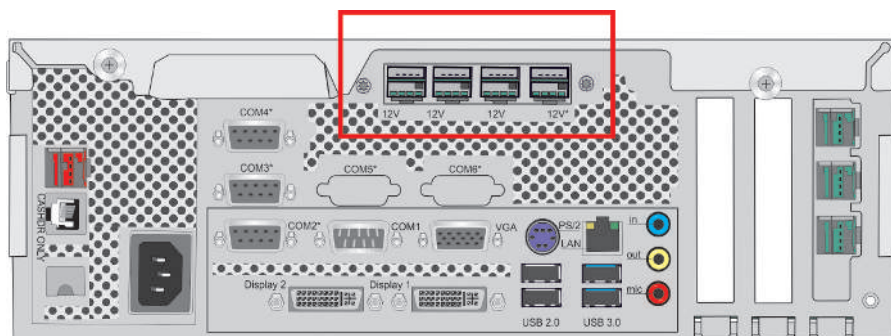
Plug in all of the cables that were pulled out and switch the device on.

13 PoweredUSB Hub (optional)

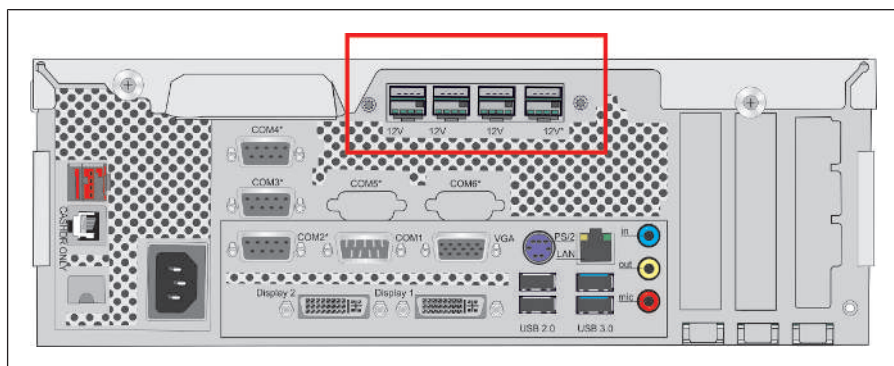
Four optional 12 V PoweredUSB interfaces are available on an optionally obtainable hub.

They enable the connection of peripherals such as printers or scanners. Mass memory devices – such as hard disks – can also be connected via a USB interface. PoweredUSB ports can also be used as USB-A sockets.

BEETLE /M-III with a K1/K2- or M1/M2-Motherboard



BEETLE /M-III with a O1-Motherboard





NOTICE

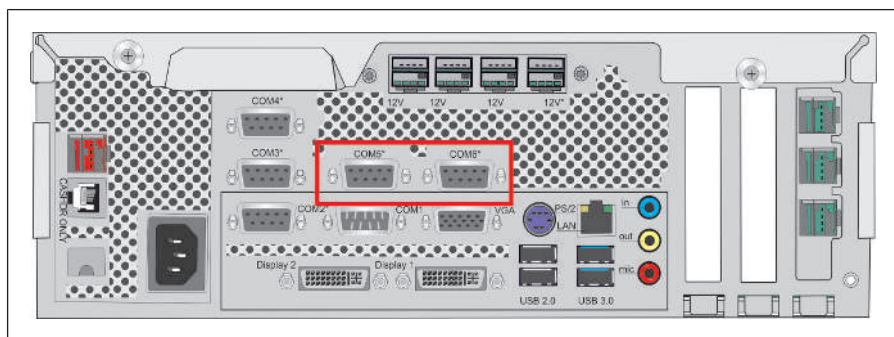
Connect a BA82/BA83 screen with additional options or other multi-function screens exclusively to the 12 V/3A – PoweredUSB socket (12 V(*)) on the hub.

14 COM5*-COM6* interfaces (optional)

You can apply different configurations to your BEETLE /M-III. Four COM(*) interfaces are available as standard (COM1, plug, not electrically powered, and COM2*-COM4*, sockets, electrically powered). In addition, extensions are available via plug connection to the motherboard.

Not only the COM5* and COM6* - interfaces (onboard, see illustration) but also the non-electrically powered interfaces COM5 and COM6 are available as options.

BEETLE /M-III with a K1/K2- or M1/M2-Motherboard



The scanner, customer or operator displays without dedicated power supplies are connected to the serial COM* interfaces, depending on the existing configuration. 9-pin D sub-sockets are used for this purpose. The power supply (5 V and 12 V) is provided through these sockets.

Take care to ensure that the plug of the peripheral device is tightly screw-connected with the socket because otherwise malfunctions could occur.

15 Accumulator (optional)

The accumulator bypasses an eventual power failure for up to 15 minutes and enables a controlled termination of the POS program (see below "Safety in the event of power failure").

For the operation of an accumulator, the BEETLE /M-III must be equipped with a special UPS power supply unit.



WARNING

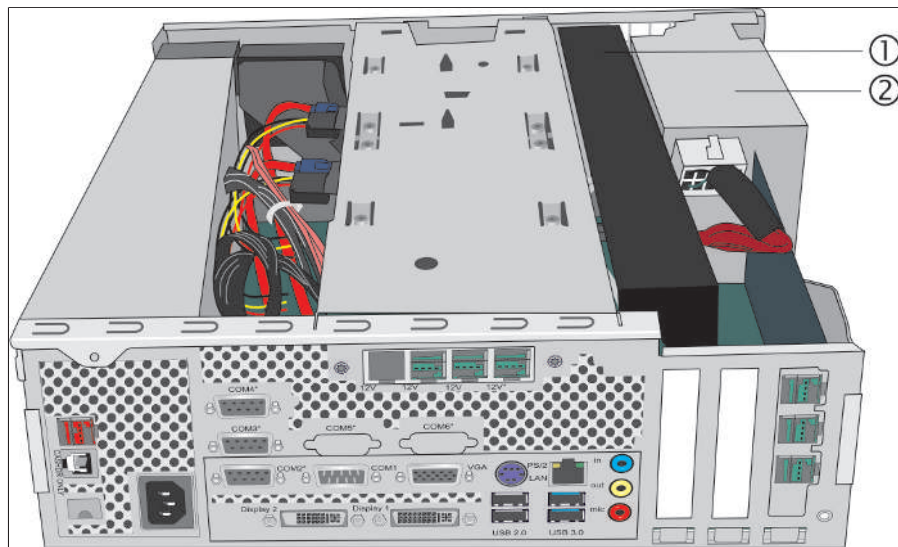
An explosion hazard exists if the accumulator is replaced incorrectly. Only identical types or by types recommended by the manufacturer are permitted as replacements for the accumulator.

15.1 Safety in the event of power failure

The charging time of the accumulator is approximately six hours following initial start-up. The accumulator will be charged only if the system is switched on and the system software (Wincor UPS-Software under Windows/Linux) is configured and loaded (maintenance charging against the self-discharging of the NiMh cells also takes place in Standby mode).

The system remains fully functional for approximately 15 minutes after a supply voltage failure. The energy required for further operation is then supplied by the accumulator, the failure of the system voltage is bypassed for some time and the system is shut down, depending on the software (WN UPS Windows/ Linux driver) in the event of low accumulator charge.

Peripherals with directed power supply unit (e.g. VGA monitor) are not supplied with voltage in the event of a power failure.



1 Accumulator

2 Battery Backup Unit

The optionally available accumulator is supplied with a UPS power supply unit and a connected BBU (Battery Backup Unit).

To put the POS system into operation, actuate the On/Off button on the front of the BEETLE system.

The BEETLE /M-III system with built-in accumulator is supplied with a PoweredUSB hub. Of the four available USB interfaces, one is used internally by the BBU. Three can be used for other connection devices.

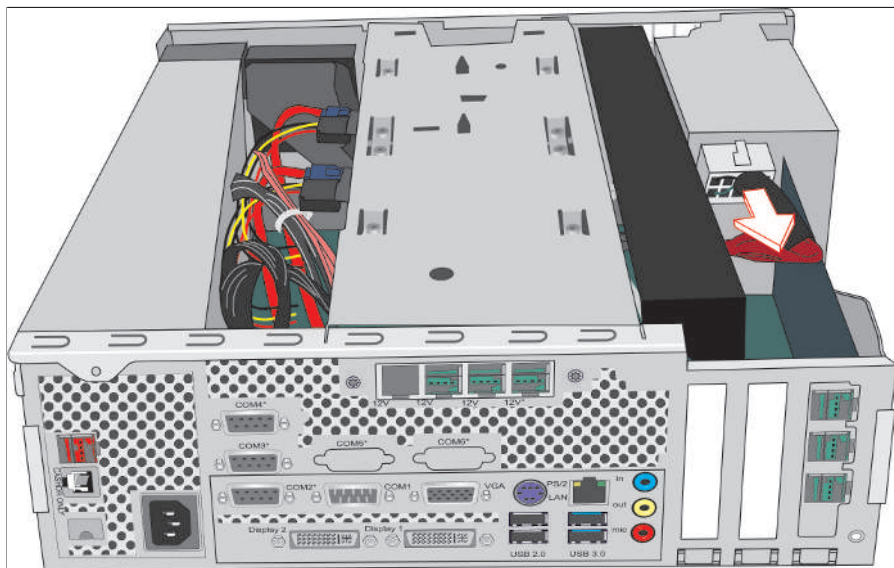
15.2 Replacing the accumulator

Each accumulator has a limited service life. It should be replaced no later than every five years.

**CAUTION**

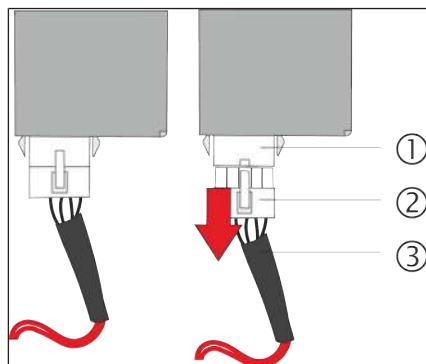
First, take care to ensure that the device is switched off and that the supply voltage plug is pulled out.

Remove the cable cover at the rear of the housing. Disengage the two knurled screws at the rear and lift the housing cover slightly. Pull the cover off the housing towards the rear. Disengage the battery cable.

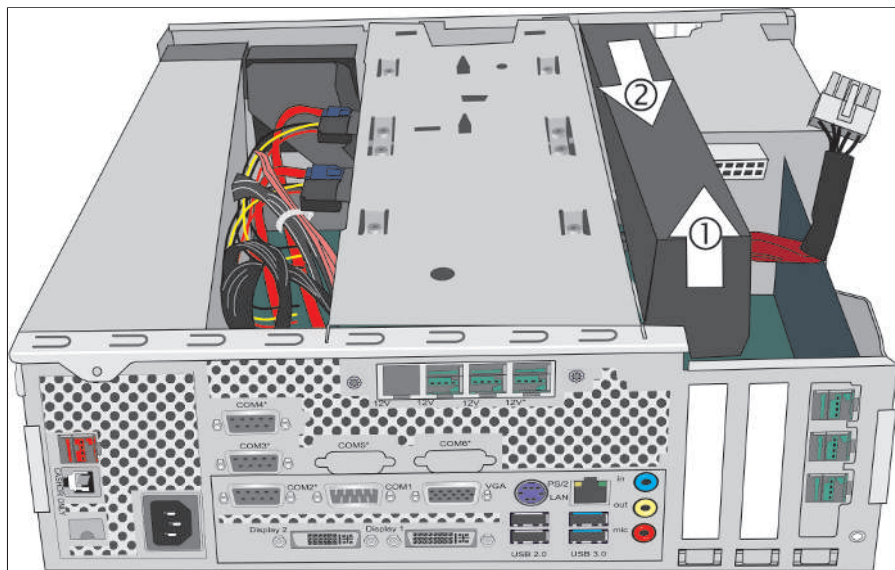


Take care to ensure that the latches at the top are released. Pull the plug from the socket.

Accumulator (optional)



Lift the accumulator up slightly at the front (1) and pull it out upwards at an angle out of the system (2).



Replace the accumulator and set the new one in the position of the old one. Plug the battery cable into the socket.

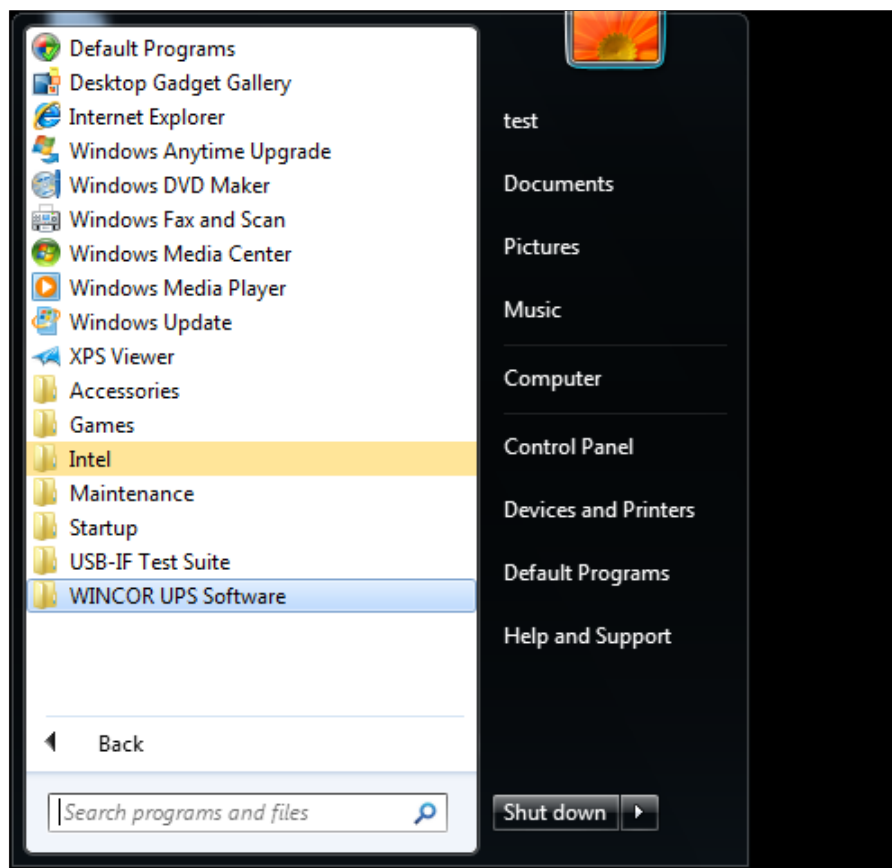
Mount the housing cover and screw it in place. Attach the cable cover.

Observe the necessary settings after replacement of the accumulator (see following chapter).

15.3 Settings after the replacement

The following settings must be implemented in order to integrate the new accumulator into the system.

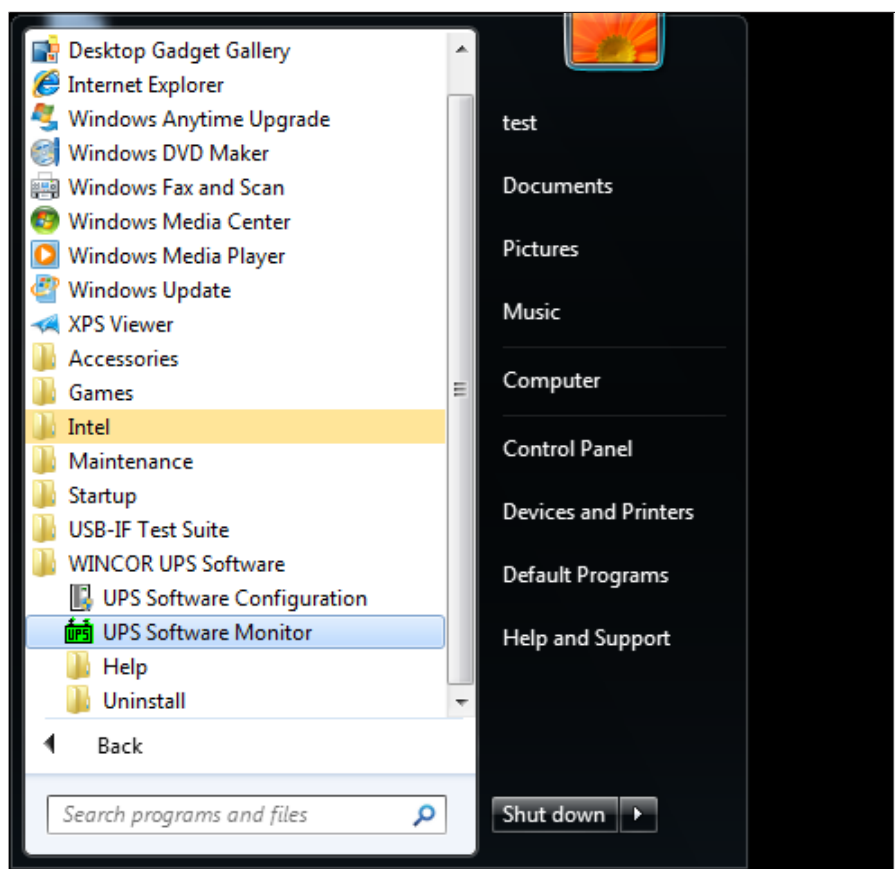
- Click with the left mouse button on the Windows start menu. The following display appears:



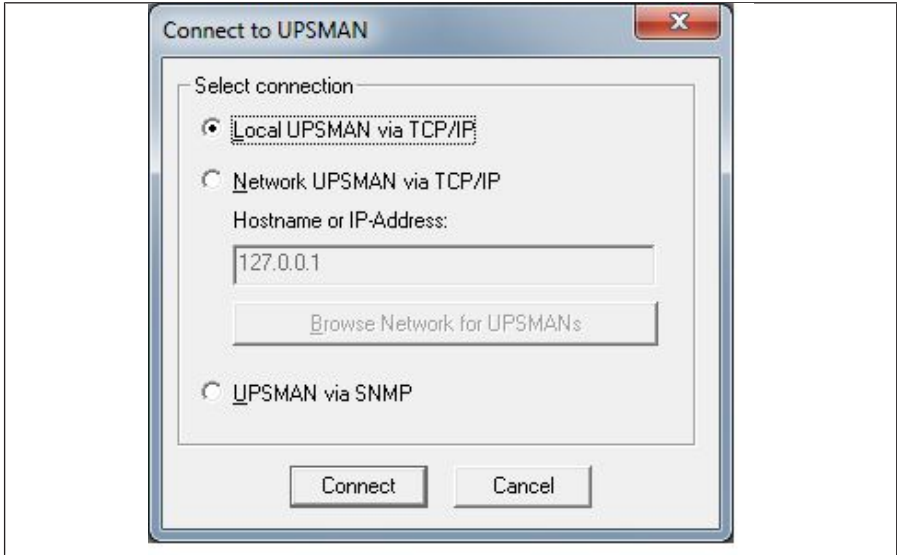
Here in the example, the text appears in English; in a German-language version it would be displayed in German.

- Press the folder WINCOR UPS SOFTWARE

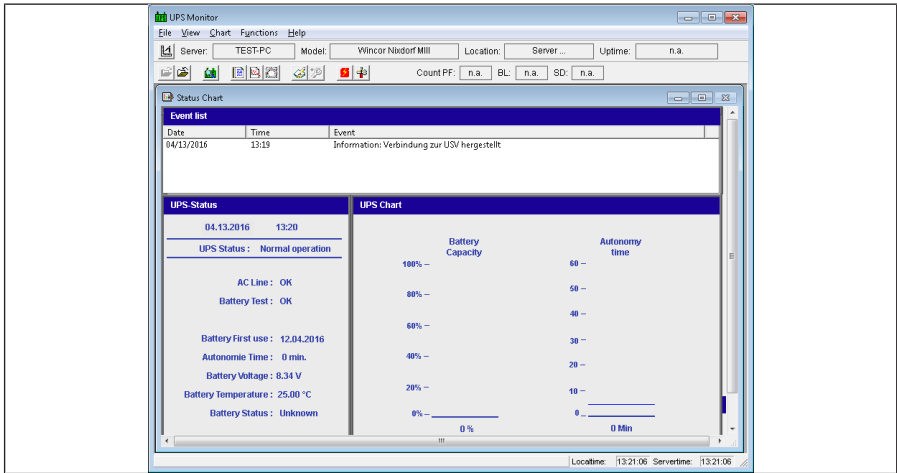
- The folder opens. Press on UPS SOFTWARE MONITOR



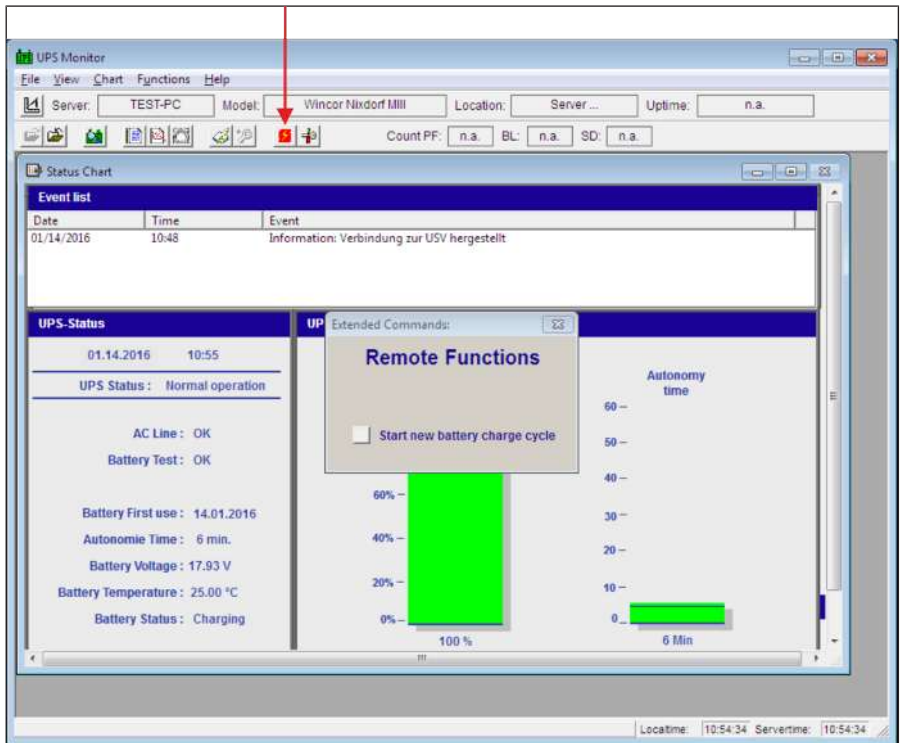
- The menu appears in the following:
Select the menu item "LocalUPSMAN via TCP/IP".



- The UPS monitor opens.



- Press the red button at top in the menu strip (see arrow).



Click on the "Start new battery charge cycle" button (see arrow) in the Remote Functions menu.

16 Changing memory extensions

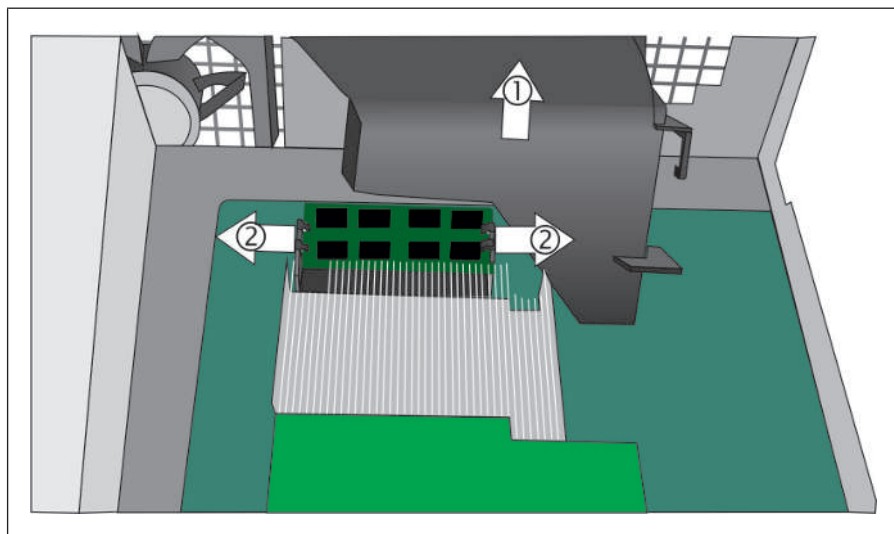
Switch the device off and pull the power plug.



CAUTION

Use ESD equipment.

Disengage the two knurled screws (see chapter "Opening the BEETLE /M-III") on the rear of the BEETLE /M-III. Slide the housing cover a bit out of the front guide and lift it off upwards. Detach the cables which run over the air duct on the right-hand side of the motherboard. Take the air duct and pull it upwards (1) so that you reach the RAM socket on the motherboard. In the case of a BEETLE /M-III with a O1-Motherboard, the removal of the air duct is dispensed with. Open the latching mechanism outwards on the two sides of the RAM socket (2).

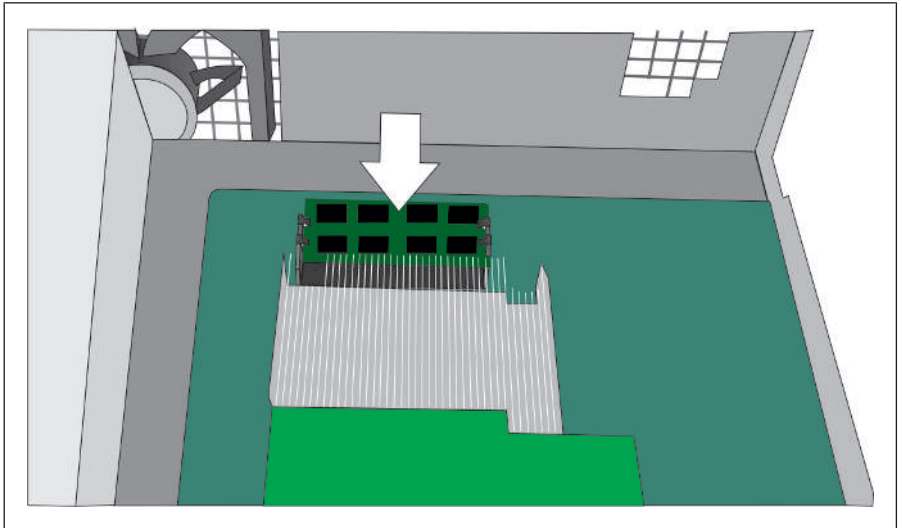


The RAM strip folds out of the socket and can be removed.

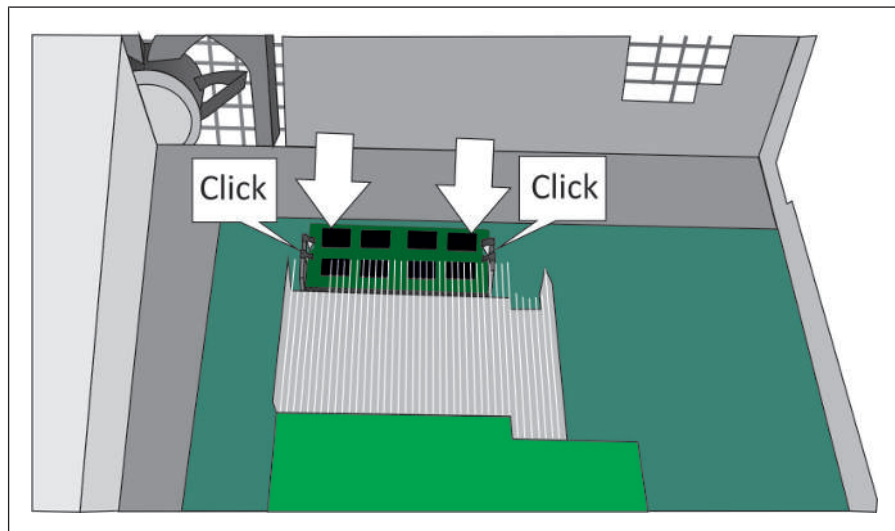
Set the new RAM strips into this memory socket. The coding of the RAM strip (indentation) prevents incorrect insertion.

**NOTICE**

Please note that the bottom memory socket must always be equipped first.



Press the strip downward until it latches audibly into place.



Slide the ventilation channel back into its previous position.

Close the device by mounting the housing cover, sliding it into the front guide and fastening it place with the knurled screws.

Now insert the power cable into the protective contact electrical socket of the house installation and switch on the device.

17 Putting into service

After installation, switch on the system using the On/Off button on the front. First, an automatic self-test takes place, during which the system is checked for its basic functions. You will see for example the following message on the monitor:

WN „ID xx/xx Datum“

xx/xx is the placeholder for the BIOS version number

A decision is made afterwards as to the medium from which the operating system and the software application are to be started. This means that each medium is assigned a logical drive, depending on your BEETLE system equipment.

The following media can be assigned to a drive:

- Network
- Hard disk/Solid state disk
- USB drive

C: and D: are used as logical drive designations.

The network is always assigned to the C: drive during the startup process. The hard disk can be assigned to C: or D: hard drives. It is start-capable only if it has been configured as C: drive.

The system starts, depending on the setup configuration of the drives, in the following sequence:

- LAN PXE ROM
- USB
- SATA port 1
- SATA port 2
- SATA port 3

Please bear in mind while doing so that the storage medium must be system-boot-capable.

Once the operating system has started up without error, the software for the POS application will be started automatically if necessary.

As soon as the workstation is ready for operation, this will be indicated by a message.

More detailed information can be obtained from the description of your user program.

18 Appendix

18.1 Technical Data

Size	
Width	311.5 mm (12.26")
Depth	302.9 mm (11.93") (without cable cover, incl. screws) 366.5 mm (14.43") (with cable cover)
Height	102.1 mm (4.03")
Weight	approx. 5 kg (11 lbs.)
Ambient conditions	
Climate class 3K3	DIN IEC 721-3-3
Climate class 2K2	DIN IEC 721-3-2
Climate class 1K2	DIN IEC 721-3-1
Temperature	
Operation (3K3)	+5°C to +40°C (+41°F to +104°F)
Transport (2K2)	-25°C to +60°C (-13°F to +140°F)
Storage (1K2)	+5°C to +40°C (+41°F to +104°F)
Processor	
K-Motherboard	Celeron G1820, Core i3-4330, Core i5-4570S Intel Pentium G3420, 2x 3.3 GHz
M-motherboard (Skylake)	Intel Core i5-6500, 4x 3.2 - 3.6 GHz Intel Core i3-6100, 2x 3.7 GHz Intel Pentium G4400, 2x 3.3 GHz Intel Celeron G3900, 2x 2.8 GHz
M-motherboard (Kabylake)	Intel Core i5-7500, 4x 3.4 - 3.8 GHz Intel Core i3-7101E, 2x 3.9 GHz
O-Motherboard (Braswell)	Celeron QC N3160 4x1.6 GHz to 2.24 GHz
Power supply voltage	100-240 V
Power consumption	6-3 A
Supply voltage frequency	60/50 Hz

18.2 Interfaces (K1/K2, M1/M2)

COM	COM1 (without voltage supply) COM2* - COM4* (with power supply) Optional COM5 - COM6 (without power supply) COM5* - COM6* (with power supply)
USB	2 x Standard USB 2.0 at the front side 2 x Standard USB 2.0 2 x Standard USB 3.0 3 x 12 V PoweredUSB via Retail Card 1 x 24 V PoweredUSB on the power supply unit Optional 4 x 12 V via PoweredUSB Hub not with a BEETLE /M-III with accumulator, then 3 x 12 V PoweredUSBs are standard
Graphics Adapter	1x VGA, Resolution max. 1920 x 2000 Pixel @ 60 Hz 2x PLINK2/DVI-D, Resolution max. 1920 x 1200 Pixel @ 60 Hz K1/M1: Max. 3 displays for simultaneous connection K2/M2: Max. 2 displays for simultaneous connection
In, Out, Mic	Ports for microphone, headset, loudspeaker
PS/2	1 (keyboard and mouse via Y-cable)
RJ 12	Cash Drawer
RJ45/LAN	10/100/1000 Mbit/s
PCIe	1 x PCIe x1 and 1 x PCIe x16
LPT	Optional: 1 x
Serial ATA	K1/M1/M2: 3 x SATA III K2: 2 x SATA III and 1 x SATA II
mSATA+mPCIe*	K1*, K2, M1* and M2
M.2	KeyM 2280/2260; 4 x PCIe/1 x SATA to M1

18.3 Interfaces (O1)

COM	COM1 (without voltage supply) COM2* - COM4* (with power supply) Optional COM5 - COM6 (without power supply) COM5* - COM6* (with power supply)
USB	2 x Standard USB 2.0 at the front side 2 x Standard USB 3.0 2 x Standard USB 2.0 1 x 24 V PoweredUSB on the power supply unit Optional 4 x 12 V via PoweredUSB Hub not with a BEETLE /M-III with accumulator, then 3 x 12 V PoweredUSBs are standard
Graphics Adapter	1x VGA, Resolution max. 1920 x 2000 Pixel @ 60 Hz 2x PLINK2/DVI-D, Resolution max. 1920 x 1200 Pixel @ 60 Hz O1: Max. 3 displays for simultaneous connection
In, Out, Mic	Ports for microphone, headset, loudspeaker
PS/2	1 (keyboard and mouse via Y-cable)
RJ 12	Cash Drawer
RJ45/LAN	10/100/1000 Mbit/s
PCIe	1 x PCIe x1
LPT	Optional: 1 x
Serial ATA	1 x SATA III
M.2	KeyM 2280, 1 x SATA

18.4 Total Current Consumption Interfaces

The total current consumption at 5 V interfaces must not exceed 5 A:

Every COM*	= 300 mA, total of 1000 mA
Every USB2.0/USB3.0	= 500 mA/900 mA, total of 3 A
Every USB (HUB)	= 500 mA, total of 2 A
TFT/LCD display	

Max. 5 A @ 5 V

The total current consumption at 12 V interfaces must not exceed 5 A:

Every COM*	= 600 mA, total of 900 mA
Every PoweredUSB	= 1.5 A, total of 2 A
Every PoweredUSB 12 V*	= max. 3 A
TFT/LCD display	

Max. 5 A @ 12 V

The 24 V PoweredUSB interface is provided for the operation of retail thermal printers. The peak load is configured accordingly. The maximum current strength must not exceed 2 A.

For thermal reasons, the power consumption of additionally implemented PCI and PCIe controllers is limited per slot to 10W and in total to 20W.

19 Abbreviations

AC	Alternating Current
CE	European Symbol of Conformity
COM	RS 232 interface
COMn*	RS 232 interface (asterisk = power supply)
CPU	Central Processor Unit (for example INTEL Celeron-M)
cUL	Canadian Underwriters Laboratories
DIN	Deutsches Institut für Normen (German Institute for Standards)
D-Sub	D-Shaped Subminiature
DVI-D	Digital Visual Interface Digital
EC	European Community
ESD	Electrostatic-discharge-sensitive components
CFC/CHC	Fluorinated chlorinated hydrocarbons/chlorinated hydrocarbons
GS	Tested Safety
HDD	Hard Disk Drive
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardization
LAN	Local Area Network
LED	Light Emitting Diode
PCIe	Peripheral Component Interconnect express
PEN conductor	Protective Earth Neutral - conductor
POS	Point Of Sales
RAM	Random Access Memory
RJ	Registered Jack (standardized socket), e.g. RJ45
SATA	Serial Advanced Technology Attachment
TFT	Thin Film Transistor
TN-S	Terre Neutre-Separé
UL	Underwriters Laboratory (standards)
USB	Universal Serial Bus

VDE	VDE Association for Electrical, Electronic & Information Technologies
VGA	Video Graphics Adapter
WN	Wincor Nixdorf International GmbH

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