Installation and Operating instructions for

C5240 | 19-inch slide-in Industrial PC

Version: 2.0
Date: 2020-04-02

BECKHOFF

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1 Foreword

1.1 Notes on the Documentation

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with the applicable national standards. It is essential that the following notes and explanations are followed when installing and commissioning these components.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

1.1.1 Liability Conditions

The documentation has been prepared with care. The products described are, however, constantly under development. For that reason the documentation is not in every case checked for consistency with performance data, standards or other characteristics. In the event that it contains technical or editorial errors, we retain the right to make alterations at any time and without warning. No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.

All pictures shown in the documentation are exemplary. Illustrated configurations can differ from standard.

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1.1.5 State at Delivery

All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co.KG.

1.1.6 Delivery conditions

In addition, the general delivery conditions of the company Beckhoff Automation GmbH & Co.KG apply.

1.2 Description of safety symbols

The following safety symbols are used in this operating manual. They are intended to alert the reader to the associated safety instructions.

DANGER	**Acute risk of injury!** If you **do not** adhere the safety advise adjoining this symbol, there is immediate danger to life and health of individuals!

WARNING	**Risk of injury!** If you **do not** adhere the safety advise adjoining this symbol, there is danger to life and health of individuals!

CAUTION	**Hazard to individuals!** If you **do not** adhere the safety advise adjoining this symbol, there is obvious hazard to individuals!

Attention	**Hazard to devices and environment** If you **do not** adhere the notice adjoining this symbol, there is obvious hazard to materials and environment.

Note	**Note or pointer** This symbol indicates information that contributes to better understanding.

1.3 Basic safety measures

Before the Industrial PC is switched off, software that is running must be properly closed.
Otherwise it is possible that data on the storage medium is lost. Please read the section *Switching the Industrial PC on and off*.

⚠ **Warning**	**Switch off all parts of the equipment, then uncouple the fieldbus** Before opening the housing, and whenever the Industrial PC is not being used for control purposes (such as during functional checks after a repair), all parts of the equipment must first be switched off, after which the Industrial PC is to be disconnected from the equipment.

Pulling out the fieldbus connection plug uncouples the PC (optional).
Items of equipment that have been switched off must be secured against being switched on again.

The Industrial PC's power supply unit must be supplied with $100V_{AC} - 240\ V_{AC}$. Optional a 24 V_{DC} power supply unit with UPS is available.

⚠ **DANGER**	**Do not open the power supply unit while voltage is applied!** The supply voltage must be switched off before the power supply unit housing is opened.

⚠ **Warning**	**Do not exchange any parts when under power** When components are being fitted or removed, the supply voltage must be switched off. Fitting work on the Industrial PC can result in damage: • if metal objects such as screws or tools fall onto operating circuit boards. • if connecting cables internal to the PC are removed or inserted during operation. • if plug-in cards are removed or inserted when the PC is switched on.

1.4 Operator's obligation to exercise diligence

The operator must ensure that

- the product is only used as intended (see chapter *Product Description*)
- the product is in a sound condition and in working order during operation
- the product is operated, maintained and repaired only by suitably qualified and authorized personnel
- the personnel is instructed regularly about relevant occupational safety and environmental protection aspects, and is familiar with the operating manual and in particular the safety notes contained herein
- the operation manual is in good condition and complete, and always available for reference at the location of the product

⚠ **Attention**	**Only trained persons may open the Industrial PC housing** The operator is responsible for ensuring that only trained electrical staff opens the housing of the Industrial PC.

1.4.1 National regulations

Depending on the type of machine and plant in which the Industrial PC is used, national regulations governing the controllers of such machines will apply, and must be observed by the operator. These regulations cover, amongst other things, the intervals between inspections of the controller. The operator must initiate such inspections in good time.

1.4.2 Procedure in the event of a fault

In the event of faults at the Industrial PC, the list in the section *Troubleshooting* can be used to determine the measures to be taken.

1.4.3 Operator requirements

Anyone who uses the Industrial PC must have read these operating instructions and must be familiar with all the functions of the software installed on the Industrial PC to which he has access.

2 Product Description

2.1 Product overview

C5240 | 19-inch slide-in Industrial PC

The C5240 Industrial PC expands the C52xx Industrial PC series by a version with four height units and seven PCI and PCIe plug-in card slots in 24 V DC or 110…230 V AC versions. The basic configuration includes three 5¼-inch drive bays behind the front flap. As an option, three additional 5¼-inch drive bays are available ex-factory. It is designed for installation in a 19-inch rack and is equipped with components of the highest performance class according to the ATX standard.

A Beckhoff industrial motherboard is used with Intel® Celeron®, Pentium®, Core™ i3, i5 or i7 fourth, sixth or seventh generation processors. The seventh generation requires a Windows 10 64-bit operating system. With the fourth and sixth generation, Windows 7 32-bit or 64-bit can be used besides Windows 10.

The C5240 is ideally suited for use in machine and plant engineering, for example with TwinCAT automation software.

The Industrial PC offers the following benefits:

- 7-slot slide-in housing ATX for 19-inch racks, 4 rack units
- all slots for full-length plug-in cards
- lockable front flap
- card holders
- protection class: front side IP50, back side IP20
- operating temperature 0…55 °C.

2.2 Appropriate Use

The C5240 Industrial PC has been designed as a rack mount PC for fitting into 19-inch racks used in machine and plant engineering applications.

⚠️ **Danger**	**Risk of explosion!** The Industrial PC must not be used where there is a risk of explosion.

2.3 Opening the Housing

❗ **Attention**	**Only trained persons may open the Industrial PC housing!** Before opening the PC housing, the power plug must be drawn.

Opening the front flap

In order to gain access to the power pushbutton and to the drives, open the flap on the front with the key provided for the purpose (see photo above).

Opening the housing

In order to open the PC housing, remove the 2 fastening screws on top of the housing cover (see arrows) using a cross-head screwdriver. Push the cover backwards and then lift it up to get access to the hard drive, processor, memory, plug-in cards and battery.

Removing the card holder
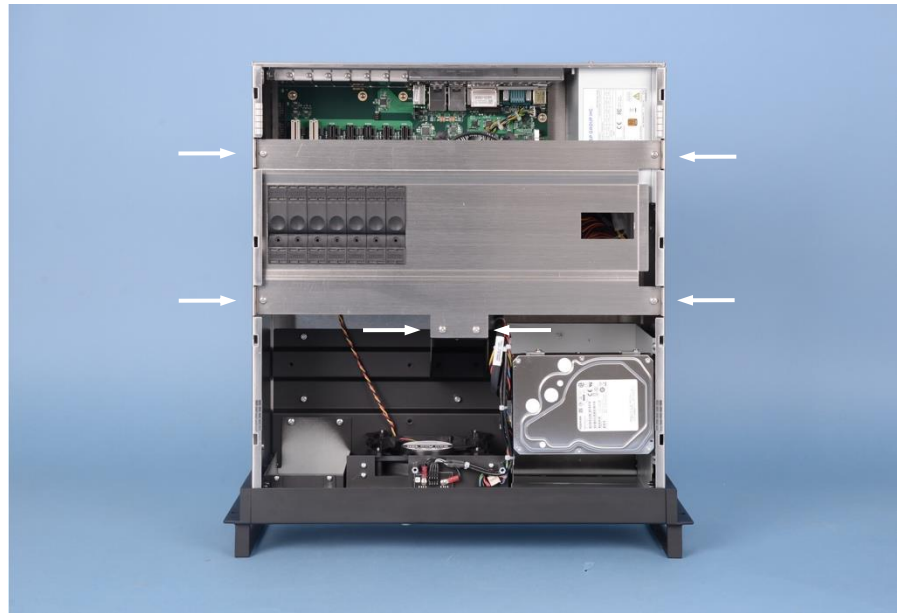
Remove the 6 fastening screws of the card holder (see arrows) using a cross-head screwdriver. The holder can then be lifted up.

View of the open PC
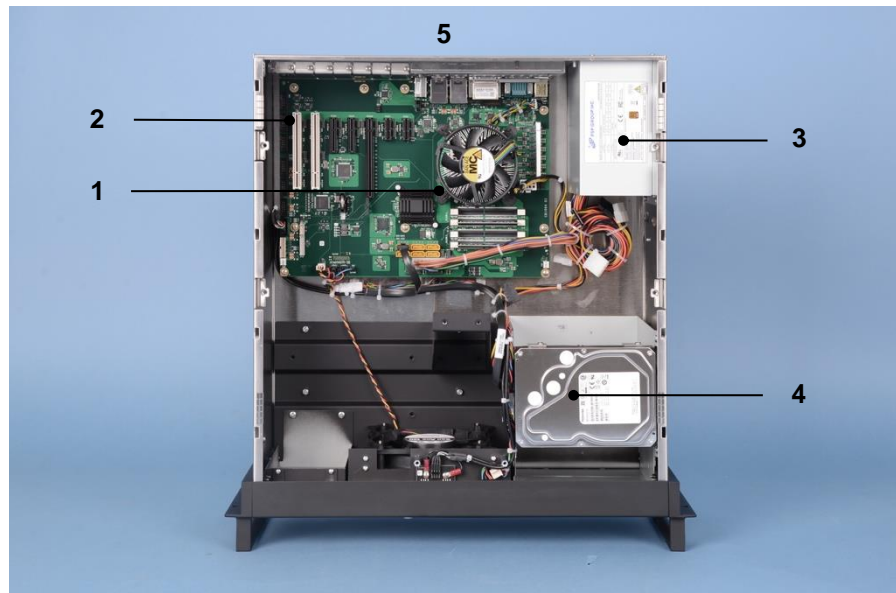
The standard ATX Motherboard (**1**) with six slots for plug-in cards (**2**) is located under the housing cover. The power supply unit (**3**) and the hard drive (**4**) are easily accessible. The connections to the outside are located at the rear of the housing (**5**) and behind the front flap.

2.4 Access to the battery

Removing the cover allows access to the battery.

⚠️ **WARNING**	**Danger of Explosion!** The battery is a CR2032 type (nominal voltage: 3.0 V) from e.g. Panasonic or Sanyo. Replace battery only with the identical type or an alternative type recommended by the manufacturer. Notice correct polarity!

Polarität der Batterie:

⚠️ **WARNING**	**Handling of Lithium Batteries** Lithium Batteries should not be recharged, exposed to fire, opened and they should be protected against sunlight and moisture.

2.5 Changing the filter mat

If the Industrial PC is used in an environment where the air is particularly dirty, the fan's filter mat should be examined at regular intervals to see how dirty it is, and should be exchanged, if necessary, for an original Beckhoff filter mat.

Order number	Description
C9900-Z326	Filter mat for C5240 with three 5¼-inch slots, 5 per pack
C9900-Z327	Filter mat for C5240 with six 5¼-inch slots, 5 per pack

Front view with filter cover
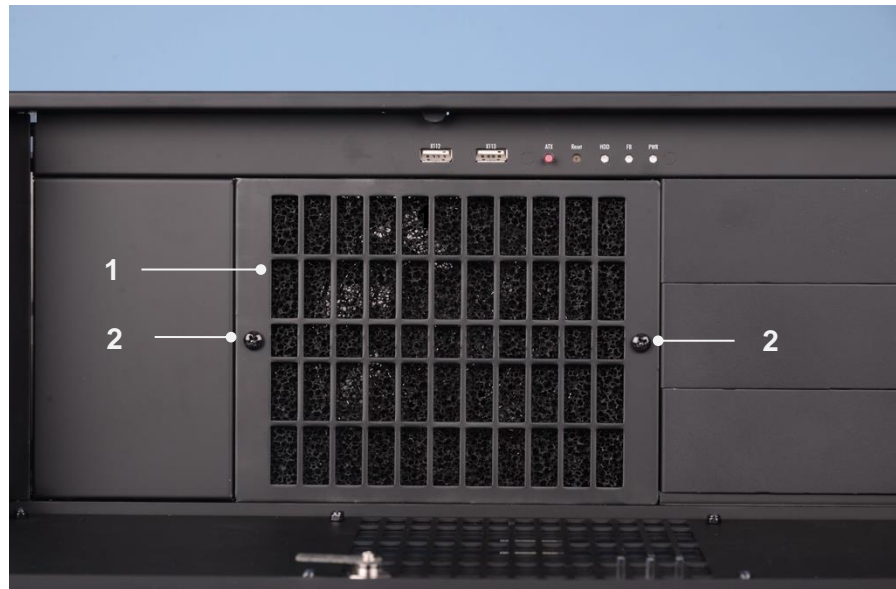
Access to the filter mat is obtained behind the front flap. This must be opened with its key. After removing the two cross-head screws (**2**) the filter cover (**1**) can be removed.

Front view with fan and filter mat

After the mat (**3**) has been changed the filter is refitted in the reverse sequence.

2.6 Interfaces from C5240

2.6.1 PS/2 connections (X103, X104)

The upper PS/2 connector (**X104**) allows a PS/2 mouse to be used, while a PC keyboard can be connected to the lower PS/2 connector (**X103**).

2.6.2 USB interfaces USB1 – USB4 (X108, X109, X110, X111)

The four USB interfaces (**X108** – **X111**) are used to connect peripheral devices with USB connections. USB3.0 standard is supported.

Two more USB interfaces (**X212** – **X213)** are located behind the front flap. USB2.0 standard is supported.

2.6.3 Network connection LAN1, LAN2 (X112, X113)

The RJ-45 connectors (**X112, X113**) allow the PC to be connected to a 100/1000BASE-T Local Area Network (LAN).

2.6.4 DVI (Digital Visual Interface) (X114, X115)

The DVI connectors (**X114**, **X115**) are used for transferring the video signal. DVI-D standard is supported.

2.6.5 Serial interface COM1 (X116)

The basic version of the Industrial PC has one serial interfaces COM1 (**X116**), using the type RS 232, which is brought to a 9 pin SUB-D plug connector.

2.6.6 DisplayPort (X117)

The DisplayPort (**X117**) is used for transferring the video signal.

2.6.7 Sound-On-Board (X120, X121, X122)

The Industrial PC has an on-board-interface with the following connectors: Line In (**X122**), Line Out (**X121**) and Microphone jack (**X120**).

2.6.8 Additional plug-in cards (optional)

There is a type plate on the top of the Industrial PC which provides information about the hardware configuration of the Industrial PC at the time it was supplied.

2.7 USB interfaces and Control Elements

Two additional USB interfaces and the control elements are located behind a flap at the front side of the Industrial PC. After unlocking the flap with the key, it can be folded down. You now have access to the control elements:

Interfaces and Control
Elements behind the front
flap
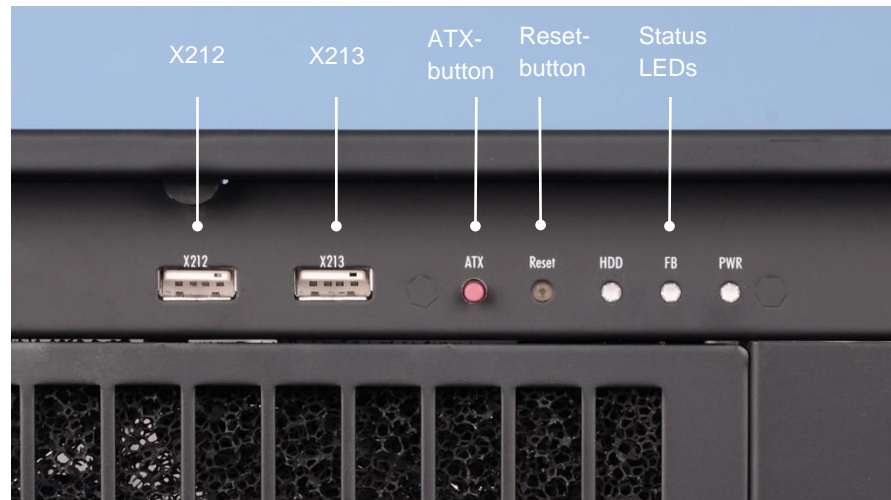
2.7.1 USB interfaces (X212, X213)

The two USB interfaces (**X212** – **X213**) are used to connect peripheral devices with USB connections. USB2.0 standard is supported.

2.7.2 ATX Push-button

The Industrial PC is switched on via the push-button (**ATX**) (Power on).

2.7.3 Reset-button

The reset-button enables re-booting the Industrial PC.

2.7.4 Status LEDs

- The LED *HDD* is illuminated at HDD access.

- The LED *PWR* is illuminated when power is on.

- The LED *FB* is a multi-color LED and shows the status of fieldbus and TwinCAT:

Color LED FB	Description
red	TwinCAT STOP
blue	TwinCAT CONFIG
blue/ red blinking	TwinCAT CONFIG with Bus Error
green	TwinCAT RUN
green/ red blinking	TwinCAT RUN with Bus Error

3 Installation

3.1 Transport and Unpacking

The specified storage conditions must be observed (see chapter *Technical Data*).

3.1.1 Transport

Despite the robust design of the unit, the components are sensitive to strong vibrations and impacts. During transport, the Industrial PC should be protected from excessive mechanical stress. Therefore, please use the original packaging.

! **Attention**	**Danger of damage to the unit** If the device is transported in cold weather or is exposed to extreme variations in temperature, make sure that moisture (condensation) does not form on or inside the device.

Prior to operation, the unit must be allowed to slowly adjust to room temperature. Should condensation occur, a delay time of approximately 12 hours must be allowed before the unit is switched on.

3.1.2 Unpacking

Proceed as follows to unpack the unit:

1. Remove packaging.

2. Do not discard the original packaging. Keep it for future relocation.

3. Check the delivery for completeness by comparing it with your order.

4. Please keep the associated paperwork. It contains important information for handling the unit.

5. Check the contents for visible shipping damage.

6. If you notice any shipping damage or inconsistencies between the contents and your order, you should notify Beckhoff Service.

3.2 Installation of the PC in the control cabinet

The C5240 Industrial PC has been designed as a rack mount PC for fitting into 19-inch racks used in machine and plant engineering applications.

The ambient conditions specified for operation must be observed (see chapter *Technical Data*).

3.2.1 Preparation of the control cabinet

Four holes for the fixing bolts have to be provided in the control cabinet according to the dimensions of the PC (see chapter *Assembly dimensions*).

i **Note**	**Circulation of air** When the unit is installed in an enclosure, adequate space for ventilation and for opening the PC must be provided. The clearance above and below the housing must be at least 5 cm in order to ensure adequate ventilation of the PC.

! **Attention**	**Avoid extreme environmental conditions** Extreme environmental conditions should be avoided as far as possible. Protect the PC from dust, moisture and heat. The ventilation slots of the PC must not be covered.

3.3 Power supply of the Industrial PC

The Industrial PC is fitted with a 100-240 V/ 3 A max., 50-60 Hz full range power supply unit (with the option of an uninterruptible power supply UPS).

3.3.1 Current carrying capacity of the 100-240 V power supply unit

Output voltages from the 100-240 V power supply unit	Current loading maximum
+3.3 V	21.0 A
+5 V stand by	2.5 A
+5 V	15.0 A
+12 V1	11.0 A
+12 V2	8.0 A
-12 V	0.3 A

3.3.2 Mains Socket

A mains socket is located at the rear of the PC housing in order to connect the power supply.

Socket at the PC housing

3.3.3 Power cords Europe

In the area Europe you use the provided cable with inlet connector for non-heating apparatus to connect the Industrial-PC to the power supply:

3.3.4 Power cords USA / Canada

In the area USA / Canada the power supply cable must show the following specifications according to the supply voltage:

- Listed, Detachable, maximum 4.5 m (14.76 ft.) long; rated minimum 125 V, 10 A, Type SJT or Type SVT; one end terminates in NEMA 5-15P/-20P grounding-type attachment plug, other end in appliance coupler. Minimum temperature rating of supply cables should be 80 °C.

or

- Listed, Detachable, maximum 4.5 m (14.76 ft.) long; rated minimum 250 V, 10 A, Type SJT or Type SVT; one end terminates in NEMA 6-15P/-20P grounding-type attachment plug, other end in appliance coupler. Minimum temperature rating of supply cables should be 80 °C.

3.4 Power Supply with 24 V$_{DC}$ power supply unit (optional)

ⓘ **Note**	**Uninterruptible power supply (UPS)** When the Industrial PC is provided with a power supply unit with integrated UPS (order option) you can realize an uninterruptible power supply (UPS) using the battery pack C9900-U330 or C9900-U332.

⚠ **WARNING**	**Danger of Explosion!** Danger of Explosion if using other battery packs!

3.4.1 Beckhoff power supply technology

Schematic diagram of
power supply unit wirings

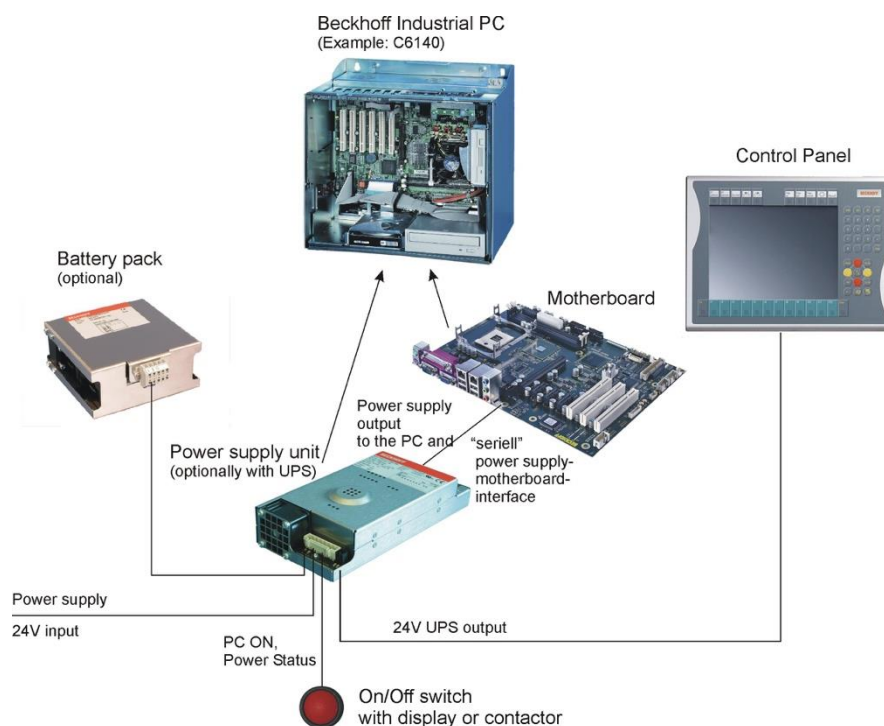Industrial PCs equipped with a UPS are in actual use frequently switched off by simply turning off the supply voltage. In this case the PC shuts down via the battery. However, over time this reduces the service life of the battery.

The new Beckhoff power supply technology approach addresses this problem and now offers the user the option of switching the PC off without the need for using the battery, thereby reducing the load on the battery.

In addition to the main switch this innovative solution uses an ON/OFF switch for the machine. Basically, the main switch remains switched on and provides the power supply for the PC during shutdown. Via the PC ON-input of the power supply the PC gets the command to shut down the operating system.

Once the PC has shut down, the PC power supply unit sets the Power Status-output (P-S) to 0, what indicates that the process is complete and that the main voltage can be switched off. This can be done manually via a signal lamp connection or via a contactor. With this solution the main switch generally only has to be switched off if the control cabinet has to be opened. The battery will only be used in the event of a power failure.

In order to maintain a screen display for the Industrial PC in the event of a power failure, the power supply unit is equipped with a UPS output 27 V / 1.4 A (max. 2.5 A from 2016 and later), for connecting a

Control Panel with a display dimension up to 19 inches. This enables a power failure to be visualized and displayed to the user. Once the PC has shut down, the UPS output is switched off.

For a detailed functional description please refer to section *Connecting Power Supply*.

3.4.2 Current carrying capacity of the 24 V power supply unit

Output voltages from the 24 V power supply unit	Current loading maximum
+3.3 V	12.0 A
+5 V stand by	1.5 A
+5 V	14.0 A
-5 V	0.3 A
+12	12.0 A
-12 V	0.5 A

3.4.3 Pin assignment of the connectors

Two 5-pin plug connectors with CAGE CLAMP connection are installed at the PC housing in order to connect the 24 V_{DC} power supply and the external components.

Pin assignment power supply

Pin assignment for connecting the power supply and the battery pack (optional)

X101

5
4
3
2
1
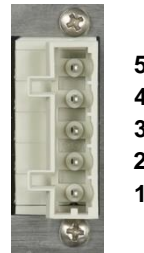
Pin	Function	
1	+	24 V_{DC} Power Supply
2	-	
3	⏚	
4	+	Battery Pack
5	-	(with UPS only)

Pin assignment external wiring

Pin assignment for connecting the power switch

X102

1 2 3

Pin	Function
1	Power-Status
2	PC-ON
3	$24V_{DC}$ Power Supply +pole

3.4.4 Fitting the Cables

Fit the cables for the power supply of the Industrial PC, the connection of the battery pack as well as the connection of the power-switch in accordance with the wiring diagram, using the included material for assembling the connectors.

Materials for assembly of the connector

Female plug connector 5-pole

Strain relief housing

Fitting the connector

The connector is specified for 16 A and can lift conductive cross-sections until 1.5 mm^2.

The plug is fitted to the cable as follows:

1. Strip insulation from the cable ends (insulation length 8 – 9 mm).
2. Push the conductors into their mountings, simply by pushing them in as indicated on the pin assignment label.
3. Push the lower part of the strain relief housing onto the top of the female plug connector until it snaps into place.
4. Relieve the strain on the supply cable by fixing it in place with the cable clamp and fixing screws.
5. Fix the upper part of the strain relief housing by snapping it onto the lower part.

3.4.5 Connecting Power Supply

The external wiring consists of the connection of the power supply, the battery pack (optional) and the connection of customized components for shutting down the PC.

Cable Cross Sections

For the connection of the power supply, wiring with a cable-cross-section of 1.5 mm^2 must be used.

With bigger distances between voltage source and PC, you take the voltage drop as a function of the cable-cross-section as well as voltage fluctuations of your distribution voltage into account, so that is secured that the voltage doesn't fall under 22 V at the power supply.

! **Attention**	**Insert fuse** The power supply must be protected with maximum 16 A.

Configuration for shutting down the PC

The connections for shutting down the Industrial PCs are established via the **PC_ON** input and the **Power Status** output.

PC_ON and Power Status functions

- If the **PC_ON** input is connected to 24 V via a switch, the PC shuts down according to the rules. The PC_ON signal is inverted, i.e. the PC shuts down if the 24 V connection is live.

- If the **PC_ON** input is *NOT* connected by the user, the PC can be booted in the familiar way by connecting the supply voltage and shut down via the battery by switching off the supply voltage.

! **Attention**	**Service life of the rechargeable battery** This procedure significantly reduces the service life of the rechargeable battery and should therefore not be used.

- Once the PC has shut down, the **Power Status** output is switched from 24 V to 0 V. Via this output a signal lamp can be connected or a contactor for de-energizing the whole system. The maximum load for the **Power Status** output is 0.5 A and a suitable fuse should be provided.

UPS output

In order to maintain a screen display for the PC in the event of a power failure, the power supply unit is equipped with a **UPS output** for connecting a Control Panel. The maximum load for the output is 1.4 A (max. 2.5 A from 2016 and later).

UPS output function

- The 24 V DC connection at the UPS output is live even after a power failure. The maximum load is 1.4 A (max. 2.5 A from 2016 and later).

- Once the PC has been de-energized via the UPS software, the **UPS output** is switched to 0 V. Any connected panel is thus switched off, and total discharge of the rechargeable battery is prevented.

3.4.6 Wiring diagram

Wiring according to the wiring diagram (the circuit of PC_ON and Power-Status is symbolical):

Wiring diagram external
switch and power supply
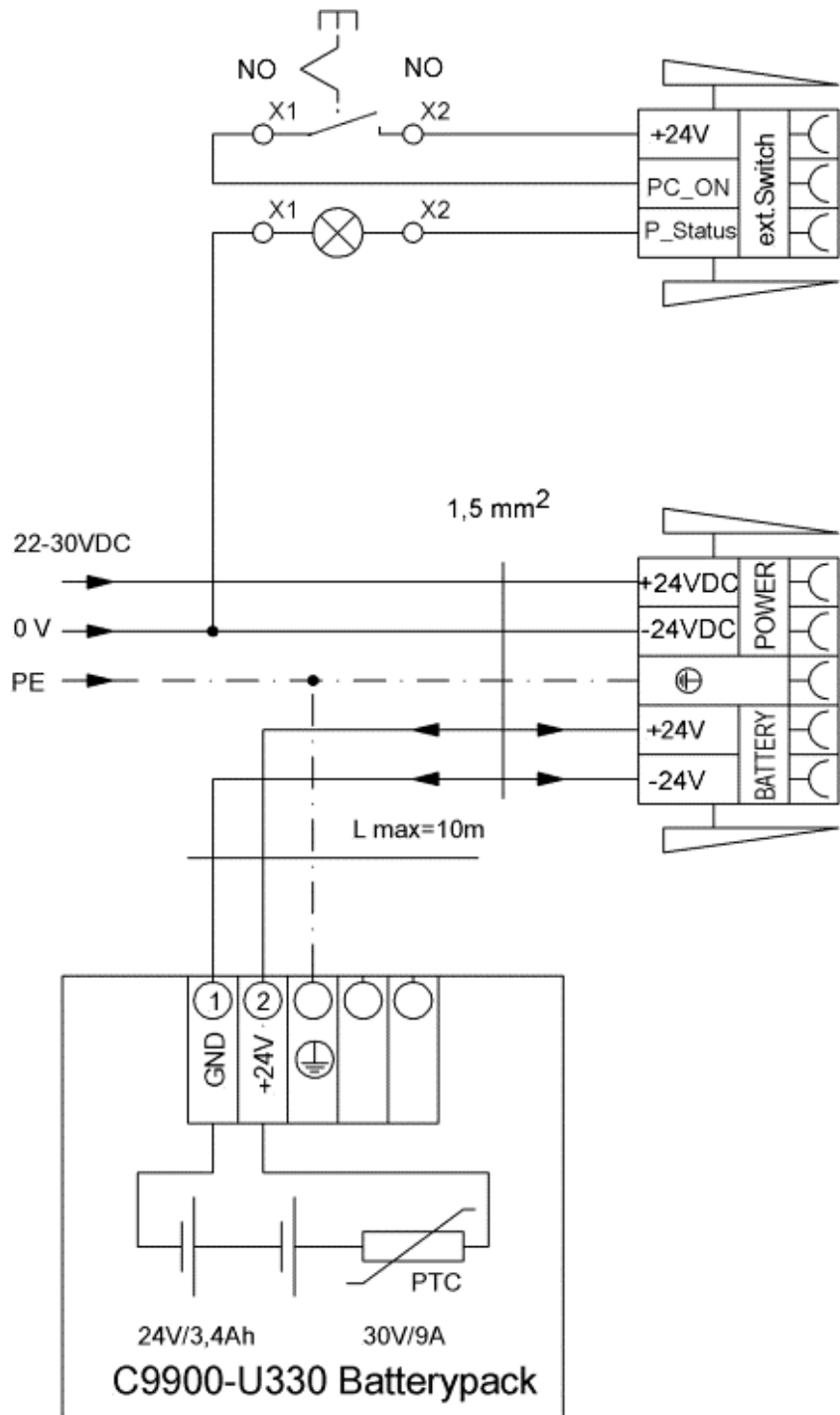
	Connection of the Battery Pack and UPS Output
i **Note**	Connection of the Battery Pack and UPS Output only in combination with integrated UPS (order option).

3.5 Connecting the Industrial PC

		The mains plug must be disconnected
! Attention		The power supply plug must be withdrawn!
		Please read the documentation for the external devices prior to connecting them!
		During thunderstorms, plug connector must neither be inserted nor removed!
		When disconnecting a plug connector, always handle it at the plug. Do not pull the cable!

3.5.1 Connecting cables

The connections are located at the top side of the Industrial PC and are documented in the *Product Description* chapter.

When connecting the cables to the Industrial PC, proceed according to the following sequence:

- Switch off all the devices that are to be connected.

- Disconnect all the devices that are to be connected from the power supply.

- Connect all the cables between the Industrial PC and to the devices that are to be connected.

- Connect all data transfer cables (if present) to the appropriate plug-in receptacles of the data/ telecommunication networks.

- Reconnect all devices to the power supply.

3.5.2 Check voltage rating and connect.

When fitted with 100-240 V_{AC} 50/60 Hz power supply:

1. Check that the mains voltage is correct.
2. Insert the provided power supply cable into the Industrial PC's power supply socket. Then connect it to a power socket with a grounded earth connection.

When fitted with the (optional) 24 V_{DC} power supply unit:

1. Check that the external power supply is providing the correct voltage.
2. Insert the power supply cable that you have assembled into the Industrial PC's power supply socket. Then connect it to your external 24 V power supply.

		Use same type of rechargeable battery
! Attention		If a 24 V UPS is installed, the same type of rechargeable battery must be used.

4 Operating Instructions

4.1 Switching the Industrial PC on and off

4.1.1 Switch on

The Industrial PC has its own mains switch. The Industrial PC will start when the main switch switched on.

4.1.2 Shutting down and switching off

When the plant is switched off, or when it is disconnected from its power supply, the Industrial PC will be switched off.

Control software such as is typically used on Industrial PCs permits various users to be given different rights. A user who may not close software may also not switch the Industrial PC off, since data can be lost from the hard disk by switching off while software is running.

![!] Attention	**First shut down, then switch off the PC** If the Industrial PC is switched off as the software is writing a file to the memory drive, the file will be destroyed. Control software typically writes something to the memory drive every few seconds, so that the probability of causing damage by switching off while the software is running is very high.

![!] Attention	**Switch off power supply** When you have shut down the Industrial PC, you have to switch off power supply for at least 10 seconds before rebooting the system. After resetting power supply the PC will start booting automatically.

4.1.3 First switching on and driver installation

When you switch on the Industrial PC for the first time, the pre-installed operating system (optional) will be started. In this case, all the required drivers for any additional, optional hardware components ordered with the PC will already have been installed.

If the PC was ordered without operating system, you have to install the operating system and the driver software for any auxiliary hardware yourself. Please follow the instructions in the documentation for the operating system and the additional devices.

4.2 Servicing and maintenance

4.2.1 Cleaning of the Industrial PC

⚠ **DANGER**	**Disconnect power supply** Switch off the Industrial PC and all connected devices, and disconnect the Industrial PC from the power supply.

The device can be cleaned with a soft, damp cleaning cloth. Do not use any aggressive cleaning materials, thinners, scouring material or hard objects that could cause scratches.

4.2.2 Maintenance

The Industrial PC is maintenance-free.

4.2.3 Replacing the Battery on the Motherboard

A used battery on the motherboard has to be replaced. See also chapter *Access to the battery*.

⚠ **WARNING**	**Danger of Explosion!** The battery is a CR2032 type (nominal voltage: 3.0 V) from e.g. Panasonic or Sanyo. Replace battery only with the identical type or an alternative type recommended by the manufacturer. Notice correct polarity!

⚠ **WARNING**	**Handling of Lithium Batteries** Lithium Batteries should not be recharged, exposed to fire, opened and they should be protected against sunlight and moisture.

The used battery must be disposed of in accordance with national electronics scrap regulations.

4.3 Emergency procedures

In case of fire, the Industrial PC should be extinguished with powder or nitrogen.

4.4 Shutting down

4.4.1 Disposal

ℹ **Note**	**Observe national electronics scrap regulations** Observe the national electronics scrap regulations when disposing of the device.

In order to dispose of the device, it must be removed and fully dismantled:

- Housing components (polycarbonate, polyamide (PA6.6)) are suitable for plastic recycling
- Metal parts can be sent for metal recycling
- Electronic parts such as disk drives and circuit boards must be disposed of in accordance with national electronics scrap regulations.

5 Troubleshooting

Fault	Cause	Procedure
Nothing happens after the Industrial PC has been switched on	No power supply to the Industrial PC	Check power supply cable
	Other cause	Call Beckhoff Service
The Industrial PC does not boot fully	CD in drive	Remove CD and press any key
	Setup settings are incorrect	Check the setup settings
	Other cause	Call Beckhoff Service
Computer boots, software starts, but control does not operate correctly	Cause of the fault is either in the software or in parts of the plant outside the Industrial PC	Call the manufacturer of the machine or the software
Memory device access error	Faulty device	Call Beckhoff Service
The Industrial PC functions only partially or only part of the time, e.g. no or dark picture, but disk drive responds when switching on	Defective components in the Industrial PC	Call Beckhoff Service

6 Assembly dimensions

Industrial PC C5240

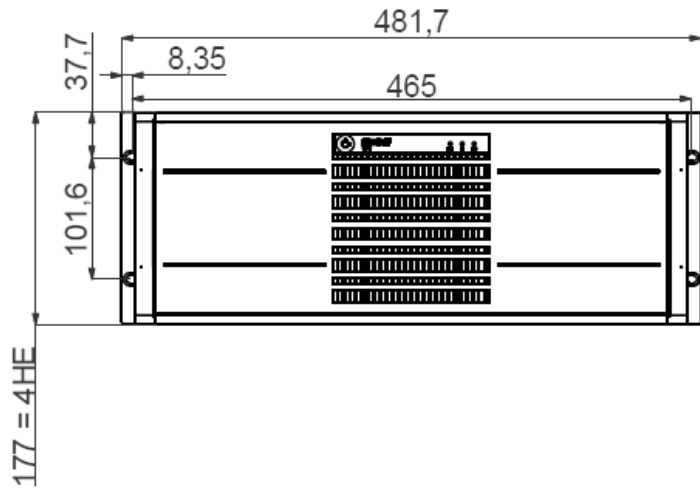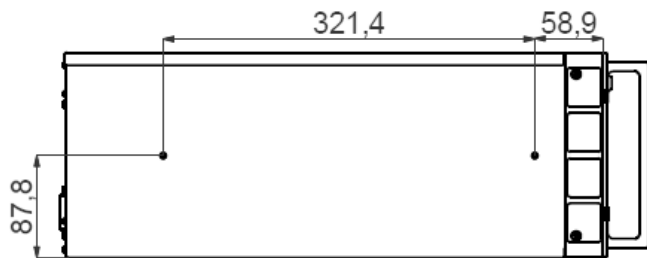| ! Attention	**Notice mounting orientation**
	The assembly of the unit must take place with the orientation diagrammed here.

All dimensions in mm.

Front view

Side view

Top view

	Notice mounting orientation
! **Attention**	The assembly of the unit must take place with the orientation diagrammed here.

All dimensions in mm.

With guide rail Maedler Accuride 2907
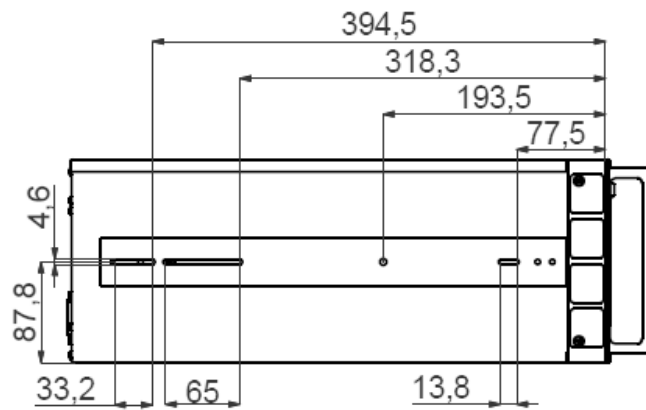
Side view

Top view
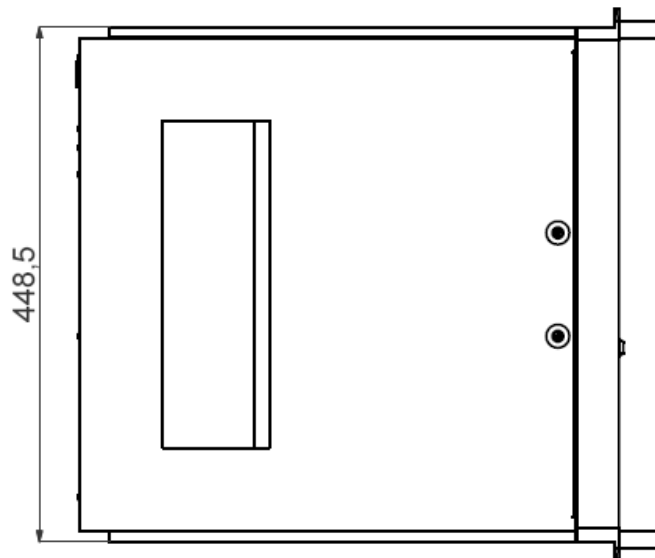
7 Technical Data

Danger ⚠	**Risk of explosion!** Do not use the Industrial PC in areas of explosive hazard!

Product description	C5240
Dimensions (B x H x T)	482 x 177 x 511 mm (with handles)
Weight	17.0 kg (basic configuration)
Supply voltage	100 V_{AC} - 240 V_{AC}, 50 - 60 Hz
24 V_{DC} power supply (optional)	22 - 30 V_{DC}
Power consumption	C5240-0010: 70 W for the basic version
Interfaces	2 x PS/2 2 x DVI-D 1 x DisplayPort 2 x RJ-45 Ethernet 100/1000 BASE-T 4 x USB 2.0 2 x USB 3.0 1 x RS232 D-Sub-9
Protection class	IP50
Shock resistance (Sinusoidal vibration)	EN 60068-2-6: 10 to 58 Hz: 0.035 mm / 58 to 500 Hz: 0.5 G (~ 5 m/ s2)
Shock resistance (during reading of CD-ROM)	EN 60068-2-6: 10 to 58 Hz: 0.019 mm / 58 to 500 Hz: 0.25 G (~ 2.5 m/ s2)
Shock resistance (Shock)	EN 60068-2-27: 5 G (~ 50 m/ s2), duration: 30 ms
Shock resistance (during reading of CD-ROM)	EN 60068-2-27: 5 G (~ 50 m/ s2), duration: 11 ms
EMC compatibility	Resistance to interference conforms to EN 61000-6-2
EMC compatibility	Emission of interference conforms to EN 61000-6-4
Permissible ambient temperature	0°C to +55°C (operation) -20°C to +65°C (transport/ storage)
Permissible relative humidity	to 95%, no condensation
Transport and storage	The same values for atmospheric humidity and shock resistance are to be observed during transport and storage as in operation. Suitable packaging of the Industrial PC can improve the resistance to impact during transport.
Certifications	CE

8 Appendix

8.1 Beckhoff Support and Service

Beckhoff and their partners around the world offer comprehensive support and service, making available fast and competent assistance with all questions related to Beckhoff products and system solutions.

8.1.1 Beckhoff branches and partner companies

Please contact your Beckhoff branch office or partner company for local support and service on Beckhoff products!
The contact addresses for your country can be found in the list of Beckhoff branches and partner companies: www.beckhoff.com. You will also find further documentation for Beckhoff components there.

8.1.2 Beckhoff company headquarters

Beckhoff Automation GmbH & Co. KG
Huelshorstweg 20
33415 Verl
Germany

Phone:	+ 49 (0) 5246/963-0
Fax:	+ 49 (0) 5246/963-198
E-mail:	info@beckhoff.de
Web:	http://www.beckhoff.de/

Beckhoff Support

Support offers you comprehensive technical assistance, helping you not only with the application of individual Beckhoff products, but also with other, wide-ranging services:

- world-wide support
- design, programming and commissioning of complex automation systems
- and extensive training program for Beckhoff system components

Hotline:	+ 49 (0) 5246/963-157
Fax:	+ 49 (0) 5246/963-9157
E-mail:	support@beckhoff.com

Beckhoff Service

The Beckhoff Service Center supports you in all matters of after-sales service:

- on-site service
- repair service
- spare parts service
- hotline service

Hotline:	+ 49 (0) 5246/963-460
Fax:	+ 49 (0) 5246/963-479
E-mail:	service@beckhoff.com

If servicing is required, please quote the **project number** of your product.

8.2 Approvals for USA and Canada

8.3 FCC Approvals for the United States of America

FCC: Federal Communications Commission Radio Frequency Interference Statement
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in 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.

ℹ️ **Note**	**Technical modifications** Technological changes to the device may cause the loss of the FCC approval.

8.4 FCC Approval for Canada

FCC: Canadian Notice
This equipment does not exceed the Class A limits for radiated emissions as described in the Radio Interference Regulations of the Canadian Department of Communications.