ibaRackline

iba Industrial Computer

Manual

Issue 1.21

Manufacturer

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The content of this publication has been checked for compliance with the described hardware and software. Nevertheless, deviations cannot be excluded completely so that the full compliance is not guaranteed. However, the information in this publication is updated regularly. Required corrections are contained in the following regulations or can be downloaded on the Internet.

The current version is available for download on our web site http://www.iba-ag.com.

Windows® is a label and registered trademark of the Microsoft Corporation. Other product and company names mentioned in this manual can be labels or registered trademarks of the corresponding owners.

Certification

The device is certified according to the European standards and directives. This device corresponds to the general safety and health requirements. Further international customary standards and directives have been observed.

$\mathsf{C\,E}$

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 residential area is likely to cause harmfulinterference in which case the user will be required to correct the interference at his own expense.

Issue	Date	Revision	Chapter	Author	Version HW / FW
1.21	02-2023	Controller, hard disk mounting frame			

Table of contents

1 About this manual

This manual describes operation of the industrial PC ibaRackline.

1.1 Target group

This manual addresses in particular the qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded to as professional if he/she is capable of assessing safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

1.2 Designations

The following designations are used in this manual:

Action	Designations
Menu command	Menu *Logic diagram*
Call of menu command	*Step 1 – Step 2 – Step 3 – Step x* Example: *Select menu „Logic diagram – Add – New logic diagram*
Keys	<Key name> Example: <Alt>; <F1>
Press keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Ctrl>
Buttons	<Button name> Example: <OK>; <Cancel>
File names, Paths	„File name", „Path" Example: „Test.doc"

1.3   Symbols used

If safety instructions or other information are used in this manual, they mean:

⚠ DANGER

The non-observance of this safety information may result in an imminent risk of death or severe injury:

- By an electric shock!

- Due to the improper handling of software products which are coupled to input and output procedures with control function!

If you do not observe the safety instructions regarding the process and the system or machine to be controlled, there is a risk of death or severe injury!

⚠ WARNING

The non-observance of this safety information may result in a potential risk of death or severe injury!

⚠ CAUTION

The non-observance of this safety information may result in a potential risk of injury or material damage!

Note

A note specifies special requirements or actions to be observed.

Tip

Tip or example as a helpful note or insider tip to make the work a little bit easier.

Other documentation

Reference to additional documentation or further reading.

2 Scope of delivery

After unpacking check the completeness and intactness of the delivery.

The scope of delivery includes:

❑ Industrial Computer ibaRackline

❑ Keyboard

❑ Mouse, optical

❑ Mains cable

❑ Documentation (data medium "iba Software & Manuals")

The documentation contains:

❑ Manual (pdf)

❑ Subcontractors' documentation (pdf)

❑ Windows 10 Enterprise Long-Term-Servicing Version or Windows Server Version

❑ Recovery media (for the ordered Windows version and all associated operating system parameters)

❑ iba software, optional order

❑ Hardware driver (motherboard, graphic card)

❑ 1 iba software license key (dongle), optional with iba software product and installed inside of the device on request of the client

❑ Serial number (iba-S/N)

3 Versions

❑ ibaRackline (Xeon E, Windows 10 IoT Enterprise Long-Term-Servicing Version) with one hard disk, can be upgraded with up to 4 additional hard disks + 4 hard disks with additional hard disk mounting frame

Enhancement options:

❑ RAID 1 system with 2 hard disks, 1 redundant power supply unit (The data are mirrored.)

❑ RAID 6 system with 8 hard disks, 1 redundant power supply unit and a second hard disk mounting frame (The net volume corresponds to the volume of approx. 6 hard disks with simultaneous high performance and system stability against failure.)

❑ Server system with Windows Server 2016 or later

❑ ibaRackline with SSD disk

❑ SSD (for upgrade)

❑ Upgrade to RAID1 system for ibaRackline with SSD

3.1 Factory setting

In delivery state, 2 users with or without password are configured:

User	Password
pda	-
Administrator	xadmin

Important note

Change the preconfigured passwords after starting-up the PC. This way, unauthorized usage will be impeded.

4   Safety instructions

4.1   Designated use

The device may be used only for the following applications:

❑   Machine test and commissioning of industrial systems

❑   Measurement data logging and analysis

❑   Applications of iba software products (ibaPDA, ibaLogic etc.)

Warning!

This is a Class A device. This equipment may cause radio interference in residential areas. In this case, the operator will be required to take appropriate measures.

Note

The plug of the system serves for disconnecting the device. Therefore, the plug as well as the socket must always be easily accessible in order to allow a quick disconnection of the power supply.

4.2   Proper installation site

The device can be installed only according to manufacturer's specifications:

❑   19" cabinet

❑   19" rack line

According to manufacturer's specifications the device can only be installed on an even non-slip installation surface, for example table or rack.

⚠ DANGER

Electric Shock!

Before opening the device disconnect it from the mains and pull out the mains plug from the socket equipped with earthing contact!

Never use the device with a damaged mains cable!

⚠ WARNING

Before opening the device disconnect it from the mains by unplugging the cable from the socket equipped with an earthing contact and wait for several minutes until the components have cooled down! Thus you will avoid injuries due to the electric shock or burns!

Connect the device to one supply voltage only according to specifications on the built-in power supply unit!

Always use a socket equipped with earthing contact! Use a terminal strip with overvoltage protection or an uninterruptible power supply (UPS)!

Always connect the device to earthed power networks (TN-networks according to VDE 0100 Part 300 and IEC 60364-3)! The operation via ungrounded networks or networks (IT networks) earthed via impedance is not permitted!

In case of faults, a defective device or a possible defect pull out the mains plug from the socket equipped with earthing contact!

Never put a damaged device into operation!

Pay attention to sharp edges in the housing!

Never switch off the device by means of the mains switch without previous shutdown of the device.

Electrostatic discharge!

Touch the components only in electrostatically discharged state!

4.3   Mainboard battery

The computer contains 1 CMOS battery CR2032, included in the mainboard used. The battery is a lithium metal battery and belongs to the following class of dangerous goods: UN3091 Class 9 – PI970 Section II - SP188. The cells are not subject to some requirements of dangerous goods regulations. The currently valid safety data sheet of CR2032 is available on request.

Observe the correct polarity of the battery.

Important note

Used batteries and rechargeable batteries must not be disposed of with residual waste.

Batteries contain valuable raw materials that can be recycled and reused. Devices with the symbol are subject to EU Directive 2002/96/EC on waste electrical and electronic equipment. As a manufacturer we are obliged under the above directive to make you aware of this directive in the context of selling batteries or rechargeable batteries.

Batteries must not be disposed of in the household waste. This is highlighted by a crossed-out rubbish bin or waste container. You are legally required to properly dispose of batteries. Please dispose of spent batteries as required by law at municipal collection centers or return them to your local retailer free of charge. It is expressly forbidden to dispose of batteries in the household waste; this is harmful for the environment. Batteries delivered by us can be returned free of charge or returned by mail with sufficient postage.

5 Description

5.1 Front view

ibaRackline
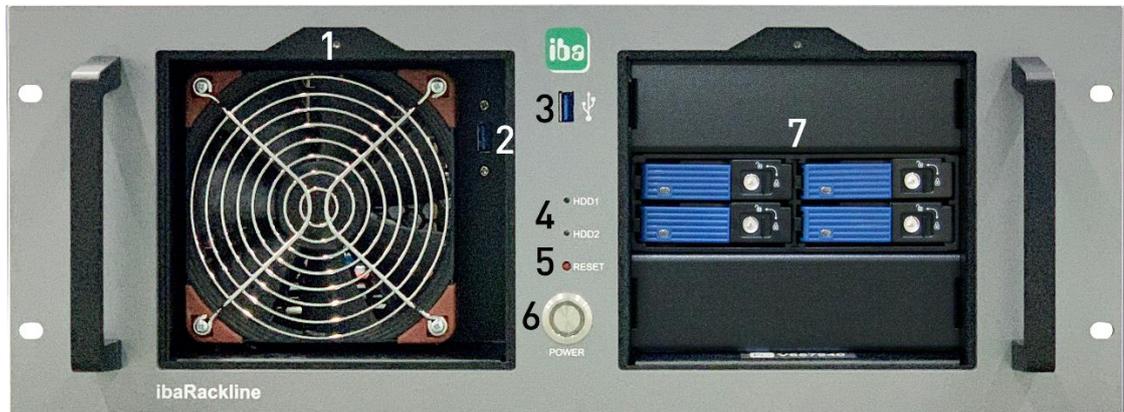
(Image without cover panels)

1 Fan (can be replaced from the front)
2 USB interface for hidden dongle mounting
3 USB interface
4 LEDs (hard disk indicators)
5 Reset button
6 Power button
7 Plug-in slots for hard disks

Note

On delivery of the device the iba software license key is in the documentation or on client's request plugged-in in the device.

Display elements

The display consists of 2 LEDs:

LED 1:   HDD1 (hard disk 1)

LED 2:   HDD2 (hard disk 2)

The hard disk controller is connected to the LED 1 and lights up green in case of hard disk activity.

The LED 2 is connected only for the RAID systems.

5.2   Rear view

5.2.1   Standard system version

ibaRackline

1   Power supply with switch and panel plug for non-heating appliances

2   Slots X20 to X26 (iba-cards for rackline slot, e.g. output connection for
    ibaFOB-i cards)

3   Connections for external devices (keyboard, mouse, network etc.)

4   Hard disk controller

5   Slots X3 to X7 (PCIe)

6   Slot X8 (PCI)

5.2.2   Version with redundant Power Supply (e.g. RAID system)

RAID systems are equipped with a redundant power supply unit.

1   2x Power supply with switch and panel plug for non-heating appliances, replaceable

2   Slots X20 to X26 (iba-cards for rackline slot, e.g. output connection for
    ibaFOB-i cards)

3   Connections for external devices (keyboard, mouse, network etc.)

4   Hard disk controller

5   Slots X3 to X7 (PCIe)

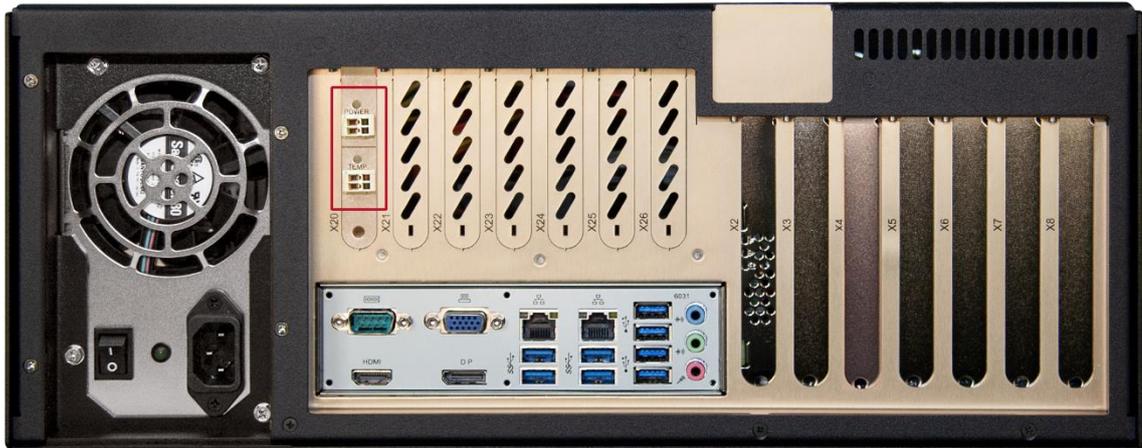6   Slot X8 (PCI)

5.3   Internal view

ibaRackline

1 5x PCI Express slots, 1x PCI slot

2 Hard disk controller

3 Slots for iba-cards for rackline slot or additional fan (as option)

4 Power supply unit (for RAID systems redundant)

5 Drive frame

6 Fan (Ø 12 cm), mounting angle for redundant power supply unit

7 Additional fan (as option)

8 Hold-down clamp

5.4   Error monitoring

Example: ibaOut-Temp card installed in a RAID system

The temperature and the status of the power supply unit can be monitored with the slot cards ibaOut-Temp and ibaOut-State. The cards can be ordered separately. If one of the cards is ordered with ibaRackline, it is installed by default in slot X20. If you want to install the card later on, refer to chapter 7.4.

The status of temperature and power supply unit are indicated each with a bicolored LED on the cards.

LED	Status	Description
TEMP	green	Temperature OK
	red	Overtemperature
POWER	green	Power supply OK
	red	Power supply error Redundant power supply: error in one of the two power supply units

5.4.1   ibaOut-Temp

ibaOut-Temp provides two relay outputs for temperature and power supply (2-pin con-nector), which can be used to indicate errors. Both error types are indicated separately.

The switch position of the outputs is as follows:

Status	Switch POWER	Switch TEMP
Power off or power error	closed	open
Power OK, temperature OK	open	open
Power OK, overtemperature	open	closed

**Contact loading capacity**

Nominal current: 400 mA

Nominal voltage: 60 V

Compatibility to previous ibaRackline models

ibaRackline computers of older type series provide only one relay output for error indication. The relay contact is closed when an error occurs, without differentiating between overtemperature or a power supply error.

ibaOut-Temp can be used in the same way, when both outputs are connected to one output (parallel circuit).

Wiring diagram of the parallel circuit:
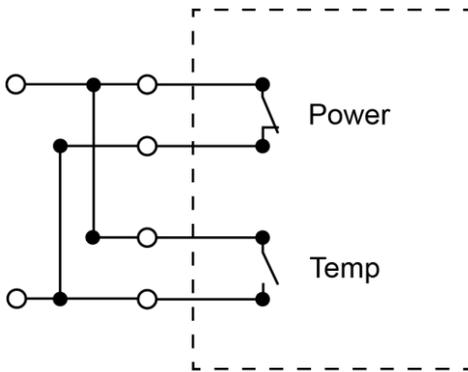
5.4.2 ibaOut-State

ibaOut-State provides an output (6-pin connector) which can be used to indicate errors. Both error types are indicated separately.

These are the switch positions:

Switch	state	switch	state
	Power OK, temperature OK		Power off or Power error and overtemperature
	Power error, temperature OK		Power OK, overtemperature

Contact loading capacity

Nominal current: 300 mA

Nominal voltage: 220 V DC

Compatibility to previous ibaRackline models

The behavior of ibaOut-State is identical with the previous models with a relay output, if pin 5 and 6 are used. The relay contact of the previous ibaRackline models is closed when an error occurs, without differentiating between overtemperature or a power supply error.

5.5   Default installation position for cards

On delivery, the data acquisition cards and other additional cards are installed by default in the slots as described below.

Installation slots for data acquisition cards (X3 – X7)

❏ The cards are installed starting with slot X7 to slot X3
    (X7 corresponds to the first card, card no. 0)

Installation slots for cards with rackline slots (X20 - X26)

❏ ibaOut-Temp or ibaOut-State is installed in slot X20

❏ ibaFOB-4o-D rackline-slot is installed starting with X25 and connected to X7 down-
    wards.

❏ ibaFOB-4o-D rackline-slot as sync-out (mirroring output) is installed in X26 and
    connected to the first ibaFOB-#i-D card

Connections of ibaFOB-4o-D with ibaFOB-#i-D input cards:

- X25 – X7
- X24 – X6
- X23 – X5
- X22 – X4
- X21 – X3

6   Installation, connection and first switching on

6.1   Safety instructions

⚠ DANGER

Electric Shock!

Never use the device with a damaged mains cable!

⚠ WARNING

Connect the device to one supply voltage only according to specifications on the built-in power supply unit!

Always use a socket equipped with earthing contact! Use a terminal strip with overvoltage protection or an uninterruptible power supply (UPS)!

Connect the device only to earthed power networks (TN-networks according to VDE 0100 Part 300 or IEC 60364-3)!

The operation via ungrounded networks or networks (IT networks) earthed via impedance is not permitted!

Never put a damaged device into operation!

6.2   Installation

ℹ Note

If you install the device into a 19" cabinet with rotating rack, consider the depth of the device. Observe the minimum bending radii of the cables.

1. Place the device from the front onto the 19" rack line.

2. Fasten the device using 4 screws at the 19" rack line.

3. Plug in the mains cable of the device into a socket.

6.3   Connection and first switching on

ℹ Note

Before switching on the device for the first time check if the power supply is connected properly and the connecting cable (fiber optic and copper data cable) are plugged. The device is delivered in a pre-installed and configured state. You can find the parameters of the operating system and iba software in the corresponding manuals or in the online help.

1. Connect all cables.

2. Switch on the device using the mains switch.

3. Boot the device. Press the power button.
    The computer is booted automatically with Windows.

4. Finally, start all iba software applications.

7   Installation of measuring or additional boards

7.1   Safety instructions and notes

⚠ DANGER

Electric Shock!

Before opening shut down the device! After that disconnect it from the mains and pull out the mains plug from the socket equipped with earthing contact!

⚠ WARNING

Wait for several minutes after switching off until the components have cooled down! Thus you will avoid injuries due to the electric shock or burns!

Pay attention to sharp edges in the housing!

Electrostatic discharge!

Touch the components only in electrostatically discharged state!

Note

If you upgrade the device, observe the instructions in the third party documentation.

Back up all data on an external storage medium.

7.2   Basic procedure

If you carry out any work at the device, always proceed in the following way:

1. Remove all mobile data carriers (USB sticks, memory cards and so on).

2. Shut down the device.

3. Switch off the device.

4. Unplug the mains cable from the socket.

5. Remove the cover.

6. Carry out upgrade operations.

7. Attach the cover again.

8. Put the device into operation again.

7.3   Opening the device

1. Turn the screws located on the upper side of the cover a quarter of a turn counter-clockwise.

2. Lift the housing cover.

7.4   Installing ibaOut-Temp/ibaOut-State

The temperature and the status of the power supply unit can be monitored with the slot cards ibaOut-Temp and ibaOut-State, see also chapter 5.4.

The installation procedure is identical for both cards. The following description is based on the example of ibaOut-Temp.
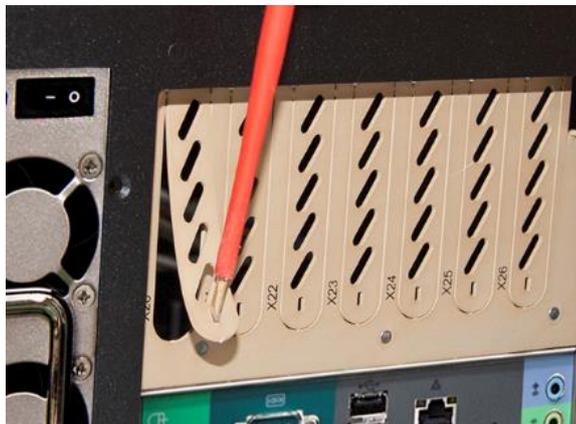

ibaOut-Temp
Order no. 11.110001

ibaOut-State
Order no. 11.110002

After having opened the housing cover proceed as follows:

1. ibaOut-Temp can be installed in one of the slots X20 to X26 (X20 is recommended).

2. On the backside of the device, break out the cover plate of the slot where the card is to be installed by means of a screw driver.

3. Above the slot, there is a screw in an opening, which is used to fix the card later. Loosen the screw and remove it.
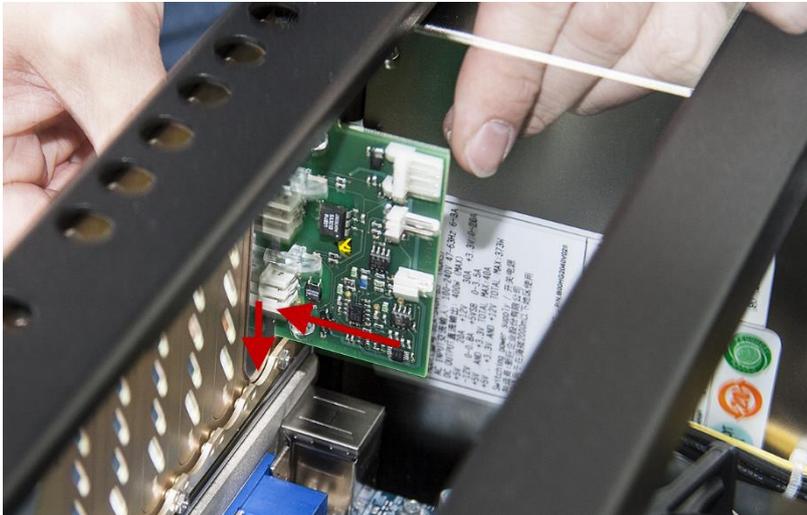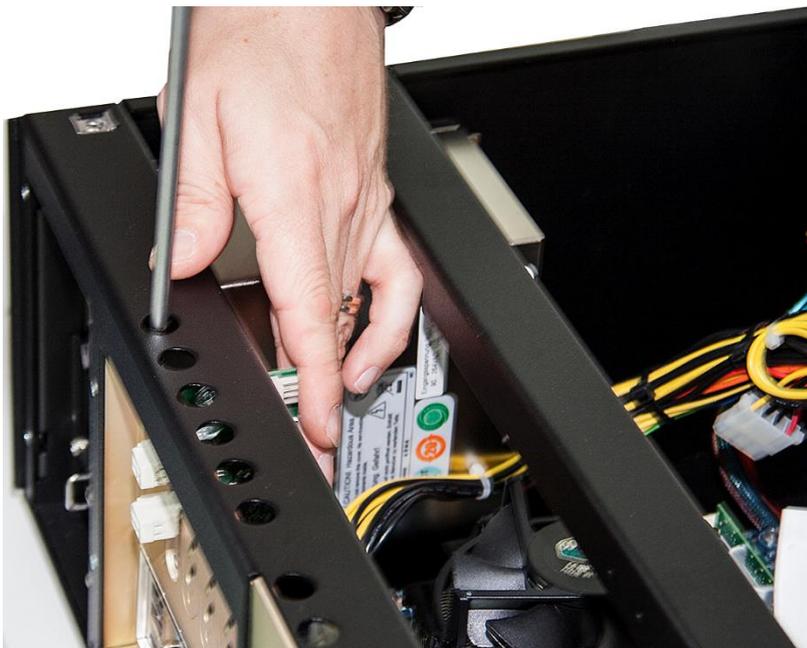
 Electrostatic discharge!

Touch the components only in electrostatically discharged state! Hold the card cautiously at the edges and at the slot bracket.
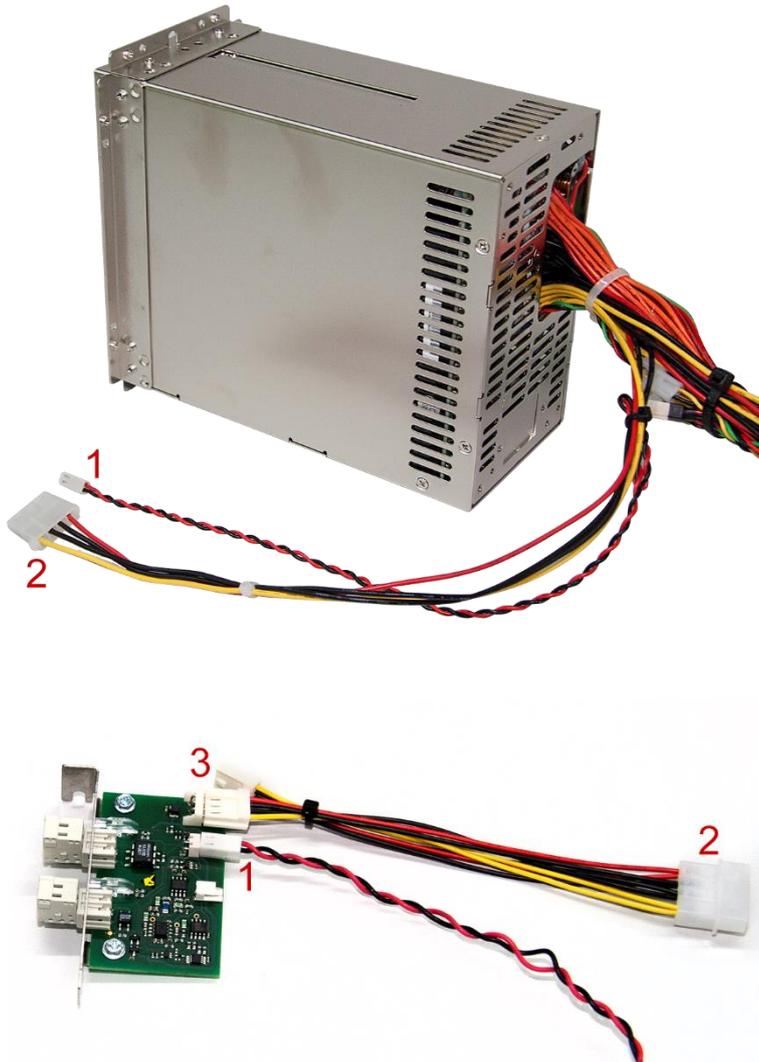
4. Insert the card in the respective slot. The bar at the bottom is used to fix the card.

5. Fasten the card with the screw removed in step 5.

6. Connect the cables as follows:

(1): Connection of redundant power supply unit: If a redundant power supply unit is to be monitored, connect the twisted cable (black/red) of the power supply unit (1 – picture above) to the 2-pin connector (1 – picture below) of the card. This connection is not necessary, when a standard power supply unit is used.

(2): Power supply connection: Use the cable included in delivery. Connect the connector of the power supply cable from the power supply unit (2 – picture above) with the wide connector of the cable included in delivery (2 – picture below). Make sure that the cables of the same color are connected. Plug one of the two narrow connectors to the 4-pin connector (3) of the card, the second narrow connector is not used.

7. Properly installed card:
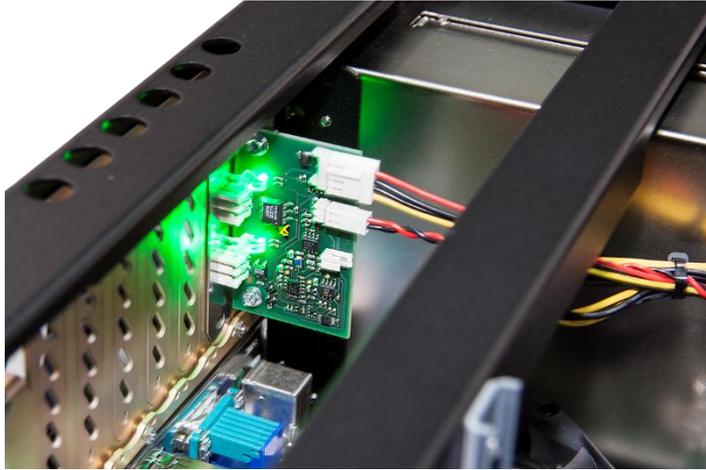
8. Fix the cable with a cable tie and close the housing cover.

7.5 Installing additional fan

If needed, it is possible to install one or two additional fans in the slots X21 to X26. Each fan requires the space of 3 slots.
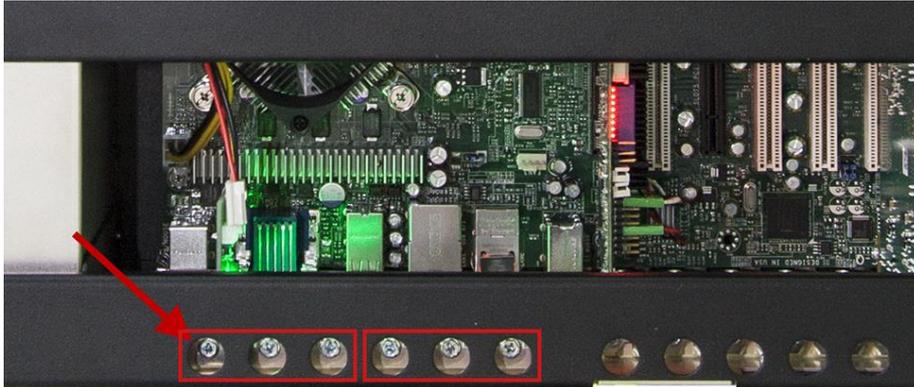

Fan 60 x 60 x 25 mm complete module
Order no. 43.000365

After having opened the housing cover proceed as follows:

1. Break out the cover plates of the required slots by means of a screw driver. For one fan X21 to X23, for 2 fans X21 to X26.
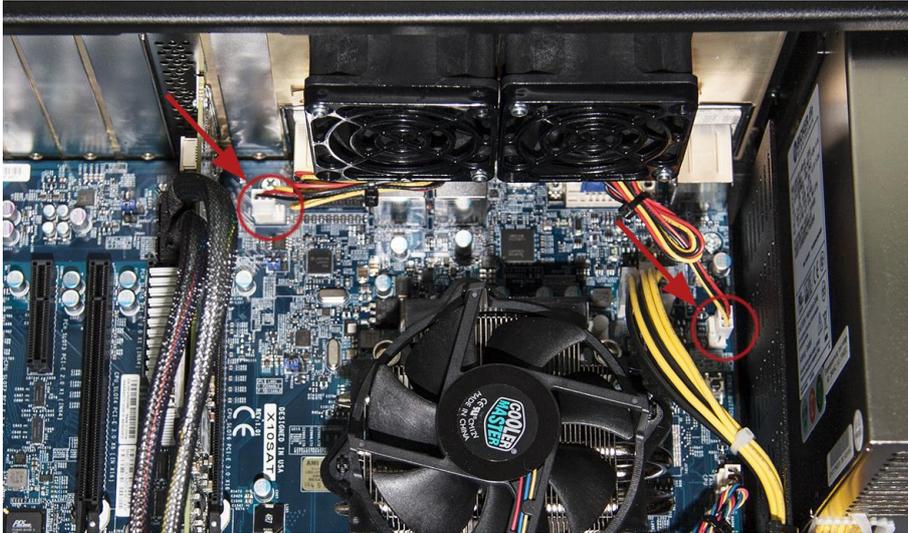
2. Loosen the screws in the openings above the slots.

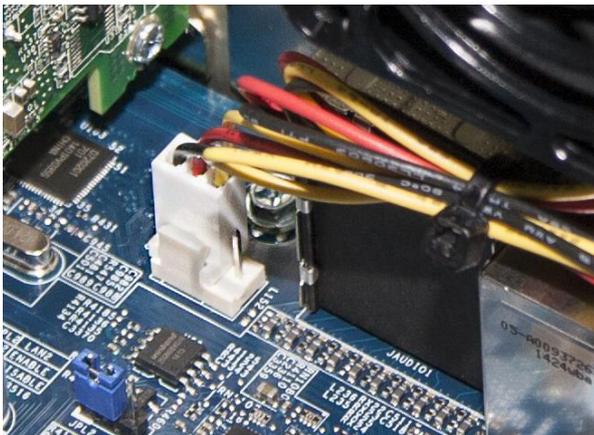**3.** Insert the fan module on the inner side on the rear cover, for this purpose push the bent slot bracket onto the rear cover. Fasten the fan with the screws removed before.
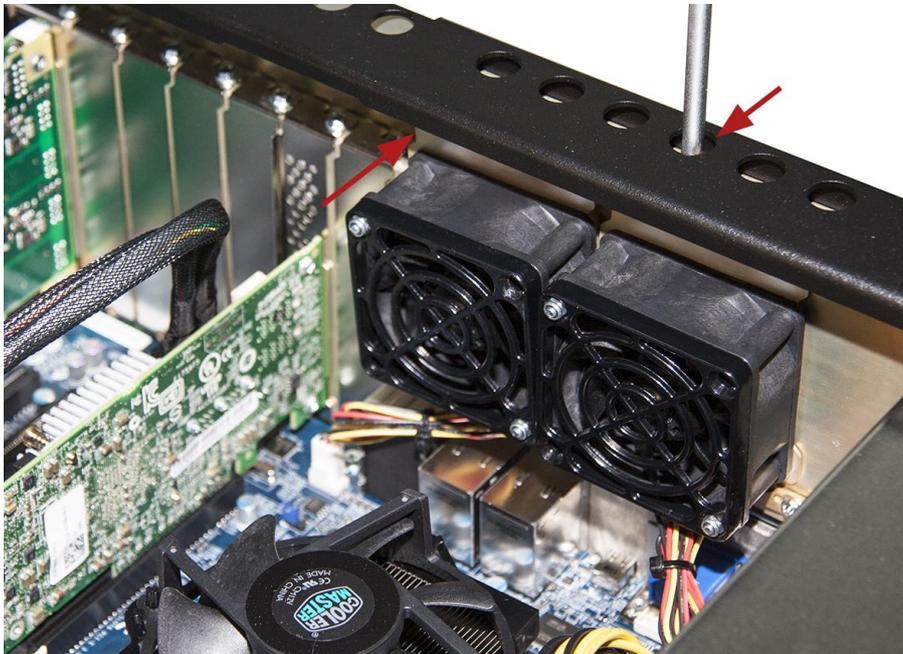
4. Insert the plug of the fan power supply cable into the appropriate plugs on the motherboard, see picture below.

5. The guide pins on the plug ensure a proper position of the connection.

6. Close the housing cover.

8 Maintenance work

8.1 Basic procedure

If you carry out any maintenance work at the device, always proceed in the following way:

1. Remove all mobile data carriers (USB sticks, memory cards and so on).

2. Shut down the device.

3. Switch off the device.

4. Unplug the mains cable from the socket.

5. Remove the housing cover.

6. Carry out the maintenance work.

7. Attach the housing cover again.

8. Put the device into operation again.

8.2 Cleaning or replacing the dust filter

Depending on the installation site it is necessary to clean or replace the dust filter in both grids. The dust filter should be replaced every 6 months.

1. Loosen the fastening screw which is used to fix the grid and open the grid.

2. Take the dust filter out of the grid.

3. Clean the dust filter or insert a new one (iba filter mat: Order number 43.000360).

4. Close the grid again and fasten the screw.

8.3 Cleaning and replacing the fan

Depending on the installation site it is necessary to clean or replace the fan. First, remove the grid as described above and proceed as follows:

1. Loosen all 4 fastening screws which are used to fix the fan.

2. Remove the fan forwards.

3. Unplug the cable connection

4. Clean the fan or insert a new one.

5. Connect the cables of the fan and the cables of the computer with the cable connector.

6. Insert the fan again.

7. Fasten the fan with the 4 srews at the housing.

8.4 Replacing the power supply unit

If it is necessary to exchange the power supply unit, observe the following instructions and safety instructions.

⚠ DANGER

Electric Shock!

Only qualified professionals are allowed to replace a power supply unit during operation!

Electrostatic discharge!

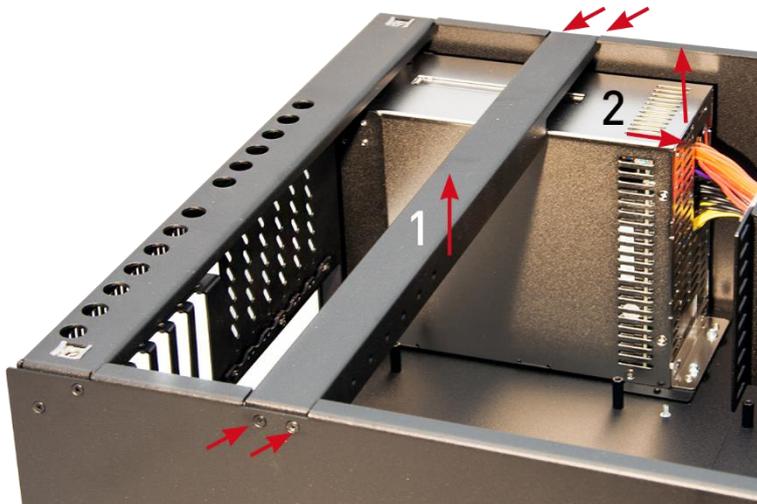Touch the components only in electrostatically discharged state!

8.4.1   Replacing the standard ATX power supply unit

1. Loosen the 4 fastening screws on the backside, which are used to fix the power supply unit at the housing.

2. Loosen 2 screws each on the left and the right side, which are used to fix the bar (1) and remove the bar.

3. Disconnect all cable connections to the mainboard and the drives.

4. Remove the power supply unit (2) from the housing, by pulling it backwards and lifting it out.

5. In order to install a new power supply unit, proceed in reversed order.

8.4.2 Power supply slide-in module for replacement of redundant power supply unit

If the green lamp of a connected power supply unit is not lit any more during operation, the appropriate power supply slide-in module must be replaced.

1 Fastening screw

1. Loosen the fastening screw which is used to secure the power supply slide-in module at the rack.

2. Pull out the power supply slide-in module.

   Replace the power supply slide-in module with the module of the same type (available at iba).

### 8.4.3 Replacing the complete redundant power supply unit

1. First remove the power supply slide-in module, as described above.

2. Loosen the 4 fastening screws on the backside, which are used to fix the power supply unit at the housing.

3. Loosen both screws inside, which are used to fix the power supply unit inside the housing.

4. Loosen 2 screws each on the left and the right side, which are used to fix the bar (1) and remove the bar.
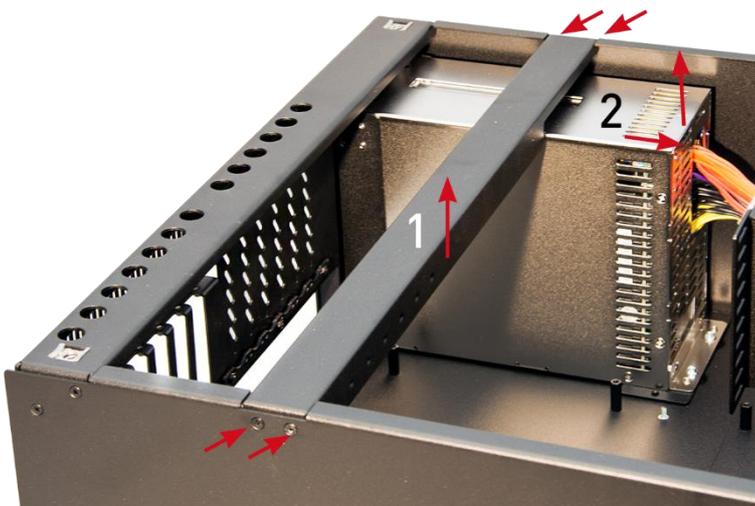
5. Disconnect all cable connections to the mainboard and the drives.

6. Remove the power supply unit (2) from the housing, by pulling it backwards and lifting it out.

7. Remove the mounting angles on the left and right side from the power supply unit by loosening 2 screws from the inner side.

8. In order to install a new power supply unit, proceed in reversed order.

8.5   Restoring of a RAID system during operation

⚠ DANGER

Only qualified professionals are allowed to replace a hard disk unit during operation!

Electrostatic discharge!

Touch the components only in electrostatically discharged state!

Important Note

The RAID system is not automatically restored after having changed the hard disk. Use the program "maxView Storage Manager".

Note

The program "maxView Storage Manager" is included on the data media „Drivers and Manuals". "maxView Storage Manager" is a web application which requires a web browser, e.g. Internet Explorer.

Note

The program "maxView Storage Manager" may be configured that the administrator will be informed by e-mail in case of an error.

If the buzzer sound can be heard, it is possible that a hard disk in the RAID system is defective. To restore the RAID system, proceed as follows:
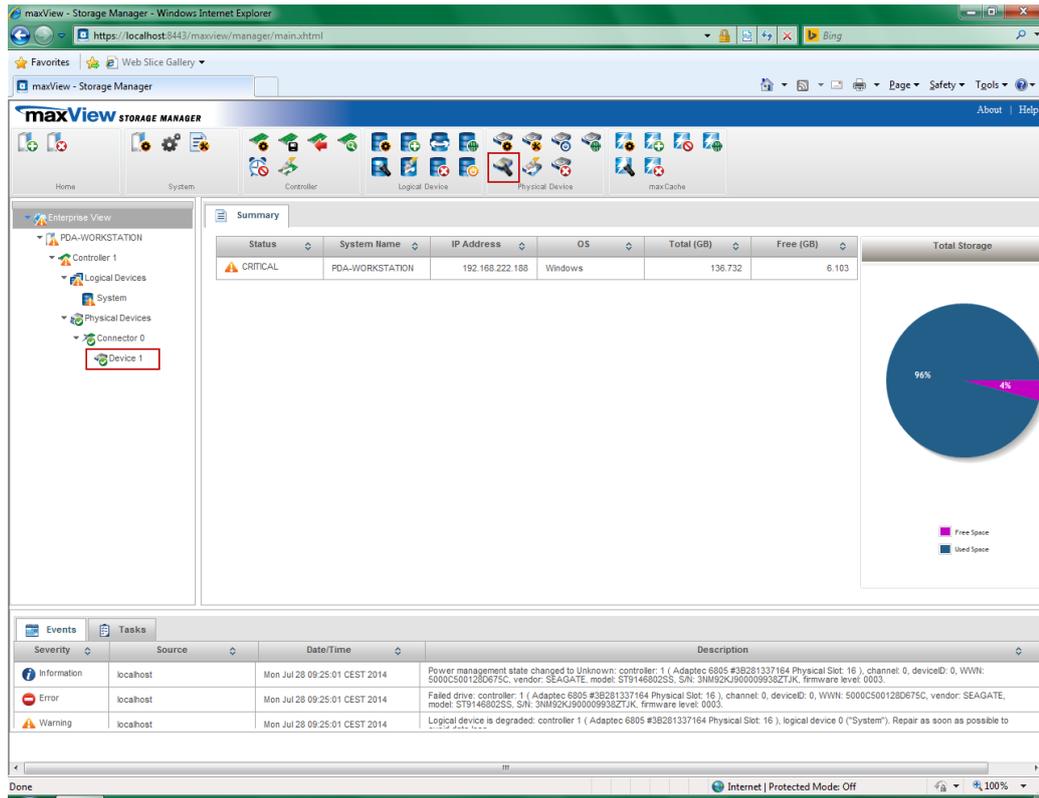
1. Start the program " maxView Storage Manager". The "Log in" window is displayed.

maxView STORAGE MANAGER

User Name	administrator
Password	●●●●●

Login

2. Log in as follows:
   User Name: administrator
   Password: xadmin

3. A click on <Login> opens the program window of the manager.
   The defective hard disk is not indicated.

4. Mark the hard disk, which is available ("Device 1" in the example above) and click on the „Locate" icon ![icon] in the "Physical Device" section. The available hard disk blinks in the drive frame.

5. Replace the defective hard disk.


> ℹ **Note**
>
> The removal and installation is described in the documentation of the hard disk manufacturer.

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6. The new hard disk is indicated in the „maxView Storage Manager". But the hard disk has not been registered in the system.
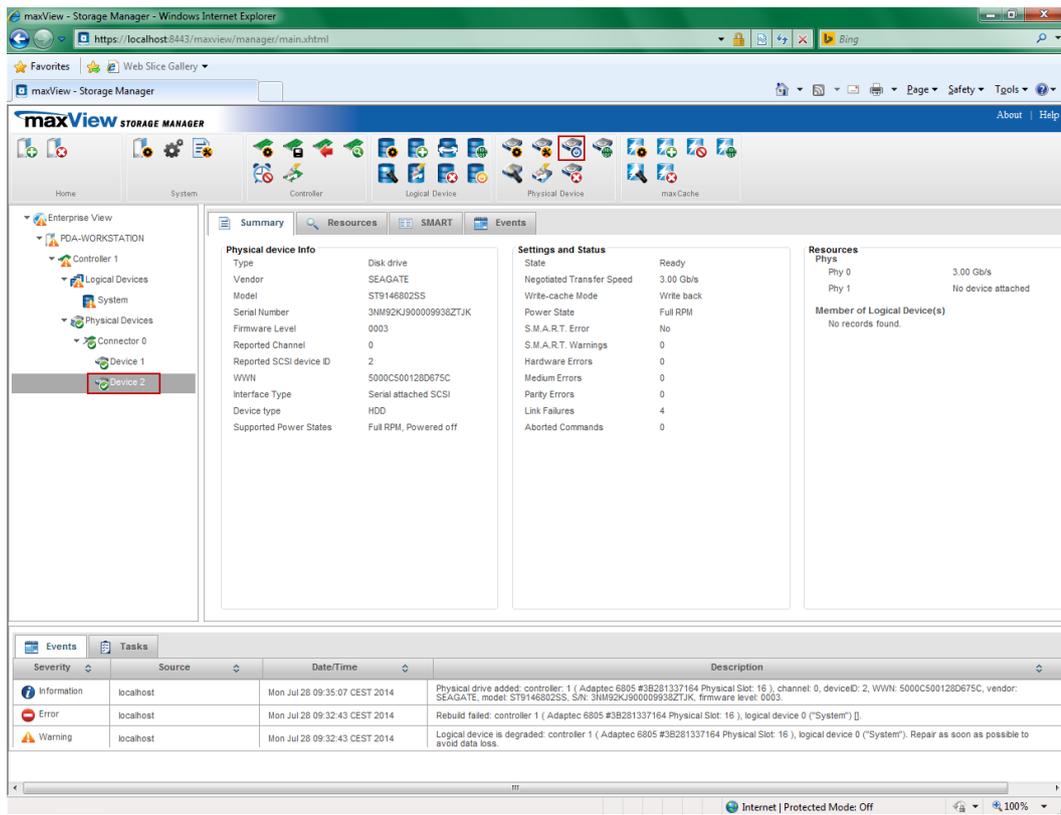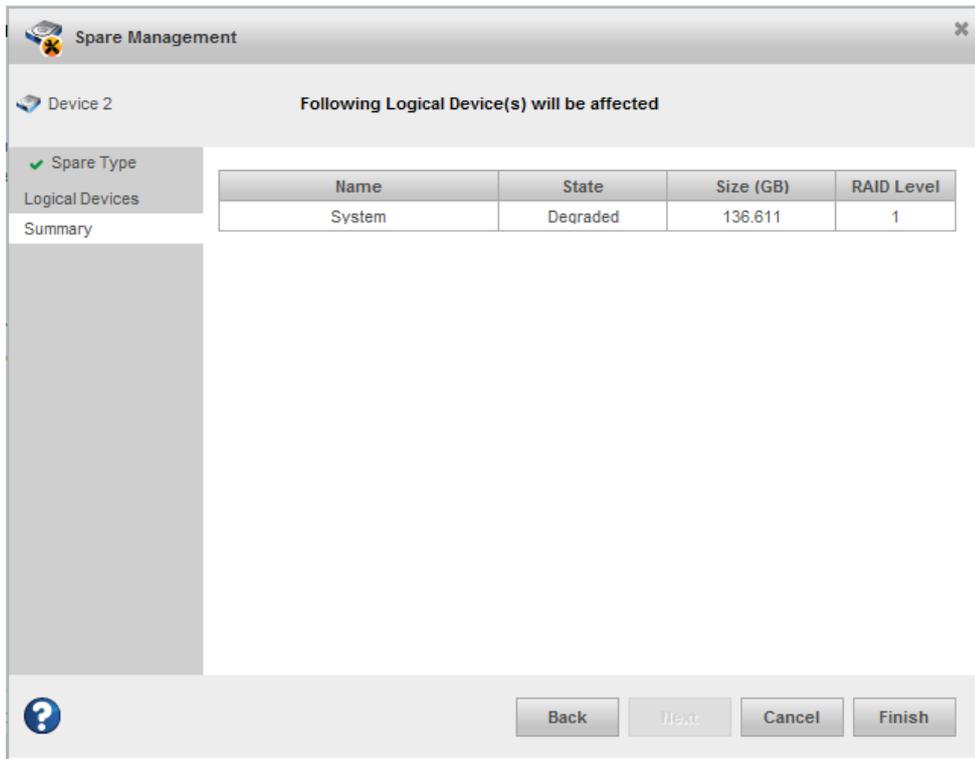

7. Mark the new hard disk („Device 2" in the example above) and click on the „Initialize" icon in the „Physical Device" section.

8. Then, click on the „Spare Management" icon in the „Physical Device" section.
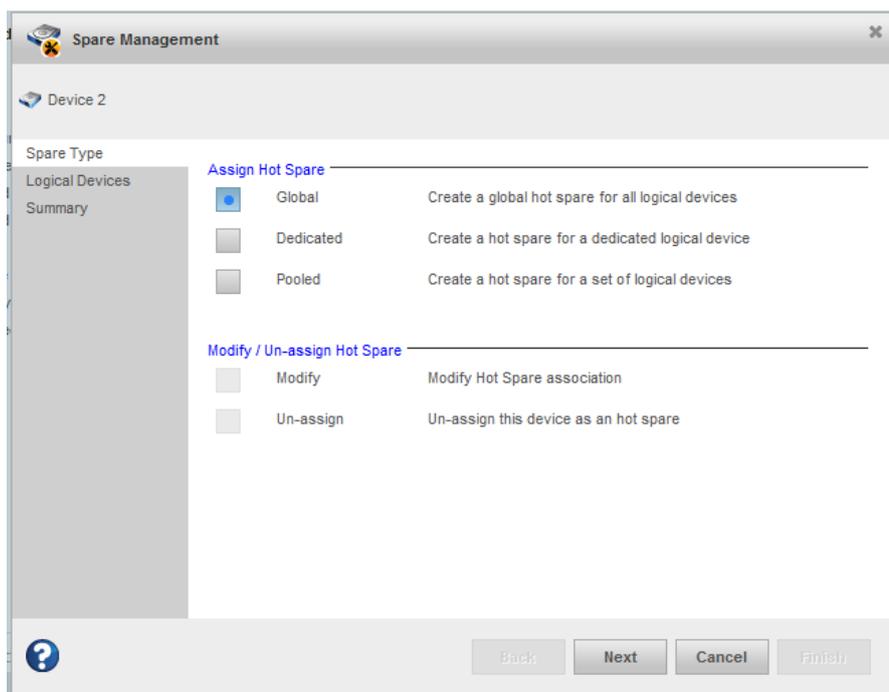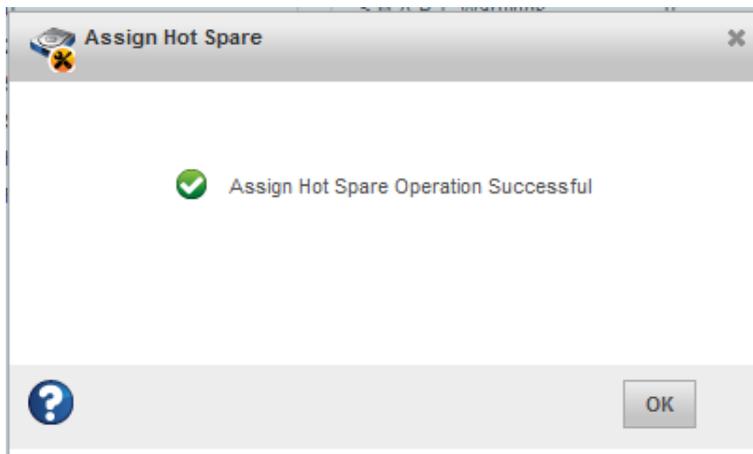

9. Select the option "Global" and click on the <Next> button.

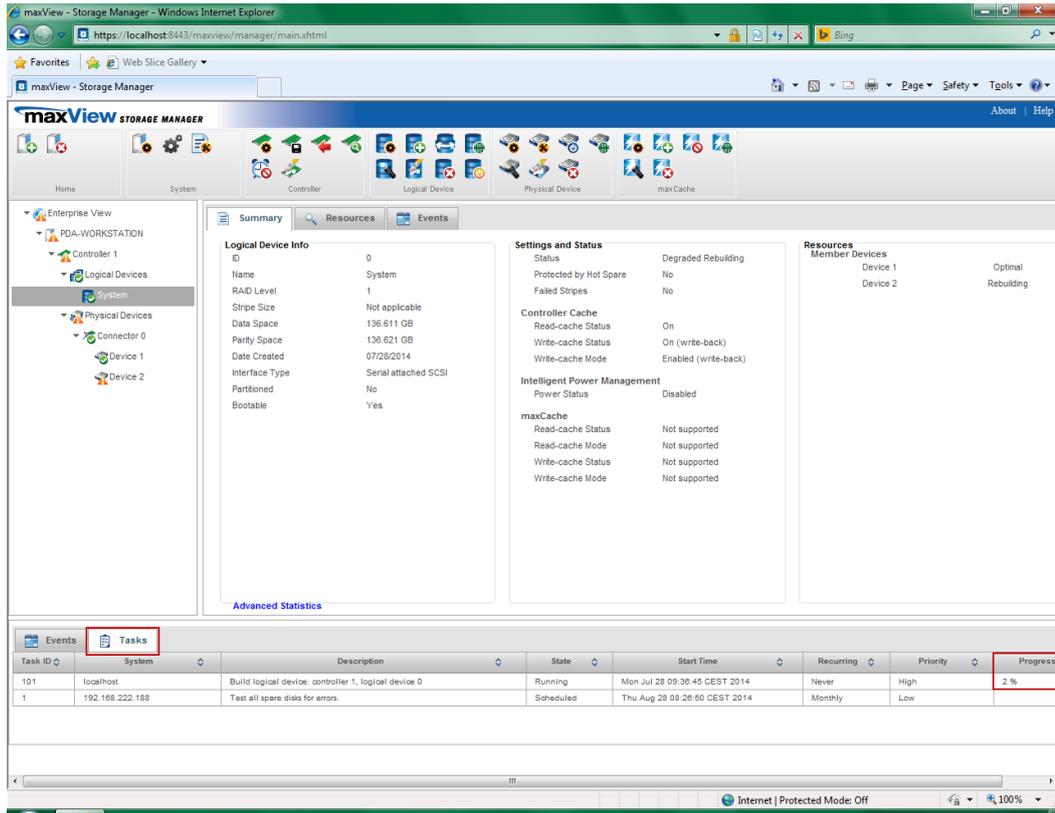**10.** Confirm the following overview with <Finish>.

11. The following message appears when the operation was successful.
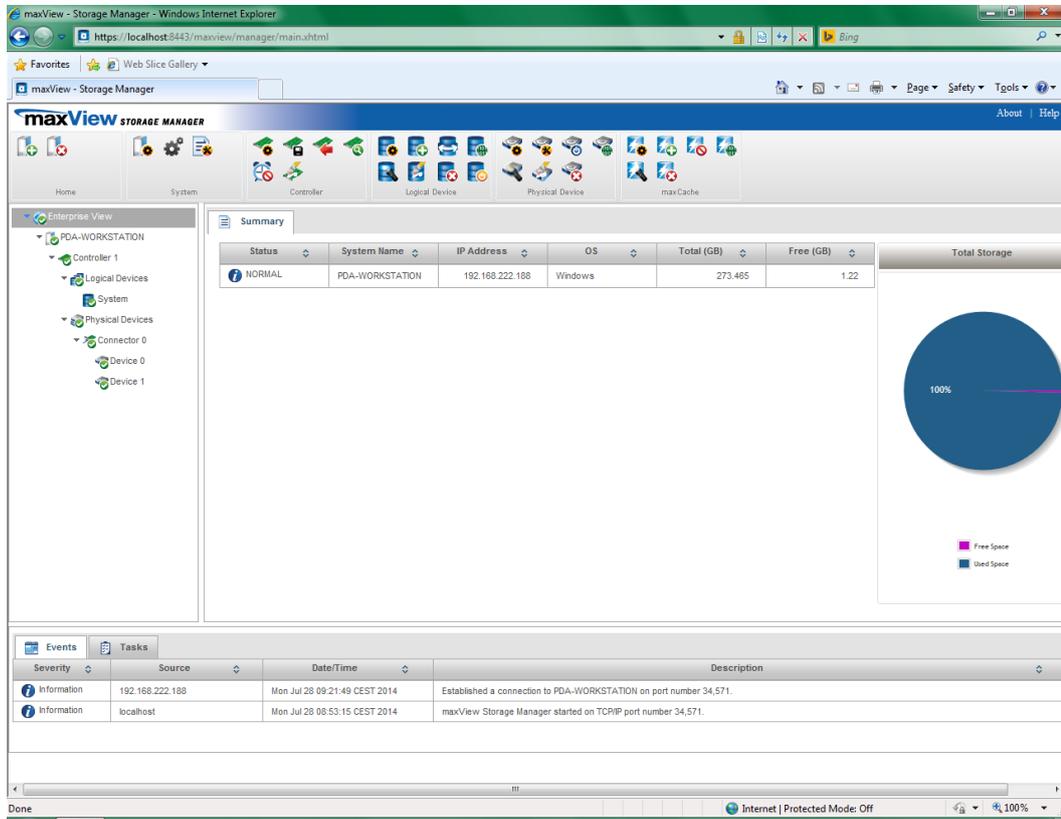

Otherwise an error message appears.

12. The progress of the rebuild process is displayed under "Tasks".

13. As soon as the hard disk has been successfully registered in the system, the program can be closed.

9   Installing operating system and iba software

9.1   Installation

For the installation of the operating system and the ibaSoftware there are 2 possible ways:

❑ Install the Windows operating system and the required device drivers (graphic card, hard disk controller etc.).

❑ Install the operating system using the Recovery media.
Compared to the common installation of the operating system the method named above is advantageous because all required settings and configurations of the device hardware (e.g. drivers) have already been performed on the Recovery media. The delivery includes the Recovery media for the operating system stated in your order.

Note

If you install the operating system with the Recovery media, all settings and configurations of the device hardware (e.g. drivers) will be installed.

Do not change the basic configuration of the device components (e.g. motherboard)!

If you modify the device components, it may not be possible to install it with the Recovery media.

9.2   Installing Windows from the recovery medium

Important note

The Windows license is bound to the computer where iba software is installed. The license must not be used on another computer.

9.2.1   General

❑ If you install the operating system from the Recovery media, the computer must be started from the data media. Make sure, that the required settings in the BIOS are correct.

❑ The recovery procedure is only available in English.

❑ The setup routine of Microsoft is used.

❑ When the recovery procedure is finished, update your Windows version to have the latest safety related version.

❑ 6 pre-installed languages can be chosen as system language: English, French, German, Italian, Spanish, Russian (additional languages optionally).
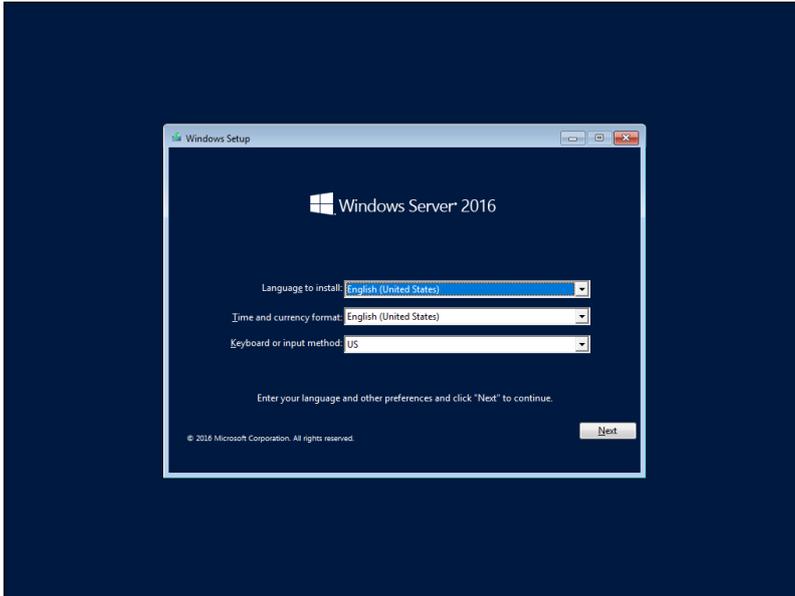
Note

No liability is assumed for the loss of data due to incorrect handling. Always make sure, that you select the correct drives and partitions.

> **i** **Note**
>
> The recovery process takes approx. 50 minutes. It is possible that only a black or green screen is visible during the process.

9.2.2 Select the language

When the installation has started, you can select the system language to be installed. When using Windows 10 Enterprise or Windows Server the language can be changed subsequently.

9.2.3 Enter the product key

(only with Windows Server 2016 or higher)

With Windows Server a product key must be entered subsequently.

This is printed on the back of the housing.
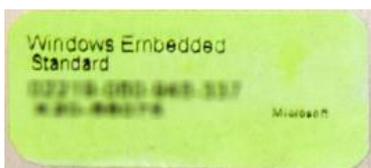
> **i** **Note**
>
> When Windows 10 Enterprise is used, entering the product key or activating the Windows license is not required.

9.2.4   Partitioning

There are several possibilities to set up partitions:

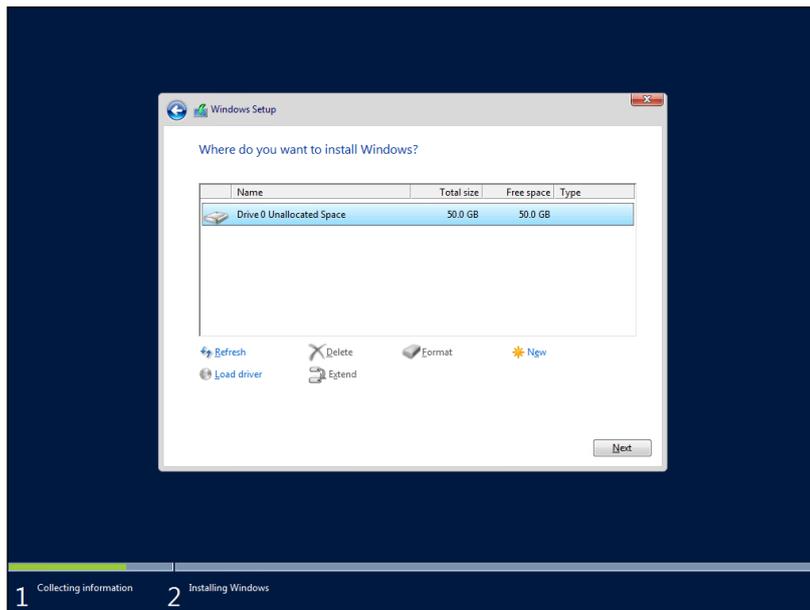❏ Set up a new drive completey as system drive

❏ Set up partitions on a new drive

❏ Install an operating system on a drive already used (Windows 10 Enterprise or Windows Server)

❏ Substitute the operating system on a drive already used (substitute Windows 10 Enterprise with Windows Server or vice versa)

Possibility 1: New drive

You use a new drive and want to use it completely as system drive.

Click <Next> and continue with chapter 9.2.5 „Completing installation".

Possibility 2: Partitioning the new drive
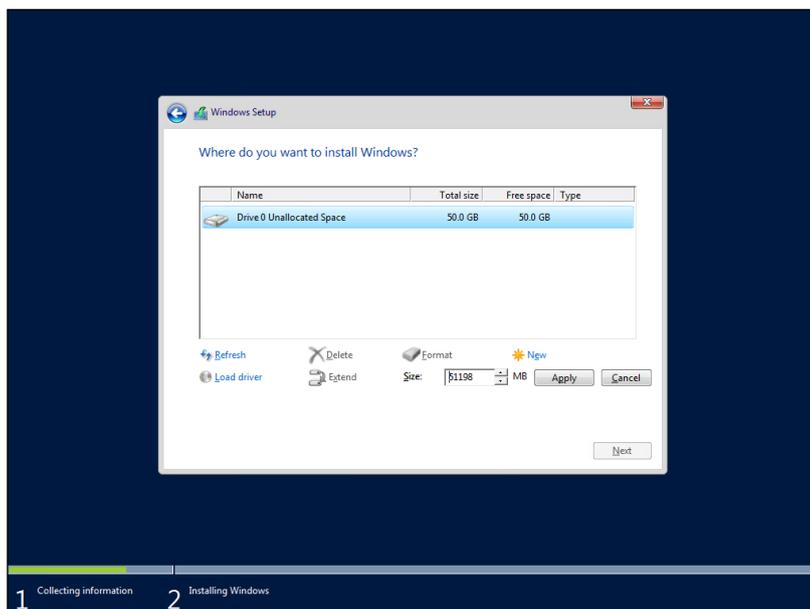
You use a new drive and want to set up partitions.

1. Click <Drive Options (advanced)>

2. Click <New>

3. Enter the partition size

4. Confirm with <Apply>

5. Mark the partition, where the operating system should be installed

6. Click <Next> and continue with chapter 9.2.5 „Completing installation".

Possibility 3: Restoring or replacing the operating system
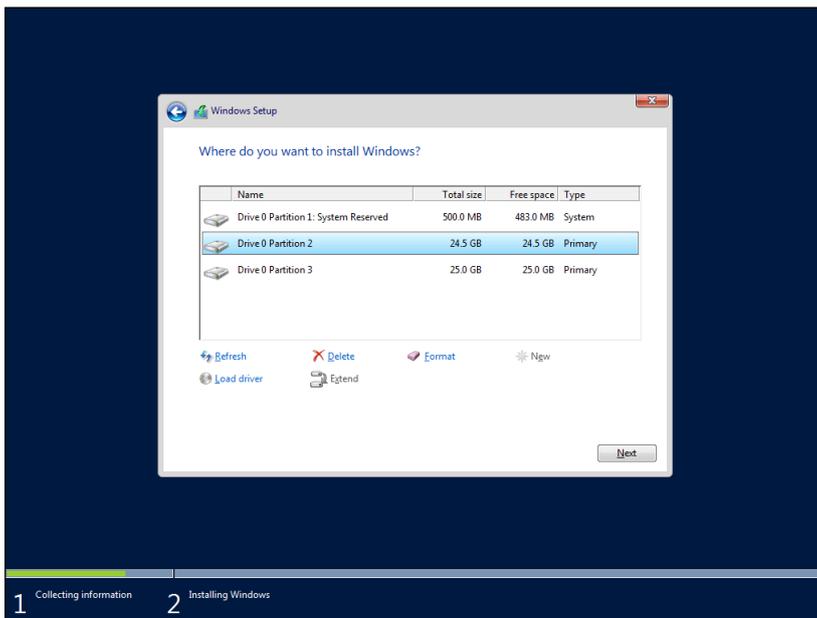
The drive is already in use and you want to install the operating system.

1. Mark the system partition (usually 500 MB in size)

2. Click <Format>

3. Confirm with <OK>

4. Mark the primary partition (normally the smaller one)

5. Click <Format>

6. Confirm with <OK>

7. Click <Next> and continue with chapter 9.2.5 „Completing installation".

9.2.5   Completing installation

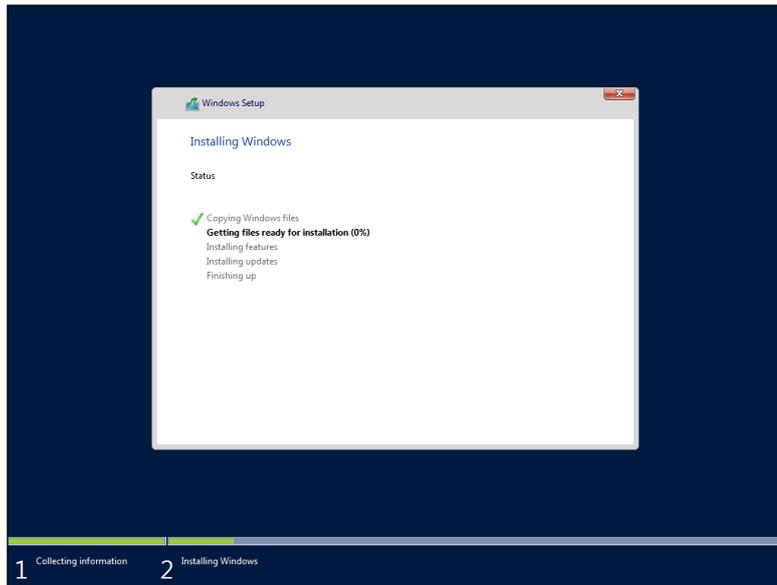The system files are copied to the drive and additional software is installed.

The computer will restart twice.

The procedure takes 30-40 min. depending on the hardware.

9.3   Windows Updates

The automatic search for updates is deactivated by default on iba systems, as iba does not know which Windows update policies apply in your company.

Please adjust the settings according to the update policies in your company. Consult your IT department if necessary.

9.4   Antivirus Software

There is no antivirus software installed on iba systems in delivery state.

Please install the antivirus software package which is used in your company by default. Consult your IT department if necessary.

9.5   Installing iba software

The installation of iba software is described in the manuals included in delivery.

10   Technical data

10.1   Main data

Manufacturer	iba AG, Germany
Working temperature range	32 °F to 131 °F (0 °C to 55 °C)
Storage temperature range	-13 °F to 158 °F (-25 °C to 70 °C)
Transport temperature range	-13 °F to 158 °F (-25 °C to 70 °C)
Cooling	Fan cooling
Fan current	40 mA to 400 mA
Assembly	19'' cabinet, 19'' rack line, desktop device
Humidity class	F, no condensation
Protection class	IP20
Power supply	
ibaRackline Standard	AC 100 V to 240 V; DC 90 V to 120 V 6 A/3 A; 5 A/4 A 47 Hz to 63 Hz
Power output ibaRackline Standard	Max. DC 400 W
ibaRackline RAID 1 / 6	AC 100 V to 240 V; DC 90 V to 120 V / 220 V (+/- 10%) 8 A/4 A 47 Hz to 63 Hz
Power output ibaRackline RAID 1 / 6	1 x redundant 500 W
Mechanical data	
Installation height (HU - Height Unit)	4 HU
Dimensions (Height x Width x Depth) HU - Height unit	7.01 in (4 HU) x 19.02 in x 21.42 in (178 mm (4 HU) x 483 mm x 544 mm) installation depth 19.69 in (500 mm)
Weight (incl. packaging and documentation) Standard system RAID 1 system RAID 6 system	Approx. 35.3 lb (16 kg) Approx. 39.7 lb (18 kg) Approx. 44.1 lb (20 kg)
MTBF*	
ibaRackline SAS, XEON E, Win10 Order no 40.004308	17500 h (2 years)

*The MTBF value (mean time between failure) is determined for the article no. 40.004308.
Used standards: Telcordia Issue 3 (SR332) Reliability Prediction Procedure of Electronic Equipment (Issue 3 Jan. 2011)

10.2   Electronic components and interfaces

Processor	Intel® Xeon E 2146G, 3.5 GHz
Motherboard	Industrial mainboard with C246 chipset and LGA1151 socket
Integrated battery	Lithium button cell CR2032
Graphics on board	Integrated Intel UHD graphics
Ethernet on board	2x 10 Mbps/100 Mbps/1000 Mbps
HD audio on board	Realtek ALC892
Main memory	32 GB DDR4
PCI Express x16: SAS controller	ibaRackline Standard: SAS controller for single drive ibaRackline RAID1: SAS controller for RAID1 ibaRackline RAID6: SAS controller for RAID6
PCI Express, free	5x for iba measuring cards
PCI, free	1x
M.2	1x M-Key (2242/2260/2280), PCI-e 4 1x A-Key (2230), supports WiFi module
USB 2.0 USB 3.0	2x frontside (1x dongle, 1x frontside) 8x rear side
LAN	2x rear side
Graphic	1x VGA, 1x HDMI, 1x DP
Hard disk	1x 600 GB SAS HDD
Drive frame	ibaRackline Standard: 1 x 4x SAS 2,5" HDD ibaRackline RAID1: 1 x 4x SAS 2,5" HDD ibaRackline RAID6: 2 x 4x SAS 2,5" HDD

10.3   Products

PC systems	Order no.
ibaRackline SAS, XEON E, Win10	40.004308
ibaRackline SAS, XEON E, Win10, SSD	40.004328
Enhancement options	
Upgrade kit to RAID 1 system (1 controller, 1 hard disk, 1 redundant power supply unit)	43.000370
Upgrade kit to RAID 6 system (7 hard disks, 1 redundancy power supply, 1x hard disk mounting frame 4x 2.5" HDD, RAID6 controller)	43.000371
Upgrade to RAID1-System, for SSD-PC	43.000374
HD 600GB to 1200GB Upgrade SAS	43.000420
HD 600GB to 1800GB Upgrade SAS	43.000421
HD 600GB to 2400GB Upgrade SAS	43.000422
Upgrade ibaRackline-PC CAM with NVME-SSD for OS installation	43.001002
Accessories	
HD 600 GB SAS	43.000326
HD 1200 GB SAS	43.000329
HD 1800 GB SAS	43.000328
HD 2400 GB SAS	43.000330
RAID Controller Upgrade (R1 -> R5/R6)	43.000379
Redundancy Power Supply (100 V/240 V AC, 110 VDC & 220 VDC)	43.000560
DVD drive (R/W) external via USB	43.000631
ibaOut-Temp	11.110001
ibaOut-State	11.110002
Intel PCIe 10/100/1000 Mbit Network Card (Single Port)	43.000525
INTEL GigE-Network Card PCI Express (Dual-port Gigabit Ethernet, I350 T2)	19.116012
INTEL GigE-Network Card PCI Express (Quad-port Gigabit Ethernet, I350 T4 V2 SVR)	19.116011

10.4   Device dimensions
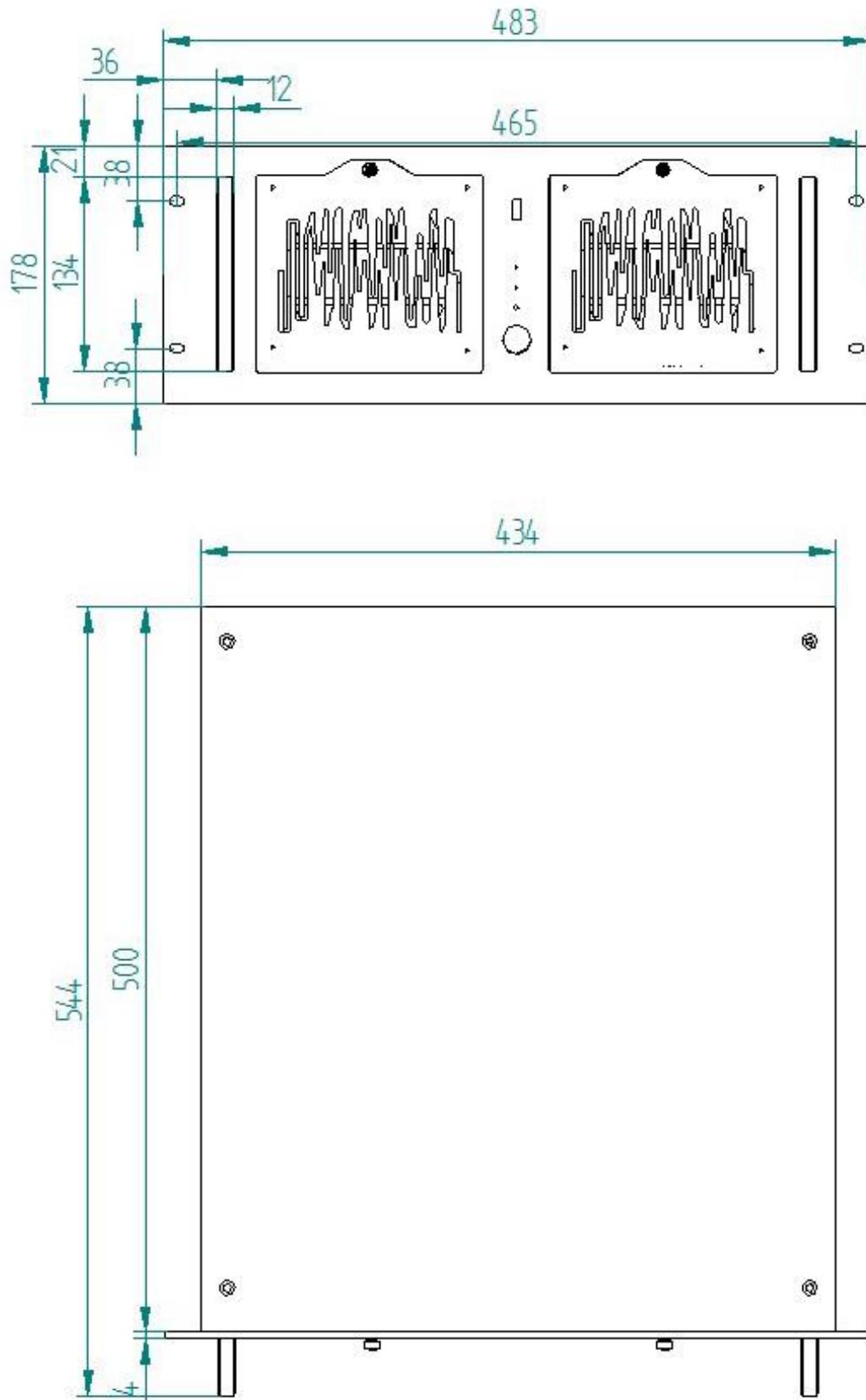
(Dimensions given in mm)

11   Support and contact

Support

Phone: +49 911 97282-14

Fax: +49 911 97282-33

E-Mail: support@iba-ag.com

> **Note**
>
> If you require support, specify the serial number (iba-S/N) of the product.

Contact

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For contact data of your regional iba office or representative please refer to our web site

www.iba-ag.com.