

Manual | EN

CX2900-0192

Battery pack for CX2100-0914



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1 Notes on the documentation

This description is intended exclusively for trained specialists in control and automation technology who are familiar with the applicable national standards.

For installation and commissioning of the components, it is absolutely necessary to observe the documentation and the following notes and explanations.

The qualified personnel is obliged to always use the currently valid documentation.

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

Disclaimer

The documentation has been prepared with care. The products described are, however, constantly under development.

We reserve the right to revise and change the documentation at any time and without notice.

No claims to modify products that have already been supplied may be made on the basis of the data, diagrams, and descriptions in this documentation.

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1.1 Explanation of symbols and font conventions

In this documentation the following symbols are used with an accompanying warning or note. The warnings must be read carefully and strictly observed.

Symbols that warn of personal injury:



Serious risk of injury

Be sure to observe this warning. Non-compliance will lead to serious injury or death.

⚠ WARNING**Risk of injury**

It is essential to observe this warning. Non-compliance can lead to serious injury or death.

⚠ CAUTION**Personal injuries**

It is essential to observe this warning. Non-compliance can lead to minor or slight injury.

Symbols that warn of damage to property or equipment:**NOTICE****Damage to the devices or environment**

It is essential to observe this warning. Non-compliance can lead to damage to property or equipment or environmental damage.

Symbols indicating further information or tips:**Tip or pointer**

This symbol indicates information that contributes to better understanding.

Font conventions

The following table shows the font conventions used in this documentation. They also serve as a guide, since the font is consistently applied in the document.

Font / label	Meaning
Internal reference [▶ 5]	Internal references to sections, for example.
External reference	External references, e.g. to a website or other documentation.
<i>italics</i>	File names, e.g. <i>Setup.exe</i> , and path names, e.g. <i>C:\Windows\System32\...</i> are shown in italics.
Start > Programs	A “greater than” sign between two words indicates selection of a menu item from a menu or toolbar, e.g. Start > Programs .
Menu	Menu items are shown in bold, e.g. In the File menu, click on Print .
Password	Names of input or selection fields are displayed in bold, e.g. Enter your password in the Password field.
[Key]	Keyboard keys are shown in square brackets and bold, e.g. [F1] .
Button	Buttons are shown in bold, e.g. Click Continue .
“Inputs” and “Values”	Input or selection values are shown in quotes, e.g. In the Resolution menu, enter the value “1280x800”.
Programmcode	Program code is indicated by a different font and highlighted in color, e.g. <pre>VAR_OUTPUT BUSY :BOOL; ERR :BOOL; ERRID :UDINT; END_VAR</pre>

1.2 Documentation issue status

Version	Modifications
1.0	First version
1.1	Technical data revised
1.2	Chapter "Care and maintenance" added. Information about product safety label added, in chapter "Safety instructions"
1.3	Chapter "power supply", "product overview" and "technical data" revised.
1.4	Chapter "Connect battery pack" revised.
1.5	Chapter "Power supply" adapted.

1.3 Related documents

This documentation contains and describes material that is relevant for the battery pack. The battery pack is part of a modular systems and belongs to the CX2000 Embedded PC series. Further information on the devices of the CX2000 Embedded PC series can be found in the associated documentation. Read and follow in particular the sections on safety in this documentation.

The following important documentation can be viewed at and downloaded from the Beckhoff website:
www.beckhoff.de

Document name
CX20x0 hardware description
CX2100-0914 power supply unit for CX20x0

Retaining the documentation

This documentation is part of the CX2900-0192 battery pack. Keep the documentation in the immediate vicinity of the battery pack throughout its entire service life. Ensure that personnel have access to the documentation at all times. Pass on the documentation to subsequent users, and in addition ensure that all supplementary information is included in the documentation.

2 Safety

To protect against injury and to prevent damage to equipment or property, it is necessary to carefully read the safety guidelines and comply with them. This section contains a summary of the main safety requirements and instructions. Warnings relating to specific action steps are included in the respective sections.

Limitation of liability

All the components are supplied in particular hardware and software configurations appropriate for the application. Unauthorized modifications and changes to the hardware or software configuration, which go beyond the documented options, are prohibited and nullify the liability of Beckhoff Automation GmbH & Co. KG.

In addition, the following actions are excluded from the liability of Beckhoff Automation GmbH & Co. KG:

- Failure to comply with this documentation.
- Improper use.
- Deployment of personnel without adequate training.
- Use of unauthorized replacement parts.
- Use of equipment that is not in sound condition.

2.1 Intended use

The battery pack is a charge store for the power supply unit CX2100-0914 and is only suitable for operation with this power supply unit. The battery pack is intended for installation on a DIN rail.

In the event of a power failure the battery pack supplies the basic CPU module and further devices (e.g. a Panel) via the CX2100-0914 power supply unit.

The battery pack is designed for a working environment that meets the requirements of protection class IP20. This involves finger protection and protection against solid foreign objects up to 12.5 mm, but not protection against water.

Ensure the battery pack is fully functional and replace it after five years.

Improper use

- Use the battery pack according to the technical data, otherwise electrolyte (acid) may escape and the battery pack may become hot or even explode.
- The battery in the battery pack must not be removed and used outside the housing.
- Do not use the battery pack for more than 5 years.

2.2 Staff qualification

Using the Beckhoff software and hardware requires special qualifications. Personnel must have the following minimum qualifications:

Beckhoff hardware

- All operations must be carried out by qualified personnel only, who have adequate knowledge in the field of control and automation technology.
- The qualified personnel must be familiar with the current standards and guidelines for the devices and the automation environment.
- All interventions require adequate knowledge of control programming.

2.3 Safety instructions

Follow the safety instructions for protection against injuries and prevention of damage to equipment or property.

Mounting

- Never work on live equipment. Always switch off the power supply for the device before installation, troubleshooting or maintenance. Protect the device against unintentional switching on.
- Avoid polarity reversal of the data and supply cables, as this may cause damage to the equipment.
- Observe the relevant accident prevention regulations for your machine (e.g. the BGV A 3, electrical systems and equipment).
- Note the temperature limit values for operation. If the battery pack is operated outside these temperature limits, it may leak electrolyte (acid), heat up or even explode.
- The space where the battery pack is located must have adequate ventilation. Follow the regulations of VDE 0510 Part 2 / EN 50272-2 or corresponding national regulations for storage, installation and operation.
The battery pack can release flammable gases, which may cause an explosion if it is located in an enclosed, unventilated space.
- Do not store the battery pack in an airtight container or bag. The battery pack may release flammable gases, which may explode if the battery pack is hermetically enclosed.

Contact with electrolyte (acid)

- Should you come in contact with electrolyte (acid), immediately rinse the affected body part with water.

Firefighting

Extinguish the battery pack with dry powder, halon or CO₂.

- Do not use water, which could result in electrolyte (acid) splashing out.
- Disconnect the power supply.
- During firefighting wear self-contained respiratory protective equipment and protective clothing.
- Provide adequate ventilation after the battery pack has been extinguished.

Product safety label

The following product safety label is located on the right side of the battery pack.

CAUTION:

- Do not charge in a gas tight container.
- Do not short the battery terminals.
- Do not incinerate.
- Flush with water at once if contact is made with electrolyte (Acid).

3 Transport and storage

3.1 Transport

NOTICE

Short circuit due to moisture

Moisture can lead to short circuits. Moisture can form during transport in cold weather or in the event of large temperature fluctuations.

Avoid moisture formation (condensation) in the device, and leave the device to adjust to room temperature slowly. If condensation has occurred, wait at least 12 hours before switching on the device.

Transport

Despite the robust design of the unit, the components are sensitive to strong vibrations and impacts. Therefore, during transport please protect your device from:

- mechanical stress and
- use the original packaging.

Dimensions and weight of the individual modules

	Battery pack CX2900-0192	Power supply unit CX2100-0914
Dimensions (W x H x D)	163 mm x 90 mm x 85 mm	84 mm x 100 mm x 91 mm
Weight	approx. 2100 g	approx. 695 g

Unpacking

1. Check the pack contents for visible transport damage and electrolyte (acid) leaks.
2. Do not discard the original packaging. Keep it for transporting the device in the future.
3. If you notice any shipping damage or inconsistencies between the contents and your order, you should notify Beckhoff Service.

3.2 Storage

WARNING

Fire and explosion hazard

The battery pack may release flammable gases, which may result in a fire or even an explosion. Store the battery pack in a space with adequate ventilation, never in an airtight container or bag.

Observe the following storage conditions, in order to maintain the service life of the battery pack:

- Store the battery pack in discharged state.
- Remove the fuse from the battery pack.
- Store the battery pack at room temperature or below.
- Do not store the battery pack in a dusty environment, at high humidity or in location with strong vibrations.

If the battery pack is stored for 3 months or more, it must be recharged at regular intervals.

Table 1: Recharging intervals depending on the storage temperature.

Storage temperature	Recharge after
Below 20 °C	12 months
20°C to 30°C	9 months
20°C to 40°C	6 months

Recharge the battery pack after 12 months at the latest. Avoid deep discharge of the battery pack.

Table 2: Self-discharge behavior at 25°C.

Period	Battery pack charge (%)
after 3 months	91% charge
after 6 months	82 % charge
after 12 months	64 % charge

4 Product overview

The battery pack contains a lead-gel battery. The battery pack is used as a UPS in conjunction with the CX2100-0914 power supply unit. In the event of a power failure the battery pack supplies the basic CPU module and further devices (e.g. a Panel) via the CX2100-0914 power supply unit.

The battery pack is connected to the power supply unit with two cables. A three-pole cable is used to connect the power supply unit and the battery pack. The battery pack is also charged via the three-pole cable.

The second connection (RJ45 patch cable) controls the charging/discharging behavior. It is a serial protocol, **not** a network connection.

Operating times without power supply from the power supply unit (self-discharge).

With hardware version 1.0 the charged battery pack has the following operating times

- 4 – 6 weeks.
- 40 – 60 weeks, if the fuse was removed from the battery pack.

From hardware version 1.1 the charged battery pack has the following operating times

- 40 – 60 weeks.

4.1 Composition of the battery pack

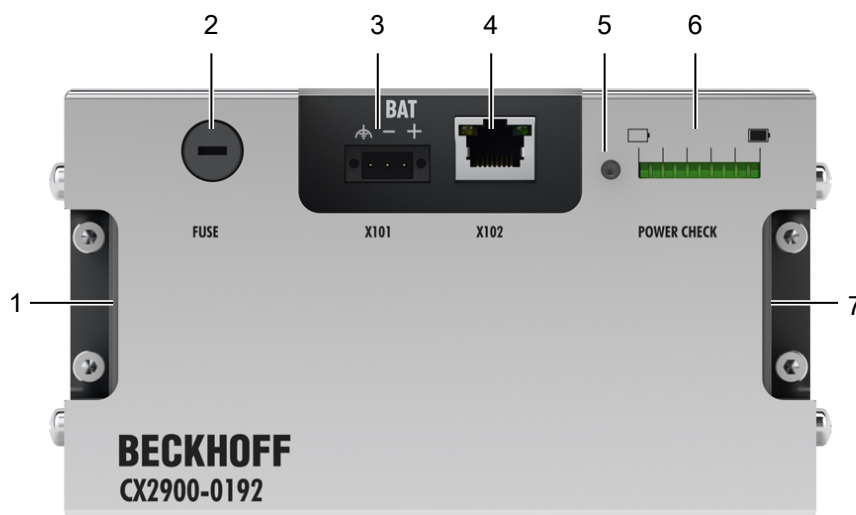


Table 3: Legend relating to the composition of the battery pack

No.	Description
1	Name plate.
2	FUSE compartment for a 10 A fuse (FF).
3	Connection X101 for the power supply between the battery pack and the power supply unit CX2100-0914.
4	RJ45 connection X102 for the data connection between the battery pack and the power supply unit CX102-0914.
5	Operating button for the diagnostic LEDs.
6	Diagnostic LEDs indicate the charge state and the operational readiness.
7	Warning label with safety instructions.

4.2 Name plate

A name plate can be found on the left-hand side of the battery pack housing.

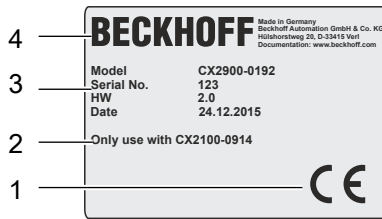
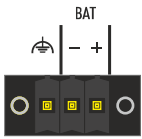


Table 4: Legend for the battery pack name plate.

No.	Description
1	CE compliant.
2	Indicates that the battery pack should only be operated with the CX2900-0914 power supply unit.
3	Information on: <ul style="list-style-type: none"> • model, • serial number, • hardware version • and date of manufacture.
4	Manufacturer information including address.

4.3 Connections

4.3.1 X101 Power Supply



X101

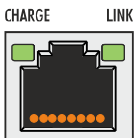
The CX2100-0914 power supply unit is connected to the X101 connector. The earth, -BAT and +BAT cables are connected to the corresponding terminals on the power supply unit.

This connection is used to charge the battery pack and supply the CX system in the event of a power failure.

4.3.2 X102 connection (RJ45)

● Confusion with the network connection

i This connector is used for processing a serial protocol for communication between the power supply unit and the battery pack. Only the battery pack may be connected to this connector.



X102

This terminal is used to connect the battery pack with the CX2100-0914 power supply unit and for continuous monitoring via the power supply unit. Information on the charge state of the battery pack is transmitted via this connection. An RJ45 patch cable (CAT5) is used for the connection.

The LINK LED is lit when the battery pack and the power supply unit are connected. The CHARGE LED is lit when the battery pack is being charged.

5 Commissioning

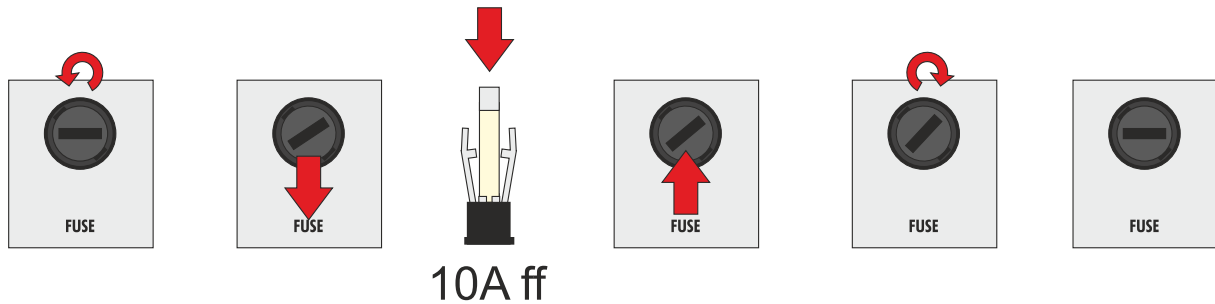
5.1 Mounting

5.1.1 Insert fuse

The fuse (10 A FF) must be installed before the battery pack can be used.

Insert the fuse as follows:

1. Open the fuse compartment with a screwdriver and a slight counter-clockwise turn.
2. Remove the fuse holder.



3. Insert a 10A FF fuse in the holder.
4. Push the fuse holder back into the fuse compartment.
5. Lock the fuse compartment with a slight clockwise turn.

⇒ You have inserted the fuse successfully. A faulty fuse can be replaced in the same way. Dispose of faulty fuses according to national regulations.

5.1.2 Installation on the mounting rail

⚠ WARNING

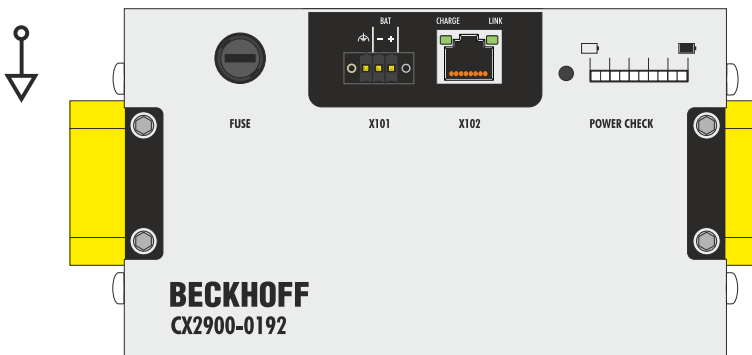
Overheating

If the battery pack overheats, electrolyte (acid) and flammable gases may escape, which may result in a fire.

The battery pack should only be operated at ambient temperatures up to 50 °C. Ensure adequate ventilation when installing the battery pack in a housing or cabinet.

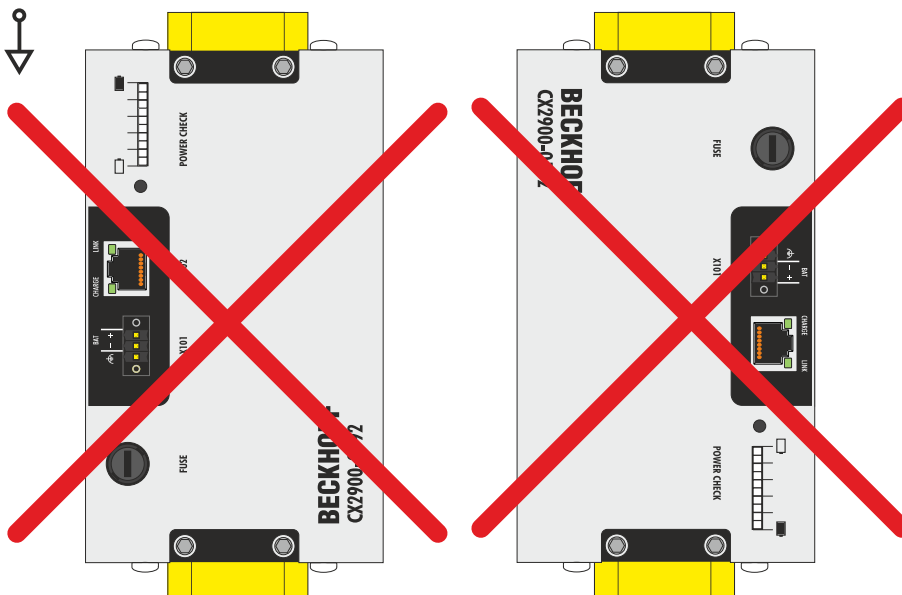
Installation position

The battery pack must be installed horizontally, due to its weight and the fact that it is installed on a mounting rail. In this way the battery pack is mounted optimally and reliably.



Incorrect installation positions

The battery pack must not be mounted vertically on the DIN rail. Otherwise vibrations in conjunction with the weight of the battery pack could result in the pack moving or even falling off the DIN rail.



Installation on the mounting rail

Install the battery pack, type CX2900-0192, on a mounting rail of type TS35/15.

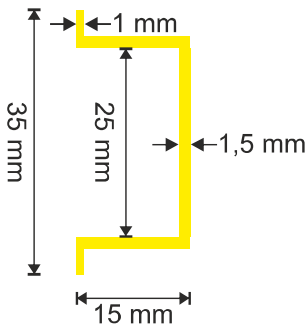
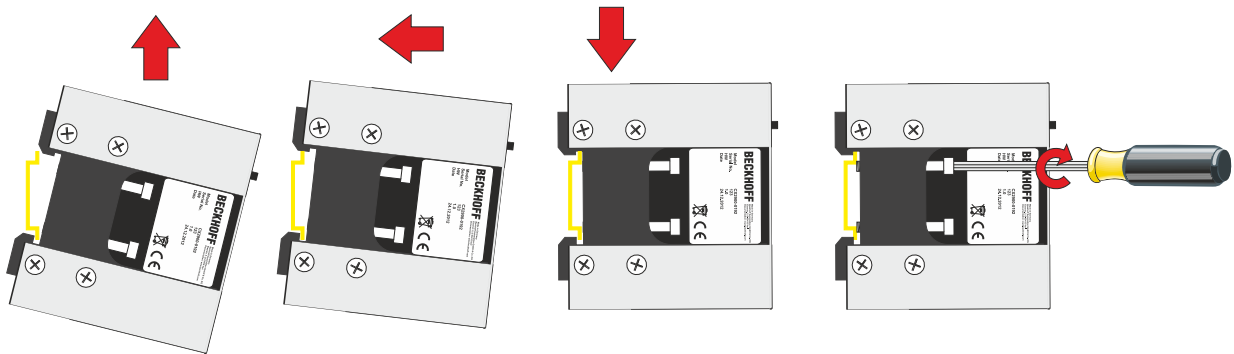


Fig. 1: Dimensions of the mounting rail of type TS35/15.

Ensure the mounting rail is adequately secured at the rear panel of the cabinet. It is **not** possible to install the battery pack on a mounting rail of type TS35/7.5.

Install the battery pack as follows:

1. Tilt the battery pack and first hang it on the mounting rail from below.
2. Then lift the battery pack, so that the upper supports engage with the upper edge of the mounting rail.



3. Tighten the four screws to secure the battery pack on the mounting rail.

⇒ You have mounted the battery pack securely and successfully once it hangs vertically from the mounting rail and all four screws were tightened.

5.2 Power supply

This chapter describes how to connect the CX2100-0914 power supply unit. This documentation uses the CX2020 Embedded PC to demonstrate the procedure.

5.2.1 Connect Embedded PC

NOTICE

Damage to the Embedded PCs

The Embedded PCs may be damaged during wiring.

- The cables for the power supply should only be connected in de-energized state.

An external voltage source providing a 24 V DC voltage (-15 % / +20 %) is required for the CX2100-0914 power supply unit.

The cabling of the Embedded PC in the control cabinet must be done in accordance with the standard EN 60204-1:2006 PELV = Protective Extra Low Voltage:

- The "PE" and "0 V" conductors of the voltage source for a basic CPU module must be on the same potential (connected in the control cabinet).
- Standard EN 60204-1:2006, section 6.4.1:b stipulates that one side of the circuit, or a point of the energy source for this circuit must be connected to the protective earth conductor system.

Connection example with CX2020 basic CPU module and CX2100-0914 power supply unit:

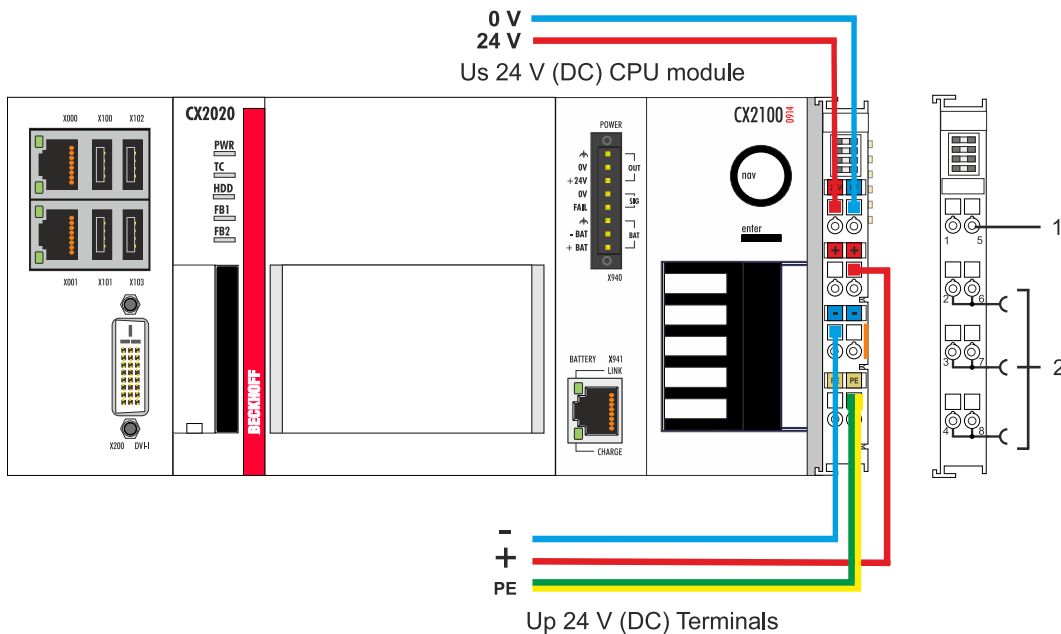


Table 5: Legend for the connection example.

No.	Description
1	The upper spring-loaded terminals identified with "24 V" and "0 V" supply the basic CPU module and the terminal bus (data transfer via K- or E-bus).
2	The spring-loaded terminals identified as "+", "-", and "PE" supply the Bus Terminals via the power contacts and the sensors or actuators connected to the Bus Terminals.

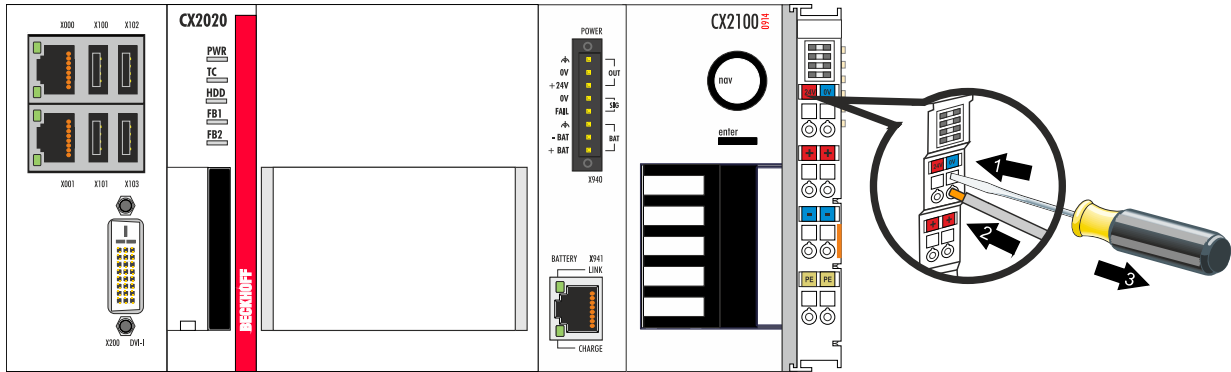
The cables of an external voltage source are connected to the power supply unit with spring-loaded terminals.

Table 6: Required wire cross-sections and strip lengths.

Conductor cross-section	0,5 ... 2,5 mm ²	AWG 20 ... AWG 14
Strip length	8 ... 9 mm	0.33 inch

Connect the embedded PC as follows:

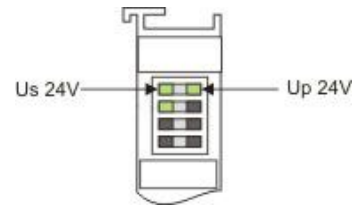
1. Open a spring-loaded terminal by slightly pushing with a screwdriver or a rod into the square opening above the terminal.



2. The wire can now be inserted into the round terminal opening without any force.
3. The terminal closes automatically when the pressure is released, holding the wire safely and permanently.

The voltage source has been connected to the power supply unit successfully when the two upper power supply terminal LEDs light up in green.

- The left LED (Us) indicates the supply of the basic CPU module and terminal bus.
- The red LED (Up) indicates the Bus Terminal supply via the power contacts.



NOTICE

Interrupting / switching off the power supply

To switch off the Embedded PC, do not disconnect the ground (0 V), because otherwise current may continue to flow via the shielding, depending on the device, and damage the Embedded PC or peripheral devices.

- Always disconnect the 24 V line. Devices connected to the Embedded PC, which have their own power supply (e.g. a Panel) must have the same potential for "PE" and "0 V" as the Embedded PC have (no potential difference).

5.2.2 Observe the UL requirements

Observe the UL requirements

The CX20xx Embedded PCs are UL certified. The corresponding UL label can be found on the type plate.

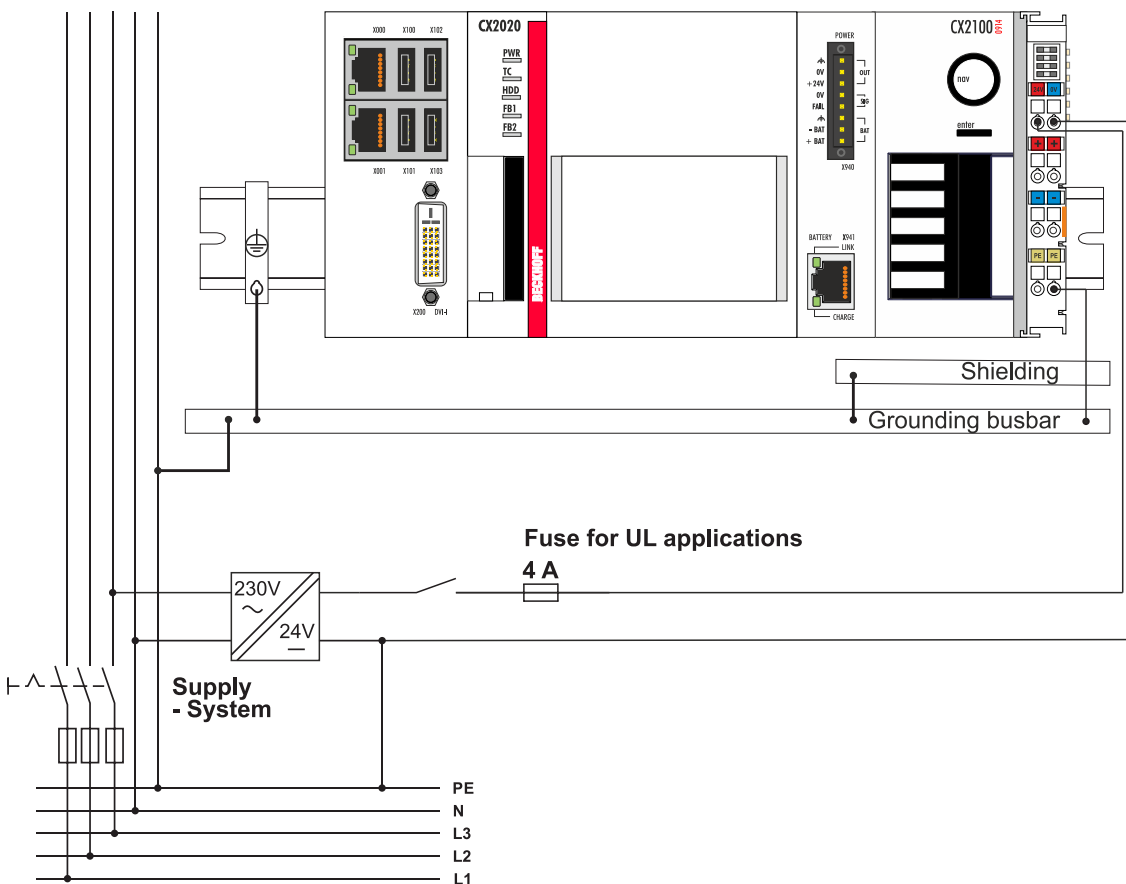


Fig. 2: UL label for CX20xx Embedded PC.

The CX20xx Embedded PCs can thus be used in areas in which special UL requirements have to be met. These requirements apply to the system voltage (Us) and to the power contacts (Up). Application areas without special UL requirements are not affected by UL regulations.

UL requirements

- The Embedded PCs must not be connected to unlimited voltage sources.
- Embedded PCs may only be supplied from a 24 V DC voltage source. The voltage source must be insulated and protected with a fuse of maximum 4 A (corresponding to UL248).
- Or the power supply must originate from a voltage source that corresponds to NEC class 2. An NEC class 2 voltage source must not be connected in series or parallel with another NEC class 2 voltage source.



5.2.3 Connect battery pack

Together with the CX2100-0914 power supply unit, the CX2900-0192 battery pack is capable of supplying power to the Embedded PC in case of power failures. The power supply unit and the battery pack are connected to each other by two cables. In normal operation the battery pack is charged by the power supply unit. In the event of a power failure the battery pack supplies the Embedded PC with power via the power supply unit.

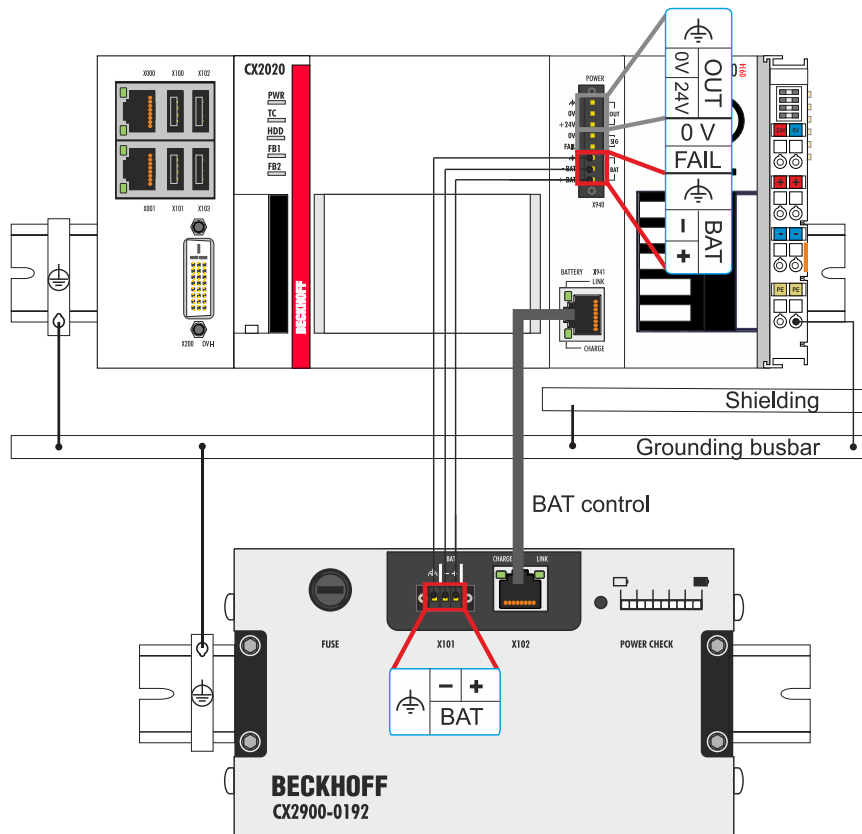
If a further device such as a control panel or monitor is connected to the **X940 OUT** connection (+24 V, 0 V, earth), this device will also be supplied with power by the battery pack in the event of a power failure (see: [Supplying external devices.](#) [▶ 23]).

Requirements:

- Cable for the power supply (+24 V, 0 V, earth) with a conductor cross-section of 1.5 mm².
- RJ45 Ethernet cable, Cat-5 standard with four wire pairs. Crossover cables are not supported.
- The cables must not be any longer than 5 m.

Connect the battery pack as follows:

1. Switch off the supply of power to the power supply unit.
2. Configure the cable (+24 V, 0 V, earth) and mount the cable on the plugs supplied.
3. Make sure that the cables on the connections on the **X940 BAT** power supply unit and on the **X101 BAT** battery pack are correctly configured (+24 V, 0 V, earth).



4. Connect one end of the RJ45 Ethernet cable to the **X941 BATTERY** connection of the power supply unit.
 5. Connect the other end of the cable to the **X102** connection of the battery pack.
 6. Insert the fuse (10 A ff) into the battery pack.
- ⇒ If both LEDs on the **X941 BATTERY** connection of the power supply unit light up green, you have successfully connected the power supply unit and the battery pack to each other. The upper LED (LINK) lights up when the battery pack and the power supply unit are connected. The lower LED lights up when the battery pack is being charged.

5.2.4 Supplying external devices.

Comply with the maximum power consumption

The total power consumption of the Embedded PC and any device connected to the Embedded PC may not exceed 100 W. Measure the maximum power consumption as follows:

- Disconnect the battery pack from the power supply unit and generate the maximum load case.
- Check that the power consumption is lower than 100 W on the 24 V and 0 V spring-loaded terminals.

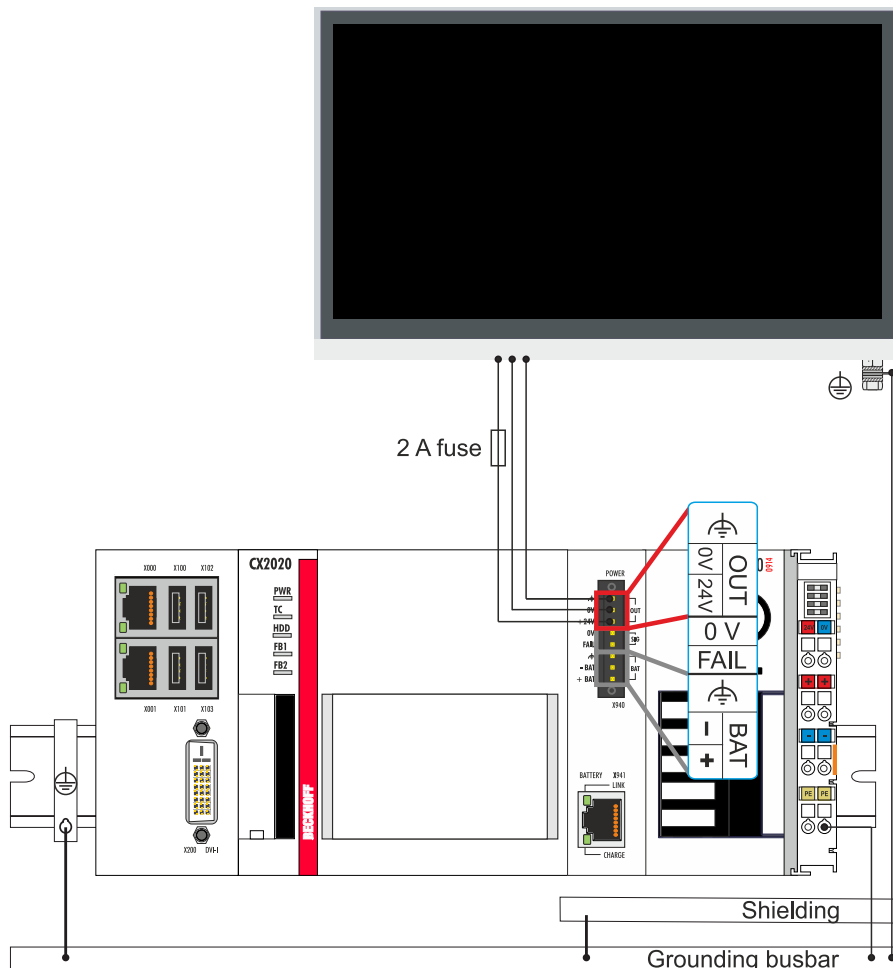
A further device, e.g. a control panel or a monitor, can be connected to the CX2100-0914 power supply unit. To do this, use the **X940 BAT** connection (+24 V, 0 V, earth) on the power supply unit. The device is supplied with 24 V DC and a maximum of 48 W. The output is not short-circuit proof and must be protected with a 2 A fuse.

Requirements:

- Cable for the power supply (+24 V, 0 V, earth) with a 1.5 mm² conductor cross-section.

Connect further devices as follows:

1. Switch off the supply of power to the power supply unit.
2. Configure the cable (+24 V, 0 V, earth) and mount the cable on the plugs supplied.



3. Make sure that the plugs are configured correctly (+24 V, 0 V, earth).
 4. Protect the external device with a 2 A fuse.
- ⇒ In normal operation, the CX2100-0914 power supply unit supplies power to the external device. If you use a battery pack, the device will continue to be supplied with power in the event of a power failure. Comply with Behavior in the event of a power failure [► 24].

Behavior in case of a power failure

In the event of power failures, the voltage briefly drops to approx. 15-16 V before increasing again to 24 V. There are technical reasons for this behavior, which may lead to problems with connected devices. Be aware of this behavior for your device configuration.



Fig. 3: Behavior in case of a power failure, oscillogram of the CX2100-0914 power supply unit.

6 Care and maintenance

6.1 Care

Protect the battery pack CX2900-0192 from a deep discharge so that the service life of the battery pack is not impaired. Avoid a deep discharge especially during the storage (see: [Storage \[► 12\]](#)).

6.2 Maintenance



Limited lifetime

The battery pack CX2900-0192 has a limited service life and must be replaced every five years.

The service life of the battery pack is subject to physical limits. For this reason, the battery pack CX2900-0192 cannot be operated for an unlimited period of time. The service life is determined by excessive ambient conditions, in particular during operation, storage and longer storage periods.

In order to ensure the full functionality of the battery pack, the battery pack CX2900-0192 must be replaced every five years.

7 Decommissioning

7.1 Disassembly and disposal

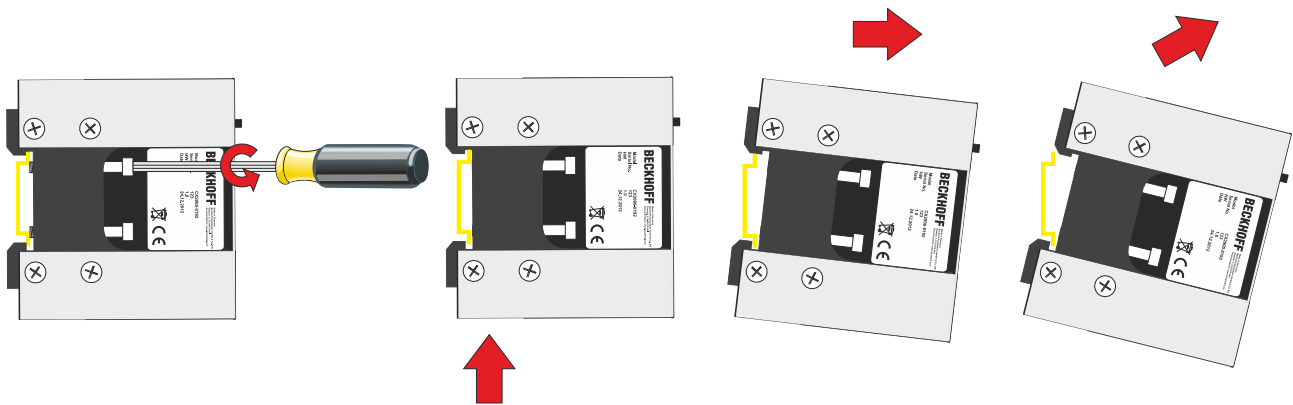
The battery pack is removed in two steps:

1. Switch off and disconnect the power supply

Before removing the battery pack for a CX20x0 system, the system should be switched off and the power supply should be disconnected.

2. Removing the device from the DIN rail

For removing the device the installation steps are reversed:



1. Release the four screws.
2. Lift the battery pack.
3. Remove the battery pack from the upper edge of the mounting rail.
4. Remove the battery pack from the mounting rail.

Disposal

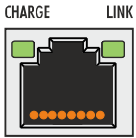
Dismantle the battery pack housing and dispose of the components according to national electronics scrap regulations.

The internal battery must not be opened or dismantled and must be disposed of according to national electronics scrap regulations.

8 Error handling and diagnostics

8.1 Battery pack LEDs

Data link between power supply unit and battery pack

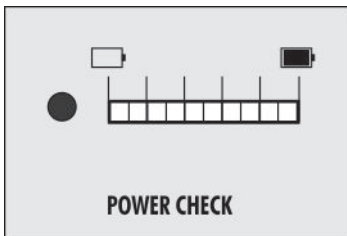


X102

The LED on the right indicates the connection between the power supply unit and the battery pack. If it is off, there is no communication between the power supply unit and the battery pack.

The LED on the left is green when the battery pack is being charged. It goes out when the voltage drops.

Charge status of the battery pack



If the button to the left of the charge indicator is pressed in the connected state, the 10 LEDs light up according to the charge of the battery pack (red, yellow or green). After a short time the display switches off.

From hardware version 1.1 the button next to the charge indicator on the battery pack has additional functions:

- If the system is switched off or the battery is not connected to a power supply unit, the 10 LEDs light up in turn as soon as the button is pressed and held down. This indicates operational readiness of the battery pack.
- The display flashes, if the fuse in the battery pack is faulty or not inserted.
- During a firmware update 4 LEDs are lit as long as the update is in progress.

8.2 Faults

Please also refer to the Safety instructions section.

Possible faults and their correction

Fault	Cause	Measures
Left LED not lit	No communication between power supply unit and battery pack other causes	1. Check fuse 2. Check data cable connection, call Beckhoff support
No display when the charge status is queried	Battery pack is faulty other causes	Call Beckhoff support

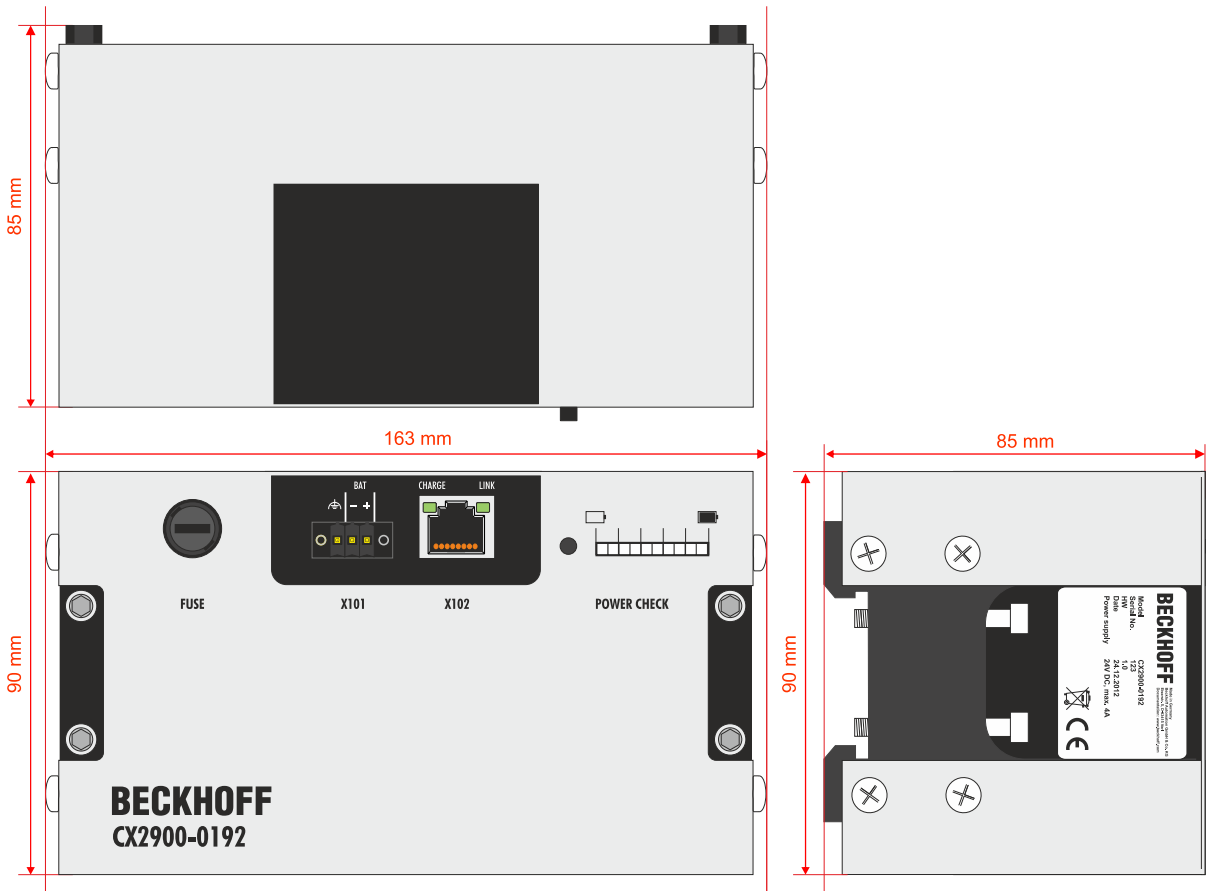
Please make a note of the following information **before** contacting Beckhoff service or support:

1. Precise device ID: CXxxxx-xxxx
2. Serial number
3. Hardware version
4. TwinCAT version used
5. Any components / software used

The quickest response will come from support / service in your country. Therefore please contact your regional contact. For details please refer to our website at www.beckhoff.de or ask your distribution partner.

9 Technical data

Dimensions



Technical data	CX2900-0192
Housing	metal housing for mounting on norm rail TS35x15 2.3
Power supply	via the CX2100-0914 power supply unit
Wire cross section	1.5 mm ²
Dielectric strength	500 V (supply / internal electronics)
Capacitance	12 V, 3.4 Ah (20 h discharge) 12 V, 3.1 Ah (10 h discharge) 12 V, 2.8 Ah (3 h discharge) 12 V, 2.3 Ah (1 h discharge)
Fuse	10 A F / FF (fast or fast-fast)
Connection type	RJ45, 3-pin socket
External supply	max. 48 W
Diagnostic LED	1x charge, 1x link, 1x power check
Dimensions (W x H x D)	163 mm x 90 mm x 85 mm
Weight	approx. 2100g
Operating/storage temperature	-0...+50 °C/0...+50 °C
Relative humidity	95 % no condensation
Vibration/shock resistance	conforms to EN 60068-2-6 / EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2 / EN 61000-6-4
Protection class	IP 20
Approvals	CE

Operating times without power supply from the power supply unit (self-discharge).

With hardware version 1.0 the charged battery pack has the following operating times

- 4 – 6 weeks.
- 40 – 60 weeks, if the fuse was removed from the battery pack.

From hardware version 1.1 the charged battery pack has the following operating times

- 40 – 60 weeks.

10 Appendix

10.1 Accessories

Table 7: Further spare parts.

Order number	Description
CX2900-0104	Connector set (spare part) for connecting CX2100-0914 UPS module and CX2900-0192 battery pack

10.2 Certifications

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.

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.

10.3 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.

Download finder

Our [download finder](#) contains all the files that we offer you for downloading. You will find application reports, technical documentation, technical drawings, configuration files and much more.

The downloads are available in various formats.

Beckhoff's branch offices and representatives

Please contact your Beckhoff branch office or representative for [local support and service](#) on Beckhoff products!

The addresses of Beckhoff's branch offices and representatives round the world can be found on our internet page: www.beckhoff.com

You will also find further documentation for Beckhoff components there.

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:

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

Hotline: +49 5246 963-157
e-mail: support@beckhoff.com

Beckhoff Service

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

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- spare parts service
- hotline service

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